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RESECTION OF THE POSTERIOR ROOTS OF THE SPINAL CORD

WITH THE REPORT OF ONE CASE AND CITATION OF OTHER CASES AS A BASIS OF INQUIRY INTO THE COURSE OF THE SENSORY PATHWAY *

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To provide a suitable introduction to my subject, the following case is outlined:

History.—Mr. X. was first seen by me Dec. 24, 1908. He was 50 years of age, married, and the father of four living, healthy children. His father, who had been previously rheumatic, died at 82 of old age. His mother died of syncope at 64. He has one brother who is healthy and well except that he is an asthmatic. There are no nervous or mental troubles, tuberculosis, or malaria in him or his family. He was never nervously ill.

In 1881, when 26 years old, he was circumcised, and he may have had syphilis at that time, but the history of it is uncertain, and there were no demonstrable evidences of lues at the time of his first examination, in 1907. His habits have always been temperate and his bodily functions normal.

In 1891, or sixteen years before his visit, twitching began in his right forearm on the radial side. Later there was a dull ache in the same region, followed by shooting pains, spreading through the arm, involving the right arm and shoulder, and extending into the dorsal side of the head of the radius, and later centering at two main points, the thenar eminence and the lower attachment of the deltoid about the superficial aspect of the musculospiral nerve. Not infrequently the right scapula was the seat of pain. The pain-seizures were paroxysmal, and grew in frequency and severity, and they were apparently more or less influenced and aggravated by changes in the barometer.

In 1903, his pains became so severe that his musculospiral nerve was stretched; but not even temporary relief followed this operation.

Examination.—He came to Minneapolis Dec. 24, 1907, and exhibited during his visit here marked evidences of paroxysms of pain. He clutched wildly at his thenar eminence and at a point below the deltoid and behind the shoulder. These paroxysms recurred every day at short intervals during the day, but were less noticeable when his attention was diverted. He had no anesthesia of the shoulder, arm, forearm, or hand, nor in any other part of his body. His pupils were small, almost pin-points. The right pupil was smaller than the left, irregular in outline, and reacted slightly to light. His vision was myopic. These two symptoms, shooting pains and pupillary changes, justified the diagnosis of high tabes, made by his physicians, Drs. Frank Fry and William Graves, of St. Louis, who had had him under observation for years. A celebrated Scottish neurologist had made a diagnosis of neuromata of the cervical spinal nerves.

The reflexes, deep and superficial, of the arms, trunk, and legs, were normal. The station and coordination were good, and he had no ataxia of the arms or legs.

The few symptoms that were present made the diagnosis difficult, other than that a central cord lesion was probable.

Operation.—As he had been thoroughly medicated by mercurials and iodids he was told that there was one course open to him, namely, a sectioning of a trunk nerve in the neck, or laminectomy and posterior root section. The former operation was chosen, and a large connecting trunk, presumably between the fifth and sixth cervical nerves, was sectioned in the neck Jan. 8, 1908. Relief from pain and spasm was immediate, and he was reasonably comfortable for a few months. Gradually the paroxysms of pain returned, and he came again for relief. Jan. 23, 1909, he was operated on by Drs. H. W. Jones and A. S. Hamilton. An unilateral laminectomy was performed on the right side by cutting through the laminæ and exposing the cord with the roots from the lower half of the cervical segments. The dura was incised and the spinal fluid allowed to escape slowly. The incision was enlarged and the sensory roots of the fifth, sixth and seventh cervical nerves were raised on a hook with great care so as to include all of the fibers. The roots were then grasped with compression-forceps and resected, cutting them where they emerged from the cord and as near their emergence from the dura as possible. It was thought that all of the strands were exsected. The dura was closed with catgut, and the skin was closed with subcuticular silkworm gut.

Greatly to our disappointment and to the astonishment of the patient, he waked from his anesthetic in pain and agony and without a clearly defined area of anesthesia. A map of the usual distribution of peripheral sensory nerves was used as a basis of comparison, but the patient failed to verify the outlines on the map. By careful investigation we thought we discovered a change in sensation, but in a few days the arm had regained its natural sensitiveness. If there was any change in sensation at any time following the operation it was so slight as to be considered unreliable. The patient recovered from the operation, and his cervical spine was in no way impaired, but the paroxysms of pain increased in frequency and severity. He returned home, and during the spring and summer he suffered great pain, and was forced to use opiates.

Second Operation.—He went to St. Mary's Hospital, at Rochester, Minn., and was operated on by Dr. C. H. Mayo, Aug. 11, 1909. The unilateral laminectomy was repeated, and the sensory roots of the fourth and eighth cervical nerves were exsected. Dr. Mayo thought at the time of this operation that there remained a few filaments from the fifth, sixth and seventh nerves, which had been previously removed. This seems hardly likely, as the operation was done with the greatest care. At all events, a marked anesthesia should have followed the root section. The relief from pain after Dr. Mayo's operation was marked within a few days. The arm lost its spasticity and became more or less useless; and the right leg dragged, probably due to a superficial injury or hemorrhage into the substance of the cord.

The patient writes me under date of June 2, 1911, as follows:

"I am free to say that, although I was relieved from the terrible condition I was in, I am in anything but a satisfactory condition at present. My walking is impaired, and the right leg has never entirely regained its power or control, and I tire very quickly. There is a lack of sensation in the toes of the right foot, but that does not inconvenience me to any considerable extent. There has been quite a loss of sensation in the right shoulder and arm, especially along what I should call the top of the arm to the thumb, forefinger, and second finger, but there is always a terrible tension in the arm, especially in the forefinger. At times it almost seems as if the filaments would be drawn from the finger. I cannot describe it otherwise. When a change of the atmospheric conditions is approaching I feel it very severely, the throbbing and twitching of the hand being especially acute. On the lower outside portion of the arm (in a line with the point of the elbow) the sensation is not nearly so acute. I cannot use the arm, except to shake hands or to carry a light weight, such as an umbrella, and I might say that I have to make my arm do that and watch it while it is being done. At the back of the collar bone, at the foot of the incision of the operation of 1908, I have a sensation as if a hot iron were being pushed in there, and my neck muscles become rigid. As a matter of fact, I do not think the nerves are any more dead in the arm than they were before the operation, but, as I have said before, I have received considerable relief from the last operation. Unfortunately, on account of my lack of strength I cannot take much exercise, so have increased in weight to an uncomfortable degree. Prior to 1908 I never weighed over 172 pounds and before the operation at Rochester, in August, 1909, I weighed 135 pounds. To-day I weigh 195, and my weakness makes it hard to carry this weight.

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* Chairman's Address before the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

"In closing, I wish to say that if anyone in a condition similar to mine should ask my opinion, I would strongly urge him to avoid the knife. This may seem ungrateful, but while I suffered terrible pain, I had the strength to carry and use my arm. . . .

"One thing I overlooked; at night I sometimes never move from lying down to getting up, but when the time comes to rise it is hard to get turned around and get up. My nerves strain me, and I almost feel as if I should become disjointed. The same condition occurs on a smaller scale if I have been sitting for a half hour or so. I might also add that when the atmospheric condition changes, the weight of my arm increases as if I were carrying a heavy weight on my shoulder. This is as near as I can describe my condition at present."

This case is only one of many reported in this country and abroad, in which an operation has been employed for the relief of pain, spasticities, athetosis, post-hemiplegic contractures, spastic paraplegia, and gastric crises in tabes.

To Dr. C. L. Dana of New York belongs the credit for this operation, and the first of its kind in this country was done by Dr. Robert Abbe, Dec. 31, 1888. Mr. Bennett, a London surgeon, under the direction of Sir Victor Horsley, operated on a similar case seven days before Dr. Abbe's operation. These episodes led to much open discussion, and the claims for priority of operation have never been definitely settled, but it has been conceded by other writers that the principles of the operation were first enunciated by Dr. Dana.

Förster, a Breslau surgeon, in 1908, wrote a very exhaustive treatise on root-section operation from its theoretic, as well as its practical, aspects, and he emphasized its usefulness in spasticities and athetosis. He reported five patients operated on by Tietze, one of whom was a girl of 11 years with painful spasms and nearly complete paraplegia following a tuberculous spondylitis. The third and fifth lumbar and second sacral roots were divided on the left side, and the third lumbar and first sacral on the right side. The relief from spasm and pain was decided, and there was improvement in locomotion. No disturbance of sensation followed the operation.

Chipault and Demaulin, in 1895, in the *Gazette des hôpitaux*, have contributed cases and literature.

Dr. Morton Prince in *Brain*, spring, 1901, records the section of a posterior spinal-nerve root for the relief of pain in a case of neuritis of the brachial plexus, following a Colles' fracture of the left wrist, in which there was absolute paralysis of nearly the whole left arm and reaction of degeneration, atrophy, and pain in the thumb and forefinger. Evidently the roots of the fifth, sixth and seventh cervical fibers were most severely injured. However, of these three the fifth and sixth suffered the most. The man was operated on three times; first the radial nerve was stretched; later, two other operations on nerve trunks were done. Before the operations there was anesthesia over the deltoid distribution and over the little, the ring, and one-half of the middle finger. This may have been due to one of the operations or to an extension of the neuritis. A laminectomy was done which produced a cessation of pain in the fore-arm. Later, a Brown-Séquard's paralysis developed, and still later there was a partial return of sensibility. The fifth, sixth and seventh cervical spinal roots were divided, and an absolute loss of sensation for touch and pain followed, limited to the whole thumb with its ball, the back of the hand, and a strip along the radial aspect of the forearm and arm. The palmar surface of the forearm and middle fingers and the region generally given to the sixth root were not anesthetic.

Dr. George W. Jacoby[1] recorded cases of posterior nerve-root section which were more or less benefited, and pointed out the dangers of a Brown-Séquard paralysis.

Abbe[2] records a case of intractable brachial neuralgia in which nerve-stretching and amputation had been done by another surgeon, and in which Dr. Abbe finally made an intradural division of the posterior roots of the sixth, seventh and eighth cervical nerves with improvement. During this operation an electrode was applied to the sixth nerve root, which caused contraction of the supraspinati and infraspinati, brachialis, latissimus dorsi, pectoralis major, teres, and deltoid. In this case the first operation consisted of dividing roots outside the dura. Pain was present on awakening. Forty-eight hours later, and without an anesthetic, the surgeon made an intradural section of the seventh and eighth roots, but the same kind of pain continued that he had had previously. An application of a blunt instrument to the posterior columns caused intense and widely distributed pain. After the final operation, the pain gradually ceased, and there was general improvement, with some anesthesia over the outer side of the arm from the deltoid downward across the neck in front to the center of the clavicle and behind to the center of the scapula. A degenerative neuritis was established by the microscopic findings. Seven or eight years after the operation the patient complained of drawing pain in his stumps with anesthesia as before over the deltoid. He resumed the morphin habit, which he had contracted early, so that the quality of pain could not be accurately estimated. Abbe records another case of spastic paraplegia with pain in the left leg and recurring muscular spasms. The four posterior lumbar roots and the upper sacral roots were divided. Pain disappeared, and anesthesia developed early, but the sensation returned. The patient died of apoplexy on the twelfth day.

Drs. Frank R. Fry and Sidney I. Schwab[3] of St. Louis reported a case of laminectomy for postsyphilitic nerve-root pain. A laminectomy of the third, fourth and fifth dorsal vertebræ exposed the cord, and after releasing the adherent dura, the fourth and fifth dorsal roots were severed. There was no opportunity to observe the presence or absence of sensation, as the patient died in a few hours. He was relieved of pain, however, during his conscious state.

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[1] Jacoby, G. W.: New York Med. Jour., Aug. 3, 1907.
[2] Abbe: Tr. Med. Soc. New York, February, 1889.
[3] Fry and Schwab: Jour. Nerv. and Ment. Dis., August, 1910.

Dr. John J. Thomas of Baltimore records a case of resection of the dorsal spinal nerve-roots for gastric crises in tabes with successful outcome.

Dr. Philip Coombs Knapp of Boston reports a case of tabetic pain in which Dr. Blake divided the seventh, eighth, ninth and tenth dorsal roots, with only temporary relief.

Dr. D. I. Wolfstein of Cincinnati records a case in which four roots in the dorsal region were divided for pain. There was an area of anesthesia corresponding to the definite root-areas, but no diminition of pain in these areas.

Dr. Charles H. Frazier[4] reports three cases in which he operated for spasticity and athetosis. The first patient was greatly relieved, and the second improved as to spasticity and athetoid movements, although of cerebral origin. The third case of spastic paraplegia was one in which the third and fifth lumbar and first sacral roots were divided on both sides. The spasticity was improved without loss of touch and pain sensation.

Dr. Spiller,[5] in 1905, advocated resection of the posterior roots for the relief of spasticities.

Frazier and Spiller[6] report one case.

Dr. Alfred S. Taylor of New York, who is an advocate of unilateral laminectomy, has, up to this time, performed seventeen operations, five of which were for pain.

Case 1.—The eighth cervical and first dorsal sensory roots were cut and the pain relieved over the distribution of the first dorsal.

Case 2.—Gastric crises in tabes. The seventh to the tenth dorsal roots were cut on both sides with prompt relief.

Case 3.—In a boy with painful spasms in the arm occurring every few moments, the upper half of the sixth and all of the seventh and eighth cervical and first dorsal roots were cut. Complete relief of pain and spasm was experienced, but some stiffness remained.

Case 4.—A simple laminectomy was performed without root-section, the patient experiencing much benefit.

Case 5.—Gastric crises with tabes. The seventh to tenth dorsal roots on both sides were cut. The results were uncertain, as the patient had been a morphinist and complained of severe pain after the operation.

Case 6.—A spastic and painful leg. The fourth and fifth lumbar and first sacral and part of the second sacral roots were sectioned on both sides, and relief obtained.

Dr. Charles A. Elsberg and his assistant, Dr. Beer, of the New York Neurological Institute, have cut the posterior spinal roots nine times during the past two years. In five of the patients, the operation was done for spasticity. There was great improvement in three of these patients, but only temporary improvement in the remaining two. In a case in which there had been an unsuccessful search for a spinal tumor by another surgeon three months before and which was later diagnosed as a case of lateral sclerosis, a double laminectomy was performed in July, 1910, for section of the posterior roots on both sides. The third and fifth lumbar and first sacral roots were cut, with the result that there was a marked relaxation of spasticity in the lower extremities for four weeks, and then a gradual return of spasticity in both lower extremities, with marked hyperesthesia over an irregular area,—the entire foot over the back and front and about two-thirds of the leg. This hyperesthesia did not follow the lines usually mapped out as supplied by the fifth lumbar root. There were no sensory disturbances following the operation. Death followed four months later from exhaustion. The autopsy showed a spinal tumor in the dorsal region.

Of the two last-mentioned patients, Patient 4 was operated on because of an old hemiplegic spasticity with athetosis. This patient's spastic upper extremity was much relaxed for about one month. Then the spasticity began to return and after six months was as marked as before the operation.

In the fifth patient, in whom only two roots were cut by Dr. Beer, some sensory loss was observed after the operation, much to the surprise of the operator.

Posterior-root section was done four times on account of pain. One patient had an infiltrating fibrolipoma of the cauda equina, which could not be removed. As she had suffered severe pain in the distribution of the fifth lumbar posterior root, it was divided on the left side, and she was entirely freed of her pain by root section.

In the second patient, in whom root section was done for pain in her upper extremity from a chronic spinal meningitis, a section of one-half of the seventh cervical, eighth cervical, and first dorsal produced sensory disturbance following the operation, and relief was not obtained from the sectioning.

In the third patient, a section of all of the posterior roots going to the left upper extremity was made for relief of the excruciating pain in an amputated extremity. An amputation of the wrist had been done for sarcoma of the hand, and a second amputation was done by a surgeon in an attempt to relieve the neuralgia which followed the first amputation. The pain in this case was not relieved by the section of the posterior roots.

In the fourth case several posterior roots were cut, among them the eighth and ninth dorsal, in order to relieve severe root pains, the origin of which could not be determined. No relief was obtained by the patient; and no anesthesia was noted after the operation. None of these cases died from operation.

The one case I reported is a fair illustration of the difficulties in making a correct diagnosis in intractable painful conditions. The differentiation between a peripheral nerve-trunk disease, tabes, and a painful impression from cerebral disorder is not always possible. This case creates, as do other cases similar in their symptomatology, a hesitancy in accepting the former conception of the sensory paths in the spinal cord.

The model diagrams compiled by many investigators are evidently subject to modification in different individuals, and it is fair to assume that the segments of the cord do not invariably preside over definite skin or muscle areas; neither can one be sure that two, or even three, segments contain the landing-stations for representation in the skin. In many of the cases reported in which excision of several posterior roots was done for pain or spasticity, anesthesias that correspond to old or recent diagrams failed to develop. One must expect any sort of surprise after posterior-root section: an unusual anesthesia, a slight approach to loss of sensation, a temporary but uncertain modification of sensation that is suggestive of the usual lines of distribution, a hyperesthesia perhaps, or no disturbance of sensation

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[4] Frazier, C. H.: Jour. Surg., Gynec. and Obst., New York, 11, No. 1.

[5] Spiller: Jour. Nerv. and Ment. Dis., May, 1905.

[6] Frazier and Spiller: Univ. Penn. Med. Bull., January, 1910.

whatever. The distribution attributed to certain nerve-roots is unreliable, as evidenced by my case and other cases already cited, and shows that, in certain individuals at least, the sixth cervical does not always receive sensory impression from the radial side of the hand and arm. The argument is advanced that in these operations the posterior roots are not thoroughly severed, but this criticism is not just and casts discredit on a skilled operator or observer. We might better admit that sensory impulses are received by the spinal cord through many segments and that the sensory pathway into the cord from the periphery is split up into many parts.

We may also be forced to admit that the pathway in the cord is not as uniform as we formerly held; that fibers for various sensations are scattered widely and have more than one representative column.

Karl Petren,[7] in an analysis of 96 cord injuries, shows that the sense of touch is represented in the posterior column of one side of the cord and in the lateral columns of the opposite side. This may explain, in a measure, why sensation is not always impaired or lost when posterior roots are sectioned. Dana holds that some of the sensory tracts, notably of pain and temperature, are located in the deep white tracts of the cord in front of the crossed pyramidal bundle. It is not improbable that the sensory pathway in the spinal cord is crossed and recrossed in its upward approach to the cortex and that this intricacy of lacing fibers may be so involved that it is impossible to determine accurately segmental receiving stations. Take, for example, the frequent failures to relieve permanently spastic muscles by root-section, granting also that the motor tracts are involved. In some of the cases reported, improvement lasted only from one to six months. Is the return of the spasm due to a repair or regrowth of the cut sensory roots, a condition emphatically denied by investigators; or may we assume that other segments, like collateral blood-vessels, take up the function of its injured neighbor; or are sensations conveyed into the cord by sensory fibers running in motor roots; or shall we go higher and consider the cortex of the brain and its memory of painful impressions?

Sherington has shown that cutaneous zones do not correspond numerically with the course of the ribs, but are, in general, much lower, and that each spinal root contributes fibers to several peripheral sensory nerves; yet the territory covered by a single root is never a patchwork, but an area.

Zabinski, in a case of ascending neuritis of one arm on which many operations had been performed, finally made an intradural section of the sixth, seventh and eighth cervical and the first dorsal and secured immediate relief from pain, which returned slightly in the second week and was accompanied by anesthesia up to the middle of the arm. This case proved the correctness of the old diagrams.

Abbe and Dana, following Fére's tables, have worked out the areas supplied by the sixth, seventh and eighth cervical nerves in relation to muscles and sensation. The sixth cervical supplies the latissimus dorsi, deltoid, teres major, pectorales, and the supra- and infraspinati; and it also carries sensation from the outer part of the shoulder, arm and forearm, and the radial distribution in the hand. The seventh cervical supplies the rhomboid, pectorales, latissimus dorsi, pronators, and triceps, and supplies sensation to the radial side of the forearm and hand.

The eighth cervical supplies the pronators, pectorales, flexores carpi et digitorum, hand muscles and triceps, and supplies sensation to the forearm and hand, and the ulnar and median areas.

The first dorsal supplies the flexores carpi et digitorum, pectorales and intercostohumerals.

No investigator has been able to divide the tracts in the cord that convey touch, pain or muscle-sense for the reason advanced earlier in the paper, namely, that these tracts are so scattered through the white substance of the cord that to separate them is impossible.

In some cases of intractable pains wherever located, we are obliged to fall back on the generally accepted theory that memory pain is the only possible explanation. In some of the cases cited and reported where pain has continued after an operation we are unable to advance any acceptable theory other than that the sensory cortex or other gray ganglia in the brain is the seat of the pain. A painful impression is permanently lodged in the centers of consciousness.

The following conclusions are for consideration:

1. Old and new chartings of sensory areas are variable and unreliable.
2. Each individual, according to circumstances, has an individual center for pain.
3. The segments in the spinal cord follow no definite order except when gross lesions are present, and even here we may be in error.
4. When the posterior roots are sectioned for pain, it may be necessary to divide more than three, perhaps as many as five roots, to accomplish relief.
5. In some instances, it is advisable to section one-half of several roots, or alternate roots, to abolish or diminish pain and spasm.
6. If this order is followed, there is less likelihood of disagreeable results, such as helplessness from greater or less loss of voluntary control.
7. Allow the patient to come out of the anesthetic and reopen the wound for further root section, in case pain persists.

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ABSTRACT OF DISCUSSION

Dr. H. N. Moyer, Chicago: In view of the fact that operations have been recommended for root pains and that the symptomatic criteria for operations in these cases are still uncertain, we are indebted to Dr. Jones for a timely discussion of this subject. It is obvious that the difficulty is one of diagnosis; if the section of the root is made peripheral to the lesion, relief cannot be hoped for, and it is the indefiniteness of localization of sensory root lesions that makes an operation of this character uncertain, and should lead us to prefer other methods of relief where possible. During the last six months at the Cook County Hospital we have been treating tabetic root pains by the injection of cacodylate of sodium into the spinal canal, a method proposed by Dr. Heym. During the past six months we have injected upwards of thirty cases. In most of them there has been a prompt relief of pain; in one case of tabes involving the upper segments of the cord, the relief was quite as prompt as in the others in which the tabetic involvement was lower down. No untoward complications have followed the injections. In making them we use the ordinary technic for lumbar puncture, but allow just enough spinal fluid to escape to show that the needle is in the spinal canal.

Dr. W. W. Graves, St. Louis: I had the privilege of seeing the case reported by Dr. Jones, and was very much interested at the time because of the diagnostic problems involved. The individual had suffered for many years from pain and I unhesitatingly made the diagnosis that Dr. Fry had made before, that this was a case of tabes. This diagnosis was founded on unusually small and irregular pupils, which did not react well to light, on sensory loss about the legs, about the chest, and a slight sensory loss—at least I found it so—about the outer surface of the arms and in the distribution of the fifth and sixth cervical roots; not any more on the right side, where he had so much pain, than on the left. The peculiar problem in the case was that this individual who appeared to suffer from intolerable pain during the day could lie down at night and sleep without narcotics. So that I regarded this pain as partly "attention pain." Perhaps he did have true brachial crises at times; but I believe that which he called pain was not actually pain dependent on a definite lesion, but rather on some sort of a psychical process—undue "attention"—with which we are all familiar in certain cases. The individual was able to sleep and he could be diverted from his pain during the course of the examination. I put the patient to bed, isolated him, diverted him as much as I could from his trouble, gave him large doses of mercury, because he had never had a thorough systematic course of treatment, and he showed very decided improvement. After keeping him under observation for about five or six months, he went to Scotland and he wrote from the steamer that he had not been so free from pain for fifteen years and he expected to return to St. Louis practically well. The pain persisting the way it did after the nerve root section by Dr. Jones seems to me to substantiate the diagnosis that this pain was not due to a definite root lesion.

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[7] Petren, Karl: Arch. f. Psychiat. Nervenkrankh., 1910, xlvii,

Now, I should just like to add a word about the application of nerve root sections in spastic states. Last October during the meeting of the German Neurologic Society in Berlin I saw results obtained by Foster's operation and the results achieved along that line are remarkable. In children who had never been able to walk or make any voluntary or purposeful movements with their legs, after relieving the spasticity by root sections and after training, those children were able to get around and get a great deal of use of their legs. As to the use of nerve root section for the relief of pain, I agree with Dr. Moyer that we shall resort to such serious operations less and less as time goes on.

Dr. Albert Abrams, San Francisco: As far as the localization of spinal root pain is concerned, there is one diagnostic point which has afforded me great service, and that is, if one takes the tender points peripheral to the supposed site of the lesion, and manipulates them by traction, pressure, or whatever the process may be, areas of tenderness develop at the vertebral exits of the spinal nerves which are segmentally related to the peripheral areas of sensitiveness, and if the vertebral areas of tenderness are frozen, the pain peripheral to the site of lesion disappears. All the *pointes douloureux* disappear.

Another point is to establish the site of lesion, whether peripheral or central to the exit of the spinal nerve. This fact can be readily determined by freezing; the pain disappearing if the lesion is at, or peripheral to the vertebral exit. Recently, freezing has been recommended for the relief of intractable pains incident to an attack of herpes zoster, and it has been said that there is nothing so specific for this condition. This method I recommended twenty years ago, and I found it in the majority of instances absolutely useless, for the reason that the seat of the lesion is in the spinal ganglia, that is, central to the exit of the spinal nerve roots. If, however, the lesion be at the vertebral exit of the nerve, all the pains are relieved. That is the reason why in tabetic patients we find little or no relief following congelation. Lately I have used injections of anesthetic medicaments at the spinal nerve exits for the purpose of determining whether by this means I could definitely decide whether the seat of the lesion was peripheral or central to the nerve exit. Thus far I have not arrived at any definite conclusion respecting the latter investigation.

Dr. E. D. Fisher, New York: A number of cases have been presented before the New York Neurological Society of section of the posterior spinal nerve roots, in cases of spastic paralysis, either of cerebral or of spinal origin by Drs. Taylor, Clark and Ellsburg. Most of these patients have done fairly well. Of course the class that I am now referring to has nothing to do with pain. Some of them have been returned to the society for observation six months or a year and a half afterwards. There is, however, only a limited degree of improvement.

One feature we have to deal with in that class of cases is that there is some mental impairment, and when we try the educational plan in such cases we are not so successful as we might otherwise be. I believe, however, in the operation for these spastic cases, but we must be particular in choosing them. In the conditions of pain I have found that it is more beneficial, as has been suggested, in the peripheral type. Tabetic pains or tabetic conditions, such as the gastric crises, and so on, have not been as successfully treated by these methods as the cases of a peripheral neuritis, and even in that class I would certainly advise all other forms of treatment first.

I will refer to one case, a patient who had spastic hemiplegia, in which the condition was so extreme that he preferred to have his hand removed to the continuance of the spasm. Following the operation neuromas formed on the ends of the nerves. They were removed but again returned. Several operations were performed, until the arm was removed at the shoulder-joint at the third or fourth operation. The pain again returned. The brachial plexus was then removed. The final operation was the section of the posterior spinal nerve root which resulted in permanent recovery, except that at times the man had pains which we thought were psychical rather than actual. This is the position which resection of the posterior nerve roots is in to-day. It seems necessary at times to resect four of the spinal nerve roots if we are to get the results that we wish, or even to get anesthesia following the operation.

PATHOLOGIC FINDINGS IN HYPERTENSION*

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During the last ten years much has been written on the subject of blood-pressure and hypertension. Most of the work has been based on clinical findings; comparatively little has been done in the way of following cases to the autopsy table. There are, of course, grave objections to drawing deductions from a comparative study of blood-pressure determinations taken shortly before death and the pathologic lesions found at autopsy. At the same time it seemed that the study of a group of cases which had been followed to the autopsy table might be of interest.

All observers are agreed in regard to the frequent occurrence of hypertension in nephritis. Cushing[1] and others[2, 3] have shown that high blood-pressure occurs in cases with increased intracranial pressure. The chief discussion has been directed toward the question of the occurrence of hypertension in arteriosclerosis independent of a nephritis. Sawada[4] has never seen a case of hypertension over 170 in simple arteriosclerosis. Romberg[5] considers that persistent high blood-pressure in a suspicious case establishes the diagnosis of chronic interstitial nephritis.

The material reported in this paper consists of the pathologic findings in every case showing a systolic blood-pressure of over 160 in life which has come to

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Cushing, H.: Bull. Johns Hopkins Hosp., 1901, xii, 290.
2. Eyster, Burrows and Essick: Jour. Exper. Med., 1909, xi, 489.
3. Robinson, G. C.: Arch. Int. Med., May, 1910, v, 483.
4. Sawada: Deutsch. med. Wchnschr., 1904, xxx, 425.
5. Romberg: Kong. f. inn. Med., 1904, lx, 17.

PATHOLOGIC FINDINGS IN FIFTY-THREE CASES OF HYPERTENSION

Number	Autopsy No.	Sex	Age	Systolic Blood-Pressure		Number of Determinations	Period of Observations	Heart Wt. (gm.)	Combined Kidney Wt. (gm.)	Albumin *	Casts	Average Specific Gravity	Chronic Passive Congestion	Edema	Clinical Diagnosis	Anatomical Diagnosis
				Maximum	Minimum											
1	1851	M.	46	185	170	2	5 weeks.	455	123	V. S. T.	Many	1010	0	0	Chronic nephritis; arteriosclerosis.	Chronic interstit. neph.: arteriosclerosis.
2	1854	M.	39	210	...	1	5 days.	740	200	S. T.	None	1007	0	0	Chronic nephritis; arteriosclerosis; uremia	Chronic interstitial nephritis.
3	1996	M.	65	200	200	3	16 days.	630	187	S. T.	Occasional.	1016	0	0	Chronic nephritis; arteriosclerosis.	Chronic interstit. neph.: arteriosclerosis.
4	2016	M.	39	215	190	2	19 days.	491	212	S. T.	Few	1010	0	0	Chronic nephritis: uremia	Chronic glomerulo-neph.: arteriosclerosis.
5	2027	F.	43	225	225	2	14 days.	447	215	S. T.	Numerous.	1014	0	0	Cerebral hemorrhage: cardiorenal disease.	Cerebral hemorrhage; arteriosclerosis; arteriosclerotic nephritis.
6	2050	M.	46	190	...	1	8 days.	541	319	S. T.	Occasional.	1018	+	+	Chronic nephritis: alcoholism	Subacute glomerulo-nephritis; verrucose endocarditis; aortic and mitral valves.
7	2058	M.	68	165	135	13	13 weeks.	390	272	S. P. T.	Numerous.	1019	+	+	Stokes-Adams disease	Arteriosclerosis; chronic interstitial nephritis; calcification bundle His; fibro-calcareous endocarditis aortic valve.
8	2062	M.	42	165	...	1	19 days.	...	...	L. T.	Few	1013	0	0	Pyonephrosis; renal calculus; uremia	Pyonephrosis; renal calculi; chronic glomerulo-nephritis.
9	2066	M.	49	185	...	1	24 days.	423	313	S. P. T.	Few	1014	0	0	Plumbism; lobar pneumonia	Arteriosclerosis; slight lobar pneumonia; chronic interstitial hepatitis (slight); arteriosclerotic nephritis (slight).
10	2086	M.	30	200	140	3	9 weeks.	520	300	T.	Many	1024	+	+	Intra-cardiac thrombosis	Intracardiac thrombosis.
11	2132	M.	73	200	...	1	1 day	370	120	....	....	....	0	0	Arteriosclerosis; chronic nephritis	Arteriosclerosis; aneurysm of aorta; chronic interstitial nephritis.
12	2175	F.	45	225	190	3	2 weeks.	363	122	T.	Rare	1008	+	0	Chronic glomerulo-nephritis; uremia	Chronic glomerulo-nephritis; slight arteriosclerosis.
13	2200	F.	72	225	185	5	10 days.	527	121	S. T.	Numerous.	1012	+	+	Chronic contracted kidney	Arteriosclerosis; chronic interstitial nephritis.
14	2256	F.	45	230	205	5	24 days.	586	270	0.1%	Occasional.	1016	0	0	Chronic interstitial nephritis; uremia	Chronic interstitial nephritis; arteriosclerosis.
15	2270	M.	65	200	185	3	2 weeks.	612	134	L. T.	Occasional.	1011	0	0	Chronic nephritis	Chronic interstitial nephritis; arteriosclerosis.
16	2272	M.	35	175	...	1	1 day	365	342	O	O	....	0	0	Traumatic cerebral hemorrrhage	Traumatic cerebral hemorrhage; traumatic cysts of softening of brain.
17	2296	M.	51	210	95	2	3 days.	725	199	S. T.	Numerous.	1007	0	0	Chronic interstitial nephritis; arteriosclerosis; uremia.	Chronic interstitial nephritis; arteriosclerosis; small apoplectic cyst of brain.
18	2321	M.	54	260	255	2	10 days.	740	285	S. T.	Few	1005	+	0	Chronic interstitial nephritis	Chronic glomerulo-nephritis; slight arteriosclerosis.
19	2349	F.	35	205	...	1	4 weeks.	515	210	T.	Rare	1007	+	+	Cardio-renal disease	Chronic glomerulo-nephritis.
20	2365	F.	41	255	240	5	9 days.	490	200	¼%	Many	1013	+	0	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis; slight arteriosclerosis.
21	2396	M.	52	200	...	1	4 days.	598	367	S. T.	Few	....	0	0	Cerebral hemorrhage; arteriosclerosis; myocarditis.	Arteriosclerosis; cerebral hemorrhage.
22	2449	F.	40	240	...	1	1 day	440	288	T.	O	1014	+	0	Cerebral hemorrhage; chronic nephritis.	Hemorrhage of brain (spontaneous); cerebral arteriosclerosis.
23	2495	F.	59	225	...	1	6 days.	525	215	S. T.	Few	1007	0	0	Aortic disease; chronic nephritis	Chronic endocarditis of aortic and mitral valves; arteriosclerosis; acute degeneration of kidneys.
24	2506	M.	43	220	200	10	10 days.	467	140	L. T.	Numerous.	1007	+	0	Chronic glomerulo-nephritis	Chronic nephritis; arteriosclerosis.
25	2534	M.	49	165	130	7	24 days.	670	362	S. T.	Occasional.	1010	+	+	Chronic interstitial nephritis	Syphilitic aortitis; fibrinous endocarditis of aortic and mitral valves.
26	2542	F.	52	210	205	2	8 days.	602	449	S. T.	Few	1020	+	0	Cardio-renal disease; cirrhosis of liver.	Arteriosclerosis; chronic interstitial; hepatitis; acute glomerulo-nephritis.
27	2550	M.	30	205	145	6	2 weeks.	1273†	484	T.	Numerous.	1020	+	+	Chronic endocarditis mitral and aortic valves; acute endocarditis.	Chronic adhesive pericarditis; chronic verrucose endocarditis of mitral aortic valves; subacute glomerulo-nephritis.
28	2560	M.	59	190	163	2	9 days.	720	205	V. S. T.	Rare	1008	+	0	Chronic interstitial nephritis; uremia; arteriosclerosis.	Chronic glomerulo-nephritis; arteriosclerotic nephritis; arteriosclerosis.
29	2565	M.	44	230	205	3	10 mos.	680	193	T.	Rare	1009	+	+	Glomerulo-nephritis	Chronic nephritis; arteriosclerosis.
30	2566	M.	71	175	...	1	16 days.	412	202	S. P. T.	O	....	+	0	Contracted kidneys; myocarditis.	Arteriosclerosis; hydronephrosis; fibro-calcareous endocarditis of aortic and mitral valves.
31	2579	F.	37	165	...	1	5 days.	223	208	T.	O	1012	0	0	Miliary tuberculosis	General miliary tuberculosis: tuberculous meningitis.
32	2611	M.	66	190	150	7	7 days.	343	232	O	Rare	1017	+	0	Arteriosclerosis: arteriosclerotic nephritis	Subacute glomerulo-nephritis; arteriosclerosis.
33	2624	F.	47	190	125	3	4 days.	...	...	V. S. T.	O	1029	0	0	Brain tumor	Angioma of brain.
34	2634	F.	55	200	160	5	7 days.	567	120	T.	Numerous.	1017	+	+	Chronic nephritis	Chronic nephritis; arteriosclerosis.

PATHOLOGIC FINDINGS IN FIFTY-THREE CASES OF HYPERTENSION—Continued

35	2667	M.	67	165	150	2	5 days..	620	189	S. P. T.	Rare......	1005	+	0	Chronic interstitial nephritis; arterio-sclerosis.	Arteriosclerotic nephritis: arteriosclerosis; foci of interstitial myocarditis; fibrocalcareous endocarditis aortic valve.
36	2670	M.	25	205	160	25	32 days..	615	170	T.	Many.....	1008	+	+	Chronic glomerulo-nephritis; uremia....	Chronic glomerulo-nephritis.
37	2676	M.	40	215	140	70	11 weeks.	530	235	½ %	Many.....	1010	+	+	Chronic glomerulo-nephritis	Chron. glomerulonephritis: arteriosclerosis; myomalacia wall left ventricle.
38	2682	M.	49	240	185	3	5 days..	358	310	S. T....	Many.....	1010	+	+	Chronic glomerulo-nephritis	Subacute glomerulo-nephritis.
39	2689	M.	44	240	140	7	7 days..	530	257	0.1 %	O	1012	+	+	Chronic diffuse nephritis...............	Arteriosclerotic nephritis; arteriosclerosis.
40	2694	M.	35	250	135	120	4.5 mos.	555	131	T.	Many.....	1010	+	0	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis; arteriosclerosis (slight).
41	2714	M.	66	200	135	5	10 days..	530	480	L. T....	Many.....	1024	0	0	Alcoholism; chronic nephritis..........	Arteriosclerosis: fatty infiltration of myocard.; fibrous endocarditis aortic valve.
42	2717	F.	30	195	...	1	Few hrs..	...	200	T.	Few......	1009	0	0	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis.
43	2727	F.	43	175	155	4	21 days..	357	550	S. P. T.	O	1015	0	+	Polio-encephalitis	Carcinoma of ovaries with metastases in kidneys; degeneration in pons.
44	2739	M.	52	170	133	6	21 days..	625	310	L. T....	Many.....	1017	+	+	Arteriosclerosis	Cardiac thrombosis.
45	2745	M.	68	210	170	22	5 mos...	728	253	T.	Occasional.	1020	+	0	Arteriosclerosis; arteriosclerosis of aorta.	Arteriosclerosis: slight fibrous endocarditis of aortic and mitral valves; mural cardiac thrombi.
46	2761	F.	60	210	...	1	1 day...	520	268	O	O	1014	+	0	Chronic glomerulo-nephritis; uremia....	Slight arteriosclerosis: glycosuria.
47	2765	M.	73	185	130	6	6 mos...	450	290	O	O	1016	0	+	Pernicious anemia	Arteriosclerosis; pern. anemia; fatty degen. of myocard.: fibrous endocarditis of aortic, mitral and tricuspid valves.
48	2769	M.	70	260	125	3	3 days..	335	190	V. S. T.	Numerous.	....	0	0	Cerebral hemorrhage	Arteriosclerosis; cerebral hemorrhage.
49	2773	F.	56	170	...	1	9 days..	310	146	T.	O	1008	0	0	Stokes-Adams disease; renal calculus....	Arteriosclerotic nephritis with calcium oxylate deposits in tubules and cortex.
50	2808	M.	63	170	...	1	4 days..	325	145	0.1%	Few......	1017	0	0	Arteriosclerosis	Chronic interstitial nephritis; arteriosclerosis.
51	2809	M.	42	250	210	30	5.5 wks.	535	230	T.	Many.....	1010	+	0	Chronic glomerulo-nephritis	Chronic interstital nephritis (atrophic kidneys); arteriosclerosis.
52	2819	M.	52	165	135	4	23 days..	588	335	T.	Many.....	1017	+	+	Aortic stenosis and regurgitation.......	Fibrous endocarditis of aortic and mitral valves; slight arteriosclerosis.
53	2822	F.	43	230	210	5	10 days..	465	276	T.	Many.....	1011	+	+	Chronic glomerulo-nephritis	Chronic glomerulo-nephritis.

* T., trace; S. T., slight trace; V. S. T., very slight trace; S. P. T., slightest possible trace; L. T., large trace. O, negative. † With pericardium.

autopsy from the medical wards at the Massachusetts General Hospital from Jan. 1, 1907, to April 25, 1911. Before 1907 the blood-pressure determinations were not made in sufficient numbers to give adequate data. Since 1907, while blood-pressure determinations have not been used as a routine in every case at the Massachusetts General Hospital, yet it is fair to say that such determinations have been made in nearly every case, if not every case, that would come into the group under discussion.

Unfortunately, only the determinations of the systolic blood-pressure are available. The instrument used has been the Riva-Rocci apparatus with the wide armcuff. The observations were all taken in the recumbent position when the patient was able to lie down. The apparatus was placed on a table practically on a level with the heart, with the arm at the same level. The determinations were made by various individuals, but in general the method was that advocated by Janeway[6] and Sawada[4]; namely, the point at which the first full beat returns after the obliteration of the pulse. Janeway and Park[7] have shown that in clinical blood-pressure determinations, if the wide arm-piece be used and if the return of the first fully developed pulse-wave be taken, even advanced arterial thickening and calcification probably do not intrude an error of any importance.

The limit of 160 was taken, as Janeway[6, 8] and others[9, 10] believe that such a limit is rarely exceeded in normal individuals. From Jan. 1, 1907, to April 25, 1911, there were in the medical wards of the Massachusetts General Hospital fifty-three cases with blood-pressures over 160 that came to autopsy. The hospital admits only acute cases or acute manifestations of chronic cases. Most of the autopsies were done by Dr. Oscar Richardson; a few by Dr. J. H. Wright. The histologic examinations were made by Dr. Wright.

In the discussion of the diagnosis, little attempt has been made to balance the relative importance of the pathologic findings. If a kidney lesion of any description is present, it is considered that such a case belongs to the group of cases of hypertension associated with kidney lesions.

HYPERTENSION WITH LESIONS IN THE KIDNEYS

The pathologic findings showed some kidney lesion in thirty-eight cases, or over 71 per cent. These thirty-eight cases include one case which was, pathologically, acute degeneration of the kidneys and one case of hydronephrosis. In seven of the thirty-eight cases showing kidney lesions, or 13 per cent. of the whole series, the lesions found at autopsy were essentially confined to the kidneys (Cases 2, 8, 19, 36, 38, 42 and 53). Five of these seven cases showed pathologic changes classified as chronic glomerulonephritis, one as subacute glomerulonephritis and one as chronic interstitial nephritis. The maximum systolic blood-pressure in this group of seven cases ranged from 165 to 240.

HYPERTENSION WITH ARTERIOSCLEROSIS

Arteriosclerosis was found at autopsy in thirty-seven of the fifty-three cases, or 69 per cent. General arteriosclerosis was associated with lesions in the kidney in twenty-eight cases, or 52 per cent.

There was only one case (Case 46) of hypertension with arteriosclerosis in which there was no kidney lesion, no cerebral lesion and no cardiac lesion, except simple hypertrophy and dilatation. the blood-pressure was 210. This case was in the hospital only twenty-four hours, and there was only one observation of blood-pressure. The patient was in coma. The urine showed no albumin but a slight trace of sugar. The pathologic examination showed a woman of 60 years, with slight general arteriosclerosis, a heart weighing 520 gm., normal kidneys weighing 268 gm. and no other lesions worthy of note.

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[6] Janeway, T. C.: Clinical Studies of Blood-Pressure, New York, 1904, p. 64.
[7] Janeway and Park: Arch. Int. Med., Nov. 15, 1910, vi, 586.
[8] Janeway, T. C.: Am. Jour. Med. Sc., 1906, i, 772.
[9] Osler: System of Medicine, iv, Chap. x, 426, 447.
[10] Woley: THE JOURNAL A. M. A., July 9, 1910, p. 121.

In two cases (Cases 41 and 47) of fibrous endocarditis with no lesions in the kidneys, the valvular lesions were slight and the essential pathologic change seemed to be arteriosclerosis.

HYPERTENSION WITH CEREBRAL LESIONS

In eight of the fifty-three cases, or 15 per cent., there were definite cerebral lesions. One case was associated with a chronic nephritis and three with arteriosclerosis. In four cases no other blood-pressure-raising factor besides the cerebral lesion was apparent.

HYPERTENSION WITH CARDIAC LESIONS

In thirteen of the fifty-three, or over 24 per cent., there were definite cardiac lesions in addition to simple hypertrophy and dilatation of the heart, and in eleven of these thirteen there was endocarditis of the aortic valve. In every case in which the endocardium was affected, the aortic valve was involved. Three of the thirteen cases showed no other lesions which might be assumed to raise the blood-pressure.

HYPERTENSION WITHOUT KIDNEY LESIONS

There were fifteen cases, or 28 per cent. of the series, in which no kidney lesions were found.; at autopsy seven showed cerebral lesions. In four cases the chief pathologic lesion was cerebral hemorrhage. The blood-pressure varied in these four cases from 175 to 260. In one case (Case 16) the cerebral hemorrhage was traumatic; in that case the blood-pressure was 175. In the other three cases (Cases 21, 22 and 48) the cerebral hemorrhage was apparently due to the rupture of an arteriosclerotic cerebral vessel. In these three cases, the blood-pressures were over 200. In the same group is one case of brain tumor (Case 33) with a blood-pressure of 190; one case of degeneration in the pons (Case 43) with a blood-pressure of 175. and one case of miliary tuberculosis with a tuberculous meningitis (Case 31) with a blood-pressure of 165. Consequently, in seven out of fifteen cases of hypertension not associated with a lesion in the kidney. there was some cerebral condition which might have caused cerebral pressure. Cushing and others have shown the relation between increased intracranial pressure and an increased blood-pressure.

In this group of fifteen cases of hypertension without kidney lesions, seven showed cardiac lesions. There were two cases (Cases 10 and 44) in which intracardiac thromboses were found without other cardiac lesions beyond simple hypertrophy and dilatation and without arteriosclerosis. There was one case of syphilitic aortitis (Case 25) with a slight amount of fibrous endocarditis of the aortic valve. In addition, one finds in this group four cases (Cases 41, 45, 47 and 52) of fibrous endocarditis of one or more valves of the heart, all associated with arteriosclerosis and one case with primary pernicious anemia. The aortic valve was affected in every case. In the same group of fifteen cases of hypertension without kidney lesions comes the case of arteriosclerosis (Case 46). In this group of fifteen cases of hypertension without lesion in the kidneys there were seven patients under 50 and eight over 50 years. The maximum systolic blood-pressure varied from 165 to 260.

HYPERTENSION WITHOUT LESIONS IN THE KIDNEYS AND WITHOUT ARTERIOSCLEROSIS

There were seven cases with neither arteriosclerosis nor nephritis. Of these seven cases four showed cerebral lesions. One was a case of brain tumor (Case 33), one was a case of general miliary tuberculosis with tuberculous meningitis (Case 31), one a case of degeneration in the pons and carcinoma of the ovary (Case 43), one a case of cerebral hemorrhage due to trauma (Case 16). The remaining three cases in this group were cardiac cases (Cases 10, 25 and 44). The ages in this group were from 30 to 52. This group of seven cases is characterized by a moderate degree of hypertension as a rule, two showing a maximum systolic blood-pressure of 165, one of 170, two of 175, one of 190 and one of 200. Therefore, in this series of fifty-three cases in the absence of both arteriosclerosis and any lesion in the kidney no blood-pressure over 200 was found.

If one considers only the cases with more than one blood-pressure observation and only cases showing constantly a blood-pressure of 200 or over there were ten cases all of which were cases with kidney lesions. In nine of these ten cases arteriosclerosis was also present, although in two cases the arteriosclerosis was slight.

Of fifty-one cases in which we have the kidney weight twenty-nine, or 56 per cent. +, were distinctly atrophic i. e., weighing under 250 gm. Of the twenty-nine kidneys weighing less than 250 gm. twenty-seven showed kidney lesions and two showed no kidney lesions. One case (Case 31) showed miliary tuberculosis in which the blood-pressure was 165. In this case the kidneys weighed 208 gm. but the heart also was small, weighing 223 gm. The other (Case 48) showed arteriosclerosis and cerebral hemorrhage. The blood-pressure varied between 260 and 125. The heart weight was 335 gm. and the kidneys 190 gm. Only eleven cases of the thirty-seven with kidney lesions, or 27 per cent., failed to show small atrophic kidneys. Of the ten cases with kidney lesions, with kidneys weighing more than 250 gm., five showed kidneys weighing 250 to 300. Histologically, all showed atrophic conditions. In one case, with kidneys weighing 313 gm., the chronic interstitial changes were slight (Case 9). This was the case of lead poisoning and pneumonia. Three of the other four cases were cases of subacute glomerulonephritis and the other was a case of acute glomerulonephritis. In seven of these ten cases the blood-pressure was over 200 mm. of mercury. Marked hypertension occurs in this series in a certain number of cases in association with kidneys which are not atrophic, and in acute and subacute glomerulonephritis.

The weights of the hearts were of considerable interest; of the fifty-one cases in which the heart weights were recorded only thirteen weighed less than 400 gm., ten weighed between 400 and 500, and twenty-nine, or 56 per cent., weighed over 500 gm. Of special interest is Case 48, in which the heart weighed 335 gm. In this case a blood-pressure of 260 was present for twenty-four hours, of 180 the next twenty-four hours, but the pressure sank to 125 on the third day, the day of death. Case 12 was observed for two weeks, with three observations scattered through the period. The blood-pressure varied between 225 and 190. The heart weighed 363 gm. Consequently, a high blood-pressure of over 190 may persist for a period of days with only a very moderately hypertrophied heart.

The anatomic and clinical diagnoses approximately correspond in forty-four of the fifty-three cases. In five cases (7, 9, 27, 49 and 50) kidney lesions were found at autopsy, but were not diagnosed in life. In one of these five cases (Case 9), one of lead poisoning with lobar pneumonia, the kidney lesion was slight. In two cases (7 and 27) the nephritis seemed incidental. In five cases (22, 25, 30, 41 and 46) a kidney lesion was diagnosed but was not found at autopsy. This diagnosis was, apparently, based chiefly on the high blood-pressure.

In these fifty-three cases albumin was absent in only four; in three of these four there was no kidney lesion. In these four cases the clinical diagnosis of nephritis was made twice and in one the kidney lesion was present and in one a kidney lesion was not present at autopsy.

Of the fifty-three subjects thirty-six were males and seventeen females. The males predominate over two to one. In the ten-year periods there were one from 20 to 29, nine from 30 to 39, nineteen from 40 to 49, ten from 50 to 59, nine from 60 to 69, five from 70 to 79 and one subject of unknown age.

The age period of from 40 to 49 has nearly twice as many as any other period. From 40 to 59 are twenty-nine cases, or 54 per cent., of all the cases. The youngest patient was 25, the oldest 73.

SUMMARY

Some kidney lesion was present at autopsy in over 71 per cent. of the cases of hypertension. In 13 per cent. the kidney lesion was essentially uncomplicated by other possible blood-pressure-raising factors; the lesion in the kidney was atrophic in 72 per cent. of the kidney cases. Hypertension also occurs in the so-called acute and subacute glomerulonephritis as well as in the atrophic form of nephritis. Arteriosclerosis was present in 69 per cent. of the cases, but in only one case could all other lesions which might cause hypertension be excluded.

In fifteen cases no kidney lesion was found at autopsy. Seven of these cases presented cerebral lesions, seven cardiac lesions and one general arteriosclerosis. In every case of valvular disease of the heart, the aortic valve was involved. No patient without either nephritis or arteriosclerosis showed a blood-pressure of over 200. All the patients with repeated and constant blood-pressure readings of over 200 showed some kidney lesion.

In thirty-eight of the fifty-one cases there were definitely hypertrophied hearts, yet in some instances high blood-pressures were observed to persist for days with hearts weighing less than 400 gm.

The following conclusions seem justified:

Hypertension occurs most commonly in association with some lesion in the kidney. The most common lesion is an atrophic kidney with increase of connective tissue and disappearance of glomeruli. Hypertension occurs also in association with acute, subacute and chronic glomerulonephritis.

Hypertension occurs not infrequently in association with cerebral lesions.

A moderate degree of hypertension may occur in cardiac lesions. In valvular cardiac lesions the aortic valve is apparently always involved.

Hypertension may occur rarely in cases of general arteriosclerosis without other lesions.

With a continued systolic blood-pressure of over 200, some form of nephritis is found.

Hypertension usually indicates well-marked cardiac hypertrophy. The hypertrophy may be moderate in connection with a well-marked hypertension over a considerable period.

Note.—In addition to the authorities previously cited, the following may be found of interest:

Barker, L. F.: Am. Jour. Med. Sc., 1910, i, 631.
Buttermann: Deutsch. Arch. f. klin. Med., lxiv, 1.
Elliott, A. R.: Am. Jour. Med. Sc., 1910, i, 648; The Journal A. M. A., April 13, 1907, p. 1247.
Geislöck: Deutsch. Arch. f. klin. Med., lxxxiii, 363.
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Hasenfeld: Deutsch. Arch. f. klin. Med., lix, 193.
Husch: Deutsch. Arch. f. klin. Med., lxviii, 55 and 331.
Krehl: Deutsch. med. Wchnschr., xxxi, 1872.
Loeb: Deutsch. Arch. f. klin. Med., lxxxv, 349.
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ABSTRACT OF DISCUSSION

Dr. William Ophüls, San Francisco: I was much interested in Dr. Lee's paper, because lately I have been working on the same question, but from an anatomic point of view. I should refer those of you who are interested to the Scientific Exhibit, where some microphotographs and charts are exhibited, which show the result of an investigation of kidneys, heart and blood-vessels in 1,000 consecutive autopsies. As is shown in these charts, general arteriosclerosis and the so-called small granular kidney are closely associated. Glomerulonephritis proper, however, can be distinctly separated from these primarily arteriosclerotic cases.

Dr. Lee's clinical observations bear out very closely what I have seen anatomically. In regard to hypertension I am inclined to place more importance on general arteriosclerosis than on the renal lesions which may be associated. I was quite astonished myself, in looking over my cases, to learn how comparatively insignificant the renal lesions are in producing the symptom-complex. Undoubtedly at present the rôle of the kidneys in its production is greatly exaggerated.

Dr. Edward F. Wells, Chicago: There is an art, as well as a science, in the study of blood-pressure, and the art, to be useful, requires practice. He who measures the blood-pressure rarely and in the exceptional case and attempts to draw conclusions from his occasional observations, places himself in the position of one who would form his opinions on the pulse under similar circumstances; both would obtain very indefinite and obscure impressions of the great variations in the characteristics of the blood-pressure and pulse, respectively, and would underestimate the value of the procedure. He, however, who measures the blood-pressure as a diagnostic routine procedure obtains useful and pertinent information.

The blood-pressure which rises gradually through a long period of time and is accompanied by cardiovascular and nephritic morbid changes, is probably fundamental and permanent, and is one which cannot be materially reduced, and it may be questioned whether this should be attempted. There is, however, an exalted blood-pressure which attends certain toxic conditions, as, for example, the toxemia of pregnancy, which results in eclampsia, in which the blood-pressure may rapidly rise to great heights. Although we do not yet know fully the relations of the blood-pressure to the toxic agent in these cases, nevertheless we are justified in regarding it as due to the rapid introduction into the circulating liquids of a powerful toxin which acts with intense energy on the vasomotor nerves. Such high blood-pressures quickly fall on removal of the offending cause; they are clearly functional. Now in the class of cases first alluded to, there may be added to the ordinary high blood-pressure of the individual a more or less rapidly advancing increase in tension, due to some ephemeral toxemia, and which may disappear with celerity when once the extra burden is removed, leaving the blood-pressure at the usual high level for the individual, but the reduction is not materially lower than is habitual for the patient. It is my belief that the recognition of these facts is of practical importance, first, to the patient's welfare, and second, to the fair fame of medicine.

Dr. Frank Billings, Chicago: What has been said regarding cardiovascular changes, agrees with the statement already made that the cardiovascular or vascular changes with the hypertrophy of the heart are very important things to consider in blood-pressures. Sometimes in our ignorance the elevation in the blood-pressure is ascribed to a toxemia; there seems to be nothing else which will describe it. However, toxemia has been recognized in many other conditions in which there is an increase of blood-pressure; some vasomotor process such as is exemplified in the phenomena which appear in hyperthyroidism. In the early stages of this disease there is a blood-pressure of 180 or 200, and this is before the disease has progressed to changes in the cardiovascular system. This must be the result of a toxemia, something which produces overfull blood-vessels. As Dr. Wells stated in relation to the management of such conditions, the existence of a permanent blood-pressure is in a sense conservative; it is Nature's method.

We must consider hydrostatic pressure, but there is another condition, toxemia, which we must not neglect. I agree with Dr. Lee that there are many other things that cause hypertension, such as cardiovascular changes and other changes referable to the kidney. I have watched many cases in the clinics, many that have gone to autopsy; I have seen patients suffering from toxemia without apparently any cardiovascular changes; but at autopsy the kidneys were found to be practically worthless, or functionless.

Just one other word. I do not believe that we can say definitely that there is an exact dividing line between the pathologic and the normal in these cases. To say that 160 is the limit of health, or the point at which disease begins, I think is wrong. There are people of the very nervous type who, under certain conditions, such as overwork, worry, and the like, run up the point to 160, 170 or 180, even, and here we find associated the toxemia that goes with fatigue. When these people are treated with ordinary hygienic measures there is a lessening in the blood-pressure. I do not believe that we have any right to have a statement go forth that a blood-pressure of 160 or more really means, necessarily, disease.

Dr. C. F. Hoover, Cleveland: For the past few years I have studied the diastolic arterial pressure in all suspected cases of hyperthyroidism and I have yet to find a patient in whom there is an elevation of the diastolic pressure even when the systolic pressure is high. My attention was attracted to this point by cases with cardiovascular disease being referred to the surgical wards for operation on goiter which these patients happened to have. The goiters in such cases were merely incidental and were not the cause of the cardiac symptoms.

Dr. Charles L. Greene, St. Paul, Minn.: With respect to the findings in these cases of aortic lesions, in the cases that have been so ably described by the reader of the paper, if the cases were in fact aortic regurgitation, then what has been presented should not be included among the high-pressure cases. The experience of all of us who are doing this sort of work shows that we may get a very high systolic pressure, but for different reasons, as described by Dr. Hoover. With the Corrigan pulse we may find a high systolic pressure and a very low diastolic pressure.

Dr. Walter L. Bierring, Des Moines, Iowa: I should like to ask the reader of the paper if any histologic examination of the brachial artery was made and compared with the condition of the other arteries in the body. It has become recognized that marked differences often exist in the pressure in the brachial and the femoral arteries, and it would be interesting to know if local changes in the blood-vessels could account for this difference.

In determining arterial pressure by the simpler method of palpation, it has also seemed to me far more satisfactory to palpate the femoral artery rather than the radial or the brachial, and by comparative tests one can make much closer estimates in this way with the findings of different forms of special apparatus used for this purpose.

Dr. Roger I. Lee, Boston: Only a macroscopic examination of the adrenals was made in these cases. No gross lesions were found. Among these cases was one of syphilitic aortitis. The spirochetes were found in the walls of the aorta. Two or three other patients gave a history of syphilis.

Only rarely were histologic examinations of the blood-vessels made. The brachial artery was the one used, as a rule to ascertain the blood-pressure. The femoral artery was occasionally employed, but merely as a control for the brachial artery. But in the synopsis the conclusions were drawn from the results obtained from the brachial artery.

I agree with Dr. Billings in regard to setting a limit, or trying to set a limit between what is pathologic and what is normal; the limit of 160 was merely taken because we wanted some limit and 160 is generally regarded as being a fairly good dividing line. It is evident that the diastolic blood-pressure may be very variable in these cases; a further study will result, no doubt, in more satisfactory conclusions.

The cases studied include only one case of frank aortic regurgitation, and one case of aortic stenosis.

The primary purpose of my paper was to find out how great a rôle arteriosclerosis played in hypertension, inasmuch as the German schools have insisted on the close relation between hypertension and kidney lesions. It should be remembered that kidney lesions, however slight, may be sufficient to cause a high blood-pressure. It is certainly very difficult to balance the relative importance of the different lesions. One must think of the so-called latent nephritis, a name applied by the Germans. In this study I classified all cases having any kidney lesions under the head of hypertension associated with kidney lesions.

Another reason for my undertaking this study was that I wished to place hypertension on an anatomic basis so far as possible. While as yet few cases of hypertension have been recorded as the result of a toxemia, it is certain that soon many will be. Barker has reported a case of transitory high blood-pressure in a case of tabes with gastric crises. These cases must be carefully studied, especially in regard to the condition of the heart, kidneys and blood-vessels.

RESERVE RENAL CAPACITY IN CHRONIC INTERSTITIAL NEPHRITIS *

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In the mid-course of chronic interstitial nephritis, with the secreting structures of the kidneys greatly reduced by degenerative and atrophic processes, more or less marked renal insufficiency is the rule. With the high-pressure circulatory balance well maintained, the urinary water flows in full or increased volume, the insufficiency being confined to an inadequate excretion of certain waste and superfluous determinable and occult substances which are deleterious to the human body, and which are ordinarily efficiently removed by healthy kidneys. It is probable that the most toxic and important of these are, as yet, demonstrable only by their effects. In the future, when methods shall have been perfected whereby these may be differentiated and measured, our problem will be susceptible of ready and accurate solution. For the present, and for our practical purposes, we are compelled to rely on the amount of urea, chlorids, phosphates and sulphates contained in the daily urine, together with the general and special symptoms, in forming an estimate of renal capacity. Notwithstanding the difficulties and inaccuracies attending such estimates under current conditions, it is my opinion, based on a fairly long and broad experience, that they are of sufficient diagnostic and prognostic importance to warrant their employment in the routine of general practice.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Many years ago I attended a man who was known to have had chronic interstitial nephritis for more than twenty years, during the latter of these accompanied by frequent and at times very severe attacks of uremia. For several years fairly full analyses of the urine were made once or twice a week, and at times daily for periods of from two to six months. These analyses showed the total solids and urea uniformly greatly reduced, the latter ranging from 3 to 12 gm. per day, with 8 gm. as an approximate average. At one time the daily excretions of urea averaged about 5 or 6 gm. over a period of several weeks, at the end of which the patient had a severe attack of uremia with most active maniacal excitement. During twenty-four hours of violent muscular exertion he passed urine which contained 36 gm. of urea. Following this observation it was noted that active, and to a lesser degree passive, muscular exercise regularly increased the excretion of urea, and approximately a like amount of such exercise always augmented the urea excretions to a corresponding degree; that is, up to from 10 to 12 gm. Later it was experimentally demonstrated that if lean meats were added to the diet, the urea excretion was further increased according to the amount of proteid ingested, up to 15 or 20 gm. This required about 300 gm. of meat. In this case it was clearly evident that beyond this proteid intake the urea output lagged behind. For reasons not material to our theme these observations, so far as the giving of meats was concerned, were omitted, but the employment of active and passive muscular exercises were continued with satisfactory results as an important feature of management. In this case the conclusion to which I had come, and which was shared by other physicians, namely, that the secreting structure of the kidneys were so largely destroyed as greatly to reduce the renal functional capacity, using the urea output as a measure, to far below the requirements of the system, and with a practical abolition of any reserve capacity, was demonstrably erroneous.

During the past ten years I have had frequent opportunities to pursue these investigations, with the result that a sufficient array of facts has been accumulated to warrant the deduction that, in the class of cases under discussion, the kidneys are seldom anatomically or functionally altered to such degrees as to preclude the moderate regular excretion of water, urea, chlorids, and other of the measurable constituents of the urine, and, on occasions of great and extraordinary stimulation, to show evidence of correspondingly increased functional activity, which may, with propriety, be termed reserve renal capacity. That this is an important fact, capable of being turned to diagnostic, prognostic and therapeutic usefulness, must be clearly evident.

In investigating the capacity of the kidneys in chronic interstitial nephritis under the ordinary conditions of life, and under those entailing extraordinary stress on all the organs engaged in the production and excretion of the urinary constituents, various procedures may be adopted, varying with the character of the information desired, and, it may well be added, with the predilections of the physician.

The conditions under which the excretion of urinary water may vary are so fully dealt with in the literature that only a few points of practical importance will be considered: As is well known the urine is, as a rule, notably increased in quantity, with a very considerable proportional and total reduction of the urea and other solids. Should the volume of urine decline, without a corresponding reduction of liquid intake, further examination will disclose circulatory failure with occult or manifest edema. Much later, when there is added to the above high color and increased or even largely increased total urea excretion, cellular nutritive balance with destructive metamorphosis will be present. Observation will soon show that at neither the highest nor lowest output of urinary water does the excretion of urea and other solids reach the highest level; but rather is this found at some intermediate point, which, because of its therapeutic importance, should be, from time to time, closely determined.

During the recently passed years the excretion of chlorids has been very closely studied, and I have only a word to add in this connection, namely, that as a foundation for any dietetic directions which intelligently consider this question, there should be a fairly accurate determination of the chlorid excretory capacity of the kidneys. The methods may be readily adapted.

In the present state of our knowledge in chronic interstitial nephritis, and in connection with our theme, greatest interest lies in estimating, comparatively and absolutely, the excretory capacity of the kidneys for those nitrogenous substances resulting from proteid metabolism of which urea is the chief and best known.

For the purpose of obtaining information as to the renal capacity, I am in my own practice accustomed to employ the following procedures:

The daily urine is examined closely, and recorded and charted every day during the entire time occupied in making the observations, which is divided into a series of periods of three days each. During the first of these the patient is under his accustomed diet and regimen. During the second he takes two freshly made pills of mercurial mass every night, followed by a saline cathartic next morning. In the third the diet is restricted to water, cream and water soups and thin gruels, all in moderate or small quantities, with physical rest. During the fourth he has added to his diet breads, rice and potatoes, the food having a daily caloric value to meet fully nutritional requirements. To this there is added 300 gm. of lean meat during each of the three days of the fifth period; 400 gm. in those of the sixth; 500 gm. in those of the seventh; 600 gm. in those of the eighth. If desirable, the series with increasing amounts of proteid intake may be further extended if required.

In giving the meats in this gradually ascending scale, it will be noted that during the earlier periods the urea excretion rises directly as to the proteid ingestion. As the scale ascends, however, there comes a time in which ingestion of proteids and excretion of urea no longer run parallel, the latter lagging behind; later this becomes so marked that I prefer to terminate the investigation.

Applying the rule of averages, to which no chronic interstitial nephritic patient very closely conforms, the daily excretion of urea by the three-day periods may be tabulated as follows:

Period 1, under ordinary diet and regimen	12 gm.
Period 2, under ordinary diet, etc., with evacuants	8 gm.
Period 3, under very restricted diet and rest	6 gm.
Period 4, under full carbohydrate diet plus 300 gm. lean meat	14 gm.
Period 5, under full carbohydrate diet plus 400 gm. lean meat	22 gm.
Period 6, under full carbohydrate diet plus 500 gm. lean meat	30 gm.
Period 7, under full carbohydrate diet plus 600 gm. lean meat	36 gm.

If during the fourth and subsequent periods the patient subjects himself to unusual active and passive muscular exercise, the urea output should be considerably augmented. Should there be any material deviation in a downward direction, from the curve of urea output, based on the above, a corresponding renal incapacity is indicated; any excess above that of the first period which may be observed during periods of four to seven, inclusive, represents reserve renal capacity.

In making these tests, wide variation in methods, and in additions to or subtraction from the details of those mentioned, may be practiced, as required, or as individual experience demonstrates to be the most available. Special emphasis, however, should be laid on the character of the proteid given, inasmuch as the urea output after the ingestion of meat follows fairly promptly and reaches its full height on the second, certainly on the third, of these days, whereas should eggs be employed, a much longer time is required for elimination. There may be added during these last three days as much active and physical muscular exercise as the patient is able to bear, which will further increase the output of urea. Personally, I prefer to make this a fourth three-day period, but this is probably immaterial.

As an example of the wide variations met with in making these estimations, the following case is worthy of mention. A few years ago a gentleman, 65 years of age, with chronic interstitial nephritis of many years' duration, passed, under great urinary stress, urine which contained during one twenty-four-hour period 64.5 gm. of urea. In making several tests, such as those described, the urea with great uniformity rose to from 30 to 35 gm. per day, and if much exercise should have been taken during the final period 35 to 40 gm. were not uncommon.

In making these tests from time to time, other important features were noted. For example, it was noticed almost constantly that, following the test, the patient appeared to be very much improved over his former condition. Most of this improvement was of such a nature that it could not be definitely measured. The patient, however, appeared to be fully aware of the fact, and indefinitely I shared his opinion. For this reason I have made these observations with more or less frequency in each patient for the purpose of obtaining, first, diagnostic and prognostic information; second, for possible therapeutic advantages; and third, that the patient's interest in his case and its management may be intelligently and optimistically maintained.

It is a fair inference that, if known, the output of urea can by simple measures and with safety be so stimulated that from an average of 10 to 15 gm. per day, an amount double this may be uniformly reached; the anatomic alterations and physiologic capacity are such as to eliminate urea, chlorids, phosphates, sulphates, etc., with fair safety. The danger to these chronic interstitial nephritics must, then, lie in the failure of the kidneys to eliminate other toxic substances of a nature so subtle as so far to defy analysis. It is also probable that the circulatory, and especially the extravascular circulatory changes are responsible for the failure to eliminate these heretofore undefined toxic agents. From this it may be readily seen that such measurements as those described fall far short of our requirements. Nevertheless, they are, taken in connection with such other observations as those of estimating the blood-pressure, the retinal fields and a careful review of the symptomatology, the best obtainable at the present time. As the results of my own observations, I am of the opinion that those cases in which there can be demonstrated, with regularity, a fair or large reserve renal capacity offer the best chances for prolonged life, physical and mental capacity and usefulness, while those in which the reserve renal capacity is but slight are in much greater risk of prematurely encountering the various serious accidents which accompany the later stages of this malady.

On the information obtained may be based some important details of management. In my own practice I advise such active and passive muscular exercises as may be taken without evidences of urea retention. Also the amount of proteid ingestion, always small or moderate, is gauged in like manner. These I consider points of great practical importance.

Along similar lines estimations may be made of the capacity of the kidneys to eliminate urinary water; also of chlorids. The latter, taken in connection with observations on the weight of the patient and of the extra-vascular serum accumulation, blood-pressure and cardiac hypertrophy, is of prime importance and should be made with regularity. It is not my purpose, however, in this paper to consider this line of thought; my main object is to stimulate further and more accurate investigation.

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ABSTRACT OF DISCUSSION

Dr. Frank Billings, Chicago: What Dr. Wells has read to us this morning should be a lesson; what he has given us has been an individual study of a diseased organ, the kidney, and there is much that is new in it. The method he employs in estimating the functional capacity of the kidney is interesting; perhaps if one wished to offer a criticism one might say that one could not, by such measures as he employed, fully estimate the physiologic function of the kidney, or the metabolism of the body; yet clinically the measure he employs is the only one that is practical by which we can reach any such conclusions. The painstaking way he has worked with the different diets, day after day, and all before he has arrived at any conclusion, shows that his work and study is worthy of careful consideration. He is using the same methods we should use in other diseases, such as diabetes—measuring the individual capacity of the patient.

Dr. Walter L. Bierring, Des Moines, Iowa: The thought arises whether the disturbances in the nutritive balance may not be influenced by other organs besides the liver. In considering the condition termed chronic nephritis, a very close relationship was recognized between that triad of structures, the myocardium, the blood-vessels and the kidneys. It is also exceedingly difficult to estimate the functional capacity of the kidney, to note only the urinary findings; and oftentimes many of the symptoms which are most indicative of chronic nephritis are those of retention phenomena. The prognosis in chronic nephritis is dependent largely on the condition of the myocardium, and it appears to me that possibly in our efforts to preserve this reserve force referred to in the paper, we really bring about a condition more favorable to the myocardium or myocardial function; whenever we bring about such a condition by means of proper diet or otherwise, it tends to lower arterial pressure, lessen the strain on the heart, the retention phenomena become less marked, and a better functional ability of the kidney is brought about.

Dr. Edward F. Wells, Chicago: My paper illustrates the futility of attempting to make a suitable presentation of an important subject in the short time allotted; therefore I limited my remarks mainly to a consideration of certain tests for measuring the reserve capacity in chronic interstitial nephritis, with a well-preserved circulatory balance. In a few words I mentioned the fact that under certain circumstances, especially with a failing circulatory balance and a consequent nutritional disturbance, the tests mentioned are inapplicable. It must be clearly apparent that the tests mentioned are crude, but, rudimentary as they are, the methods are those which I have found available and useful for testing the urinary capacity of my patients. To these there should be added a study of the functional capacity of all the organs engaged in the preparation for urinary exeretion. Those presented I should be pleased to have considered simply as a beginning of work along these lines, with the confident expectation that, intelligently practiced, they will be found as useful in the malady mentioned as are similar procedures in the study and management of diabetics. My object has been to extend our diagnostics—making a therapeutic and a prognostic diagnosis, if you will allo wthe terms; nevertheless, certain beneficial therapeutic results were obtained from the tests employed. However, I do not wish to lay any undue stress on this point.

TREATMENT OF DIABETES MELLITUS *

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It is impossible in a paper of this kind to consider more than the most important points in the treatment of diabetes mellitus. The various special treatments that have been recommended for this condition cannot be discussed. A bibliography will be appended, but no attempt will be made to give any extended references to the many excellent papers that have appeared on the subject. The object of this paper is to call attention to certain well-defined principles which must govern the treatment of this serious and stubborn disease, if any satisfactory outcome is to be hoped for.

While this paper deals only with the treatment of diabetes, it is necessary for purpose of clearness to refer briefly to the etiology of the disease. A small percentage of cases are caused by some severe pre-existing pathologic condition that removes them from consideration in a paper of this kind. Such cases are those due to carcinoma of the pancreas, to syphilis, etc.

The cases that will be considered in this paper and which make up approximately 90 per cent. of all those exhibited by the patients that present themselves, are due to what may be called errors of metabolism. To assign this as a cause, however, is not to explain, for there are causes operating behind these metabolic errors. A careful study of the habits of a large number of diabetics convinces me that one of the most fertile causes of diabetes mellitus is a long-continued toxemia or autointoxication due to gross errors in eating. There are, of course, other causes: oft-repeated emotional excitement, the excessive use of starches or of alcohol, arteriosclerosis, that undefinable something which, for want of a better name, we call the gouty diathesis; heredity, sometimes associated with exophthalmic goiter—all these seem to play a part in the etiology of this disease; but by far the most important cause is the one first given, errors in diet.

WHAT CONSTITUTES A CURE

It should be impressed on the patient that a "cure" of this disease is not possible in the sense in which he understands a "cure," viz., that after the glycosuria has been overcome he may go back to his old habits of diet. He should be told that after his apparent recovery, continued care in eating is essential to his continued health. As well might a consumptive in whom the tuberculous process has been arrested by careful treatment expect to go back to foul air, insufficient light and lack of nourishing food and remain well, as a diabetic to keep his urine sugar-free while violating the very dietetic rules the disregard of which brought on his trouble.

DIETETIC ERRORS A FREQUENT CAUSE

In the past twenty years I have treated somewhat over 1,100 diabetic patients. A careful study of these cases has impressed me with the fact that the great majority of patients who suffer with this disease do so because, through ignorance, they have grossly abused their systems with the quantity, quality and kind of food used. Too much food, bolting the food so as to preclude proper insalivation, reading, thinking deeply or worrying while eating, using uncooked or but partly cooked starches—all these are contributory causes to that deranged metabolism which exhibits itself as diabetes. Particular stress should be laid on the viciousness of the prevalent habit of using large quantities of carbohydrate foods in which the starches are practically in an uncooked state, baking-powder biscuits, batter cakes, corn-bread, waffles, various forms of crackers—especially the Graham cracker, so largely eaten under the mistaken idea that it has an extraordinary food value—all these forms of starchy food are bad and contribute in no small degree to recruit the increasing army of diabetes. These causes will be taken up in greater detail as the treatment of the disease is considered.

The value of any treatment for any disease must be judged by results. And the results must have been obtained not in a few isolated cases but in a long series of cases. In order to make clear whether the treatment about to be described is worthy of consideration a table is appended of the cases of all the patients treated from May 1 to Dec. 1, 1910, giving the age of the patient, the duration and severity of the disease and the result of the treatment.

This table, of course, is but the briefest of outlines and is intended only to emphasize the results of the treatment. While more or less complete histories of more than 1,100 cases could be given, such a tabulation would be out of place in a paper of this kind. Before closing, a typical case-history will be given in detail with the treatment.

OBJECTIVE POINTS IN TREATMENT

In treating the class of diabetics with which this paper deals there are four objects to be kept in view:

1. To free as nearly as possible the blood and other tissues from sugar; to do this it is necessary—
2. To find the individual patient's tolerance for carbohydrate and if possible to increase that tolerance;
3. To find a diet that will furnish the necessary calories without, at the same time, increasing the sugar intake; and
4. To prevent, by dietetic or other measures, the constipation with which the majority of these patients suffer and which increases the toxemic condition.

The first thing to impress on the patient is the fact that this disease—in the class of cases under consideration—is one that possibly has been years in developing and that it is useless and hopeless for him to expect to obtain any relief in a short time. The changes which a long-outraged system has undergone are such as cannot be remedied in a week or a month. In diabetes, more than in almost any other disease (unless it is tuberculosis), the help and cooperation of the patient is absolutely essential to successful treatment.

FUTILITY OF DRUGS

Another fact to be emphasized is the futility of drugs in the treatment of this disease; futile, because harmful habits cannot be cured by drugs. A large percentage of the patients who present themselves bring with them

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

PATIENTS TREATED FROM MAY 1 TO DECEMBER 1, 1910

Sex.	Patient.	Age.	Duration of Disease in Months.	Complications.	Sp. Gr. Urine before Treat.	Duration Treatment in Weeks.	Sp. Gr. Urine after Treat.	Condition at End of Treatment.	Report 1/6/11
F.	H. A.	27	5		1.032	4	1.016	No sugar.	No report.
F.	W. H. A.	36	27		1.040	6	1.018	Trace sugar.	Died 4/11.
F.	J. A.	62	24		1.036	7	1.014	No sugar.	No sugar.
F.	G. A.	34	3		1.030	5	1.015	No sugar.	Trace sugar.
M.	F. A.	51	24	Diabetic cataract.	1.045	7	1.016	No sugar.	No sugar.
F.	H. B.	38	7		1.042	5	1.016	No sugar.	No report.
M.	F. W. B.	40	6		1.038	4	1.013	No sugar.	No sugar.
F.	F. B.	32	2		1.035	2	1.017	Transitory case	
M.	A. S. B.	65	5	Arteriosclerosis	1.030	6	1.018	No sugar.	No report.
F.	L. B.	69	18	Arteriosclerosis	1.028	3	1.016	Trace sugar.	No sugar.
M.	B. M. B.	41	11		1.038	5	1.014	No sugar.	No sugar.
M.	S. J. B.	63	16	Arteriosclerosis	1.026	2	1.016	No sugar.	No sugar.
M.	D. B.	54	20	Pulmonary tuberculosis.	1.040	7	1.018	Trace sugar.	Died 1/18/11.
M.	H. B.	57	9		1.036	8	1.015	No sugar.	Trace sugar.
F.	E. B.	68	60	Arteriosclerosis	1.030	4	1.012	No sugar.	3% sugar.
F.	L. B.	56	14		1.028	3	1.014	No sugar.	No report.
M.	L. B.	17	6		1.042	9	1.017	No sugar.	Died 3/11, septicemia.
F.	S. M B.	56	24	Gangrene toe	1.040	4	1.016	No sugar.	No sugar.
M.	L. B.	14	5		1.045	12	1.015	No sugar.	No sugar.
M.	H. C.	41	4		1.036	3	1.014	No sugar.	No sugar.
M.	A. C.	54	17		1.028	5	1.015	No sugar.	No report.
M.	C. W. C.	49	22	Pulmonary tuberculosis.	1.034	7	1.018	Trace sugar.	No report.
M.	S. C.	45	27		1.045	8	1.012	No sugar.	No sugar.
F.	M. C.	67	14	Arteriosclerosis	1.042	4	1.012	No sugar.	Trace sugar.
M.	R. L. C.	24	7		1.040	7	1.016	No sugar.	No report.
M	M. C.	44	15		1.036	3	1.012	No sugar.	No sugar.
F.	H. C.	47	20		1.034	4	1.016	No sugar.	No sugar.
M.	A. C.	44	7		1.038	3	1.014	No sugar.	Trace sugar.
M.	W. H. D.	54	11		1.041	5	1.016	No sugar.	No sugar.
M.	F. D.	14	13		1.048	6	1.015	No sugar.	3% sugar.
M.	L. D.	36	5		1.037	6	1.016	No sugar.	Trace sugar.
F.	E. F.	19	4		1.048	7	1.014	No sugar.	No sugar.
F.	H. F.	47	14		1.036	5	1.016	No sugar.	No report.
F.	C. F.	50	9		1.034	4	1.018	No sugar.	No sugar.
M.	J. F.	47	11		1.028	3	1.016	No sugar.	No report.
M.	G. E. F.	30	4		1.032	2	1.017	Trace sugar.	No report.
M.	W. G.	59	13		1.038	3	1.014	No sugar.	No sugar.
M.	D. G.	40	5		1.041	6	1.015	No sugar.	No sugar.
F.	I. G.	44	11		1.038	5	1.017	No sugar.	No sugar.
F.	G. G.	47	14		1.040	4	1.016	No sugar.	No report.
F.	W. G.	48	8	Carbuncle neck	1.047	7	1.015	No sugar.	1% sugar.
F.	J. G.	44	7		1.036	4	1.018	Trace sugar.	No report.
M.	W. H.	54	14		1.028	6	1.016	No sugar.	No sugar.
F.	J. J.	58	48		1.040	4	1.016	No sugar.	No report.
M.	S. K.	30	5		1.047	6	1.015	No sugar.	1% sugar.
F.	G. K.	44	11		1.034	3	1.014	No sugar.	No sugar.
F.	C. L. K.	16	7		1.046	10	1.015	No sugar.	No sugar.
M.	G. M. K.	32	9		1.040	7	1.016	No sugar.	No report.
F.	L. L.	56	24		1.038	6	1.014	No sugar.	No sugar.
F.	K. M.	49	12		1.034	3	1.012	No sugar.	No sugar.
F.	C. M.	54	14		1.036	4	1.014	No sugar.	1% sugar.
F.	K. M.	56	7		1.034	2	1.016	Trace sugar.	1% sugar.
M.	L. M.	36	11		1.040	5	1.017	No sugar.	No sugar.
F.	S. M.	59	18	Arteriosclerosis	1.044	7	1.017	No sugar.	No report.
M.	J. Mc.	48	14		1.046	5	1.015	No sugar.	No sugar.
F.	G. M.	53	20		1.033	4	1.012	No sugar.	No sugar.
M.	L. M.	39	15		1.038	5	1.016	No sugar.	No sugar.
M.	J. McN.	49	15		1.047	4	1.014	No sugar.	1% sugar.
M.	Dr. McG.	66	12	Arteriosclerosis	1.044	6	1.012	No sugar.	No sugar.
M.	C. N.	45	8		1.046	10	1.014	No sugar.	No sugar.
M.	H. J. M.	48	11		1.040	3	1.014	No sugar.	Died coma. 3/11.
M.	D. N.	28	4		1.044	8	1.014	No sugar.	No sugar.
M.	F. R. N.	47	14		1.046	4	1.014	No sugar.	No sugar.
F.	H. P.	48	19		1.038	5	1.014	No sugar.	2% sugar.
F.	J. R.	49	11	Gangrene toe	1.042	7	1.016	No sugar.	No report.
M.	H. R.	66	7	Arteriosclerosis	1.036	5	1.012	No sugar.	Died, 1/11.
F.	A. R.	46	15		1.040	4	1.014	No sugar.	No sugar.
M.	T. R.	57	18		1.030	3	1.014	No sugar.	Trace sugar.
M.	N. S.	55	16	Dim sight	1.036	4	1.012	No sugar.	No sugar.
M.	F. S.	24	9		1.044	5	1.016	No sugar.	No sugar.
F.	L. B. S.	63	24	Arteriosclerosis	1.038	4	1.012	Trace sugar.	No report.
M.	T. L. S.	52	11	Arteriosclerosis	1.040	3	1.014	No sugar.	No sugar.
M.	L. S.	49	18	Albumiuuria	1.042	7	1.015	No sugar.	No sugar.
M.	A. S.	56	15	Eye sight failing.	1.039	2	1.016	Trace sugar.	1% sugar.
M.	L. S.	23	13	Pulmonary tuberculosis.	1.047	2	1.020	Died while under treatment	
F.	B. S.	64	25	Arteriosclerosis	1.036	5	1.012	No sugar.	No sugar.
M.	H. U.	62	17	Arteriosclerosis	1.032	7	1.011	No sugar.	Died, 3/11.
M.	J. A. W.	40	9		1.042	5	1.014	No sugar.	No sugar.
F.	T. E. W.	52	11		1.038	3	1.012	No sugar.	No report.
F.	A. W.	47	7		1.040	5	1.014	No sugar.	No sugar.
F.	J. W.	38	5		1.042	3	1.014	No sugar.	No sugar.
M.	C. W.	59	13	Arteriosclerosis	1.034	6	1.012	No sugar.	No report.
M.	A. Z.	45	7		1.042	4	1.016	No sugar.	0.5% sugar.

SUMMARY

Number cases		83
Number patients died		7
Cause of death	Diabetic coma 3 Septicemia 1 Gangrene 1 Pneumonia 2	
Number glucose-free		40
Number temporarily glucose-free		16
No report received from		19
Number died under treatment		1

their bottles of codein and that worse than useless nostrum, Arsenauro. It is an unfortunate fact that many physicians still seem to harbor the belief that arsenic when prescribed under a proprietary name possesses virtues not to be found in the official preparations and, moreover, that it has lost the dangerous qualities inherent in it. I have seen so many patients with the codein habit and aggravated cases of constipation superimposed on the diabetes, and so many with wrecked digestive systems due to the long continued use of Arsenauro and other arsenic solutions, that I must utter a word of warning against the use of these drugs.

Too much stress cannot be laid on this point. Codein and arsenic may have their uses in a limited number of cases, but in the great majority of cases they should be left severely alone. If these drugs were merely worthless, there might not be any serious objections to their use, but they are a positive detriment and their continued use lessens the patient's chances of recovery. Not only that, but whenever a drug is given to a diabetic he is usually less careful in his method of living than if he realizes that his recovery depends on diet and hygiene alone.

QUANTITY OF FOOD IMPORTANT

One other essential must be made plain to the diabetic and that is the quantity of food eaten is just as important as the kind of food. Too often the patient suffering with diabetes is told to purchase gluten flour or gluten breads (most of which are frauds), and no limitation is put on the amount of these products that may be eaten. It is a fact that many mild cases of diabetes will show a diminution of sugar in the urine almost to the vanishing point when the patient is merely compelled to eat a very moderate ordinary diet. That is to say an antidiabetic diet is not always necessary to reduce the glycosuria; a reduction in the amount of ordinary food will sometimes accomplish the same end. So much for general directions.

WEIGHING FOOD NOT NECESSARY

It may be said in passing that the attempt to have the patient weigh his food does not give the satisfactory results that might be thought. It is more important to educate the diabetic to control his appetite by sheer force of will than it is to induce him to depend on the scale for his food allowance. Few patients will continue to use a scale after they have left the physician's care, while if they have been taught to exercise judgment and self-control in determining the amount of food they may take, a habit will have been formed that will be their salvation.

For drinking, copious draughts of some mildly alkaline water are desirable. The water should have sufficient salts in solution to increase slightly its natural diuretic effect. Distilled water should not be used, at least for any length of time.

The diet should, at first, be restricted as nearly as possible to proteids and fats, unless the patient shows signs of acidosis or impending coma, in which cases carbohydrates must be cautiously given. It is very essential that the food of the diabetic be well cooked, so as to tax to the smallest degree the weak digestive system. As the glucose diminishes, fresh vegetables may be added to the dietary, but of such quantity and kind as not to exceed 4 per cent. carbohydrate. Again it should be stated that the quantity of all food—even if it is carbohydrate-free—must be greatly restricted. The number of calories that the body ordinarily requires is no safe criterion of the amount of food that should be given a diabetic. It is not the quantity of food that should be metabolized, but the amount that can be metabolized, that should determine the amount given to the patient. All in excess of the quantity that the patient can actually use burdens the already overtaxed excretory organs and retards improvement.

OIL IN CONSTIPATION

Olive oil and castor oil, both for the food value and the laxative effect, should be given in all cases in which there is constipation—which means practically all cases. A palatable and efficient emulsion can be made by taking equal parts of olive oil, castor oil and glycerin and emulsifying it with 4 per cent. of Squibb's or Merck's gum arabic.

Castor oil	
Olive oil	
Glycerin āā	320.0
Gum arabic	36.0
Flavoring oil (gaultheria or cassia)	1.0

The patient must have at least one daily bowel movement and should avoid the ordinary purgatives such as aloes, cascara, calomel, etc.

The diabetic should be kept mentally indolent and physically active; at the end of each day he should be tired, but not to the point of fatigue. As much time as possible should be spent in the open air, and the sleeping-room should be as well ventilated as that of a patient suffering from incipient tuberculosis.

GLUTEN FOODS

The question of carbohydrate food is, of course, the paramount problem in the treatment of diabetes. The prescribing of so-called gluten flours has, in the past, been one of the most pernicious errors met by the physician who treats diabetics. In the first place, a very large proportion of the gluten flours on the American market are practically worthless as an antidiabetic food; in the second place, physicians in prescribing these gluten flours are likely to give their diabetic patients the impression that a gluten bread is a safe bread.

Many diabetics are killed yearly in the United States from the excessive ingestion of starches taken in the form of gluten breads. Ordinary wheat flour contains from 70 to 75 per cent. carbohydrates, and most of the widely advertised American brands of gluten flour contain all the way from 43 to 73 per cent. carbohydrate. These flours are not only absolutely worthless for the diabetic, but are exceedingly dangerous, because of the false sense of security which the term "gluten bread" carries with it. A flour containing 40 per cent. of starch may be useful in cases of transient glucosuria, but it has absolutely no place in the treatment of true diabetes. It is but fair to say that there are a few diabetic flours on the American market whose starch content brings them within the limit of safety—provided the quantity eaten is most carefully gauged.

Forced some years ago, by the inability to find a safe flour on the market, to devise a starch-poor bread or biscuit I have long given my patients a bread made after the following formula:

Unground poppy-seed	3 lbs.
Ground nuts (almonds, pecans, English walnuts or filberts; or a combination of these)	8 lbs.
Eggs	12
Flour of dried spinach	1 lb.
Salt	to flavor
Milk	enough to make a stiff batter

This batter, shaped into small biscuits or crackers, is baked and, if needed to be kept for any length of time after baking, is thoroughly dried at a mild heat until the moisture is reduced to 0.25 of 1 per cent. The dried biscuits are kept in hermetically sealed tin cans. Put up in this manner they may be kept indefinitely in perfect condition. These biscuits contain about 5 per cent. of carbohydrate.

The drying of these crackers is desirable because it necessitates the most thorough mastication, and thorough insalivation of food is one of the prime requisites of the successful treatment of diabetes. It is for the purpose of favoring mastication that the poppy-seeds are incorporated, although the oil they contain also increases the caloric value of the biscuit. But thorough chewing of the biscuits brings out the flavor of the poppy-seeds, and the pleasure of eating is much increased. The belief, common among laymen, that poppy-seeds contain opium, is, of course, erroneous. Of course these biscuits, like all other starch-poor products, are not so palatable as ordinary bread or biscuits. But they make a very safe and acceptable substitute for bread, and that is all that can be asked for.

SEVERE CASES

To go back to the patient: If, after two weeks of strict antidiabetic treatment the sugar does not disappear, the patient should be put to bed and placed on a diet consisting of one raw egg and 2 ounces of olive oil, three times or even four times a day, still continuing the free use of mildly alkaline drinking waters. Should the urine show the presence of diacetic acid, the oil must be reduced in quantity and small amounts of carbohydrates given—the patient, meantime, being kept in bed. Sometimes, in cases in which the system is threatened with an overwhelming acidosis, the temporary administration of small quantities of sodium bicarbonate may be tried, although I have seldom seen any good effect from it. This should be given as nearly as possible midway between meals, so as to cause the smallest degree of interference with digestion. As, however, it will cause some digestive disturbance no matter how carefully administered, its administration should not continue for any length of time.

After getting the patient to the point where the urine is sugar-free, small quantities of carbohydrates should be cautiously added to the dietary. Just as the presence of sugar in the blood establishes a vicious circle and causes the system to become still less able to "burn up" the sugar, so the absence of sugar gives the organism a greater tolerance for this necessary food. The carbohydrate should be added gradually, first at one meal only each day, and that meal preferably breakfast, as metabolism seems more active at that time. As systemic tolerance is increased, the starchy foods may be added to other meals until the point is reached where sugar appears in the urine; when this occurs, all starches should be withdrawn for a day or two and then gradually given again to a point just below that which has been shown to be dangerous.

It is better to add the starch in but one form, rather than several, as the system seems better able to adjust itself to one form of carbohydrate than to several, even though the sum total of starch be the same. What form that should be, can only be determined by experiment. Patients seem to differ in their ability to digest various forms of starch. One man may be more tolerant of bread-starch than of potato-starch; another may be unable to assimilate either bread- or potato-starch and may tolerate small quantities of oat-starch. These individual peculiarities must be ascertained and the results heeded. Another thing to be borne in mind is that all foods that are difficult for the patient to digest—whether they are starch-free or not—should be carefully avoided.

CONTROL OF THE PATIENT

Every physician who has treated many diabetic patients knows that, on the subject of eating, the diabetic is mentally unbalanced. This is true, not only regarding carbohydrate-containing foodstuffs, but regarding the quantity of all foods. Most diabetics suffer from an insatiable hunger. Successful treatment, therefore, depends wholly on the degree of control which the physician can exercise over his patient. In many cases the patients need to be watched with as much care as though they were morphin habitués undergoing antinarcotic treatment.

It is impossible to overemphasize the fact that the quantity of food is as important as the kind of food. It must be evident that a sick person cannot digest the same amount of food that a well person can, and it is the height of folly to permit the diabetic to eat voraciously, even of foods that are absolutely starch-free.

In the case of children it is practically always essential to put the patient in the charge of a competent disinterested person, such as a nurse. Experience has shown that relatives, especially parents, are utterly unable to withstand the tears and pleadings of the child for the deadly carbohydrates which its system craves and for which its whole being cries out. It is seemingly impossible to bring the layman to a full realization of the fact that the sugars and starches, which in health are harmless and necessary and which form so important a part of his daily dietary, are to the diabetic the most deadly and overwhelming poison. In spite of the usual doleful prognosis given in cases of juvenile diabetes, in cases in which the child can be absolutely controlled, the outlook is by no means so black as it is usually painted. This careful supervision must extend over years of time, as the child's system has to be "rebuilt."

Nor are children the only ones who need careful watching and oversight. One of the essentials to successful treatment is that the physician shall see the patient daily until the disease is well under control. A specimen of urine should be brought each day and an increase in the daily output of sugar calls for a careful inquiry into the dietetic and hygienic incidents of the day before. It should be insisted that the patient write down and bring a list of the kind and amount of food eaten each day. This not only permits of special directions being given regarding certain articles of diet, but it acts as a check on the patient. Many who would not hesitate to vary from the truth when giving a verbal account of the day's dietary will think twice before putting an untruth in writing. Printed diet lists containing general instructions should be given to every patient, while specific written directions should be given to every individual according to his needs.

Diabetes has already been compared to chronic morphinism or alcoholism, and so far as the principles of treatment are concerned the simile is a good one. The personality of the physician is of great importance. The patient must be impressed with the need of obeying instructions. We are creatures of habit and in the diabetic there is usually a vicious dietetic habit to overcome. Without the hearty cooperation of the patient the successful treatment of diabetes is impossible.

A TYPICAL CASE HISTORY

The following case history may be given as fairly typical of the patients that make up the majority of those treated:

Patient.—Swede, aged 40, married, father of five children, a carpenter by trade, consulted Dr. A. J. Ochsner because his hands and feet were cracked and bleeding. Dr. Ochsner after diagnosing the condition as one of diabetes, did not treat the patient but referred him to me for treatment.

History.—He had the disease, to his knowledge, for about 18 months when first seen. He had taken codein and arsenauro in large doses and over a long period; had been permitted to eat all the so-called gluten bread that he wished, and no restriction had been placed on the amount of starch-free foods that he had taken. He had been given a diet slip issued by a proprietary house and permission had been granted to eat any of the foods that the list did not prohibit. Before the diabetic condition developed he had eaten large quantities of partly cooked starches, had bolted his food and had partaken of a badly balanced diet; one containing large amounts of carbohydrate.

Condition When Examined.—The patient was passing from 4 to 5 liters of urine daily of a specific gravity of 1.046. There was no albumin and but occasional casts. The skin on the hands and feet was dried, cracked and bleeding.

Treatment.—Twelve glasses (8-ounce capacity) daily of mildly alkaline water was immediately prescribed. All so-called gluten foods were immediately withdrawn and the starch-poor (5 per cent.) biscuits previously described were substituted. The amount of all food—starch-free and otherwise—was greatly reduced. Castor oil in doses sufficient to overcome the constipation was given, but no other drugs were used. The glycosuria gradually diminished and finally after four weeks entirely disappeared.

Subsequent History.—No return of the glycosuria had occurred up to the time of his death from pneumonia eleven years later, during which period he returned for examination five times at intervals of about two years. During this entire time the patient tested his own urine with urinometer regularly according to instructions that are given during treatment to all adult patients.

SUMMARY

In brief, then, the following points are essential to the successful treatment of diabetes mellitus:

1. To impress on the patient that after his apparent recovery continued care in eating is essential to continued health.
2. To dispense, as a general thing, with such drugs as codein and arsenic and to make the patient rely practically entirely on the diet and hygiene.
3. To insist on the restriction of the quantity of food just as much as of the kind.
4. To overcome constipation by the use of castor oil and olive oil or by the use of a mixture of these two with glycerin.
5. To insist that the food must be thoroughly masticated.
6. To restrict carbohydrates at the outset to the smallest possible amount consistent with safety.
7. To add starches gradually in but one form rather than in several until the point of tolerance has been reached.
8. To eliminate from the dietary those articles of food that have been found to be difficult of digestion, even in health, though their starch-content may not be objectionable for a diabetic.
9. Above all, to impress the patient with the fact that his disease is essentially the result of vicious dietetic habits and that it is useless for him to expect any favorable results so long as the habit is persisted in.

ABSTRACT OF DISCUSSION

Dr. Robert T. Morris, New York: I wish Dr. Hodgson had described post-mortem examination of the pancreas in his report on cases of diabetes. An interstitial pancreatitis, toxic in origin, squeezes out the islands of Langerhans in a proportion of cases of diabetes, and this fundamental cause for some cases of diabetes has been mostly overlooked. Go back of every case of diabetes. Speak of the fundamental causes. Refer to diabetes as a symptom only. You may have to go back to a fibroid appendix, a loose kidney, eye-strain, cholecystitis and the whole chain of factors in the production of toxic influence from the bowel. This toxic influence often induces an interstitial pancreatitis, the islands of Langerhans are squeezed out and diabetes results as a terminal symptom. Anything which irritates the floor of the fourth ventricle of the brain may have diabetes as a terminal symptom. It is not enough to speak of errors of digestion when discussing the subject of diabetes. Go back a step farther and tell us what is causing the errors of digestion. Surgeons have to deal with diabetes only when the hygroscopic sugar in the blood abstracts water from all body cells, and causes surgical conditions, or interferes with repair in surgical conditions of other origin; but we know that physicians as a rule are not going far enough back in their treatment of diabetics. We know they are not going back to the primary causes for the indigestion which leads to the toxemia which injures the pancreas and ends in the symptom known as diabetes. Examine the pancreas post mortem in more cases, and give us reports on unsuspected interstitial pancreatitis.

Dr. Edward F. Wells, Chicago: No foundation for the treatment of diabetes can be considered complete until there has been added to the nosologic diagnosis another and broader one, which may with propriety be termed a therapeutic diagnosis. My practice is as follows: The patient, whom we will assume to be somewhat beyond middle age, continues the diet to which he is accustomed for three days, during which time daily examinations are made of the twenty-four hours' urine. He is now placed on a diet from which carbohydrates are closely excluded, and this is continued until daily analyses show absence of urinary sugar, or until it declines to a point below which it will not descend. There is now added to the diet, carbohydrates, as for example, bread, in definite amounts, which are daily increased until sugar reappears, or increases, in the urine. A daily carbohydrate dietary contingent which falls well short of the patient's glycogenic capacity, as above determined, should be his limit in this class of foods. It is interesting to note that in these cases an increasing tolerance is developed by keeping the sugar out of the urine, or by keeping it down to the lowest possible level. Therefore, about twice a year the test is repeated, in order that, should such increased tolerance develop it may be discovered and measured, with a corresponding readjustment of the carbohydrate content of the dietary. Not only does this method permit intelligent management, but it necessitates taking the patient into partnership in the study and management of his case, thereby maintaining his interest through the many years during which the treatment must continue, which is until death ensues. These patients never recover; but if they receive such proper management as may be readily given them, they need not die from, although they will die with, diabetes.

Dr. Henry B. Favill, Chicago: I am very much impressed by what Dr. Hodgson says as to his accomplishments in cases of diabetes taken at random, but my own success has been various and not altogether satisfactory. I have no hesitation in subscribing to the detail which he sets forth, but I have not the least expectation of securing in general the percentage of satisfactory results which he can show.

Classification of glycosuria is difficult and at present not authoritative. It is to some extent a matter of words. What is the dividing line between "glycosuria" and "diabetes"? Is there a scientific distinction? Is it a matter of degree or is it a matter of personal equation and judgment? Is it not somewhat a matter of temperament on the part of the physician who classifies? Although I am in substantial accord with what Drs. Morris and Wells have stated, I still am at sea at this classification. In the course of the year I see many cases showing sugar in the urine. I have not called them diabetes, however, unless the sugar has persisted. A case of glycosuria which clears up temporarily and remains clear for a reasonable length of time I do not call diabetes. However, what right have I to say that one is a case of diabetes and the other is not? This brings us really down to the practical question.

The broad handling of glycosuria, in my opinion, is based on a few facts. 1. There is a transitory glycosuria which is very transitory and unquestionably dietetic. 2. There is a glycosuria much more grave and largely amenable to dietetic regulation. 3. There is a glycosuria which is undoubtedly pathologic in its anatomy, which is only slightly amenable to regulation of the diet. This last is fundamentally progressive and the cases are more or less hopeless. I think we can say that we have all sorts of gradations in these questions and the question is not one particularly of a pathologic classification but a matter of judgment—that is to say, the interpretation of the practitioner.

The principles of dietetics have been thoroughly well stated, particularly with regard to limitations in amount and as to bringing the total food down to what the individual can safely handle. There is a matter which has not been mentioned which I think is of importance: the reciprocal balance between the capacities for assimilating carbohydrates and proteins. In a large percentage of patients, particularly those of a full habit, the capacity for handling carbohydrates can be pushed to a higher point by reducing the protein demand on the system. So far as my own observations have gone, individuals with glycosuria or with diabetes, who are well nourished, quite plethoric, respond quickly and favorably to the diminishing of their nitrogenous intake. The benefits from this process as a rule are greater than that from cutting down starches. I wish to emphasize also what Dr. Hodgson has said about cutting down the total food to the point of tolerance without any regard at first to theoretical caloric value.

Dr. R. Wernick, Los Angeles, Cal.: There is one thing I believe to be of importance, that has not been mentioned, pertaining to the administration of alkali by the stomach. In children, I prefer to administer the alkali by way of the bowel. The acid gastric juice stimulates both the liver and pancreas to action; and the administering of large doses of alkali by way of the stomach naturally interferes with the acidity of the stomach contents. I find that by administering alkali by the bowel I get far better results. Of course, in acute cases in which we do not want to stimulate the pancreas, we must administer alkalies by the stomach. Even after the abatement of the condition, it is advisable to give the alkalies by the bowel. Fifteen or twenty years ago, I had a horror when called on to treat a case of diabetes occurring in a child. I am glad to say, however, that in later years I have experienced a change of opinion, and I have been able to save several children. I have among my patients young girls and boys who were suffering five or ten years ago from diabetes. After acute diseases, frequently as a result of infection or inflammation, the islands of Langerhans are involved, and the functions of the pancreas interfered with, and as we often see the hydrochloric acid reappear in an acid stomach after prolonged absence, so also does the pancreas frequently resume its functions after prolonged treatment, unless, of course, the islands of Langerhans are totally destroyed.

Dr. A. J. Ochsner, Chicago: Naturally surgeons get many cases of diabetes; they come to us, or are sent, because of the accompanying gangrene. Twenty years ago we expected after an amputation of a limb because of diabetic gangrene, to have in a large proportion of cases, diabetic coma and death within forty-eight or seventy-two hours. Since that time my opinion has changed. Because of what I have learned from Dr. Hodgson I find that in my diabetic amputation cases the wounds heal by first intention. Dr. Hodgson has had these patients heal by first intention. After Dr. Hodgson has had these patients under observation for three or four weeks one cannot get them to eat anything he has forbidden. He impresses certain ideas on his patients and the patients stand by them. Some of Dr. Hodgson's patients under by observation have followed out his ideas and his directions for as long as sixteen years and have been free of sugar for this entire period of time. He goth these patients to believe that they should not eat four times as much as was necessary to be well; he got them to practice what he taught, and this, I believe, is the secret of his success in handling cases of diabetes.

I have operated on a large number of patients with pancreatitis and I have found a few suffering with diabetes; but this proportion was exceedingly small. Unfortunately, I am not in a position to make autopsies in cases of death of patients with diabetes. The same as most of you, I must go by what I find in the literature concerning the results of pancreatitis, and especially the effects of pancreatitis on the islands of Langerhans. That there is danger from pressure on the islands of Langerhans is undoubtedly true. If the patient does not die, how can we say that there is pressure on the islands of Langerhans as the result of diabetes? If we had a large number of cases coming to us for operation with pancreatitis, suffering also from diabetes, and if we could make autopsies in these cases, this point could be proved. But this is a point that is well worth bearing in mind and following out; in every case of diabetes resulting in death there should be a necropsy. Another thing of importance is to get people to understand that they are not well because of taking this, that or the other medicine; they get the idea that it is this or that medicine that cures them when, in fact, it is the dietetic treatment that results in good.

Dr. A. J. Hodgson, Waukesha, Wis.: Details are necessary, of course, but to give the details of 100 patients suffering from diabetes, especially with regard to the qualitative and quantitative values of the food, would be almost impossible. Such details would fill many books. It should be remembered that every patient must be treated individually. No set rules will apply to all. With regard to the cases of pancreatitis, I am not certain as to the causes of this manifestation of diabetes. I have met with cases of pancreatitis, but I have never yet met with anyone who could inform me as to the causes. When these patients died and were brought to post mortem, the condition was found but it was not diagnosed during life. I think, however, that the long-continued influence of the toxemia, the toxemic poison, is a sufficient cause of the degeneration found, and thus a cause of the pancreatitis. I wish to emphasize the fact that no one can have sugar in the urine for any length of time without having some pathologic changes in the body. One of the symptoms which should be looked for is the loss, or partial loss, of sight; this is not due to cataract but possibly to an anemic condition of the retina caused by the presence of sugar in the blood. Many of these conditions have been mentioned in my paper. I have never seen any benefit result from the giving of strong alkalies that has not been secured by giving large draughts of a mildly alkaline water. I do not believe that the administration of sodium bicarbonate has any value in the curing of this trouble. Give plenty of mildly alkaline water; this is far better, in my opinion, than giving the strong alkalies.

Contribution to Knowledge.—The requirement that the investigator learn what other men have done before him in the field he seeks to enlarge, gives him an unusual realization of the part he may be playing in the promotion of natural knowledge. Knowledge grows like the picture in the dissected puzzle. Every addition must fit the parts already arranged in order to possess significance, and also every addition makes possible the fitting of new parts whose positions in the enlarging picture become thereby suddenly revealed. One of the delights of research, therefore, is the sense that every bit of new knowledge finds its place in the structure of truth, and that sooner or later it will be required for the further building of that structure. The relation which the fresh contribution bears to that already established, the discoverer clearly sees; what relation it will certainly bear to further contributions he may never know. How little did the men who studied the minute differences among mosquitoes, and who recorded the breeding habits of those insects, realize their important rôle in abolishing the pestilence of yellow fever, and in bringing about the immense social and political changes which will result from that conquest!—Cannon in *Science*.

THE DETECTION AND ESTIMATION OF GLUCOSE IN URINE[*]

STANLEY R. BENEDICT
NEW YORK

A REAGENT FOR QUALITATIVE USE

The property possessed by glucose, in common with many other sugars, of readily taking up oxygen in alkaline solution, is almost universally employed as a means of detecting this substance in urine.

The glucose molecule itself, however, is not the active reducing substance in alkaline solution, it having been previously shown[1] that the reducing action is due to a substance formed from the action of alkali on the sugar molecule. The reducing substance thus formed is not stable toward strong alkali, and unless permitted to exhibit its reducing action at once, is rapidly decomposed into compounds which have no reducing power, if sodium or potassium hydroxid be present. Solutions of the alkali carbonates, on the other hand, form the reducing substance from glucose a little more slowly than do the hydroxids, and have little, if any, destructive action on the reducing substance after it has been formed.

From a consideration of these facts it may be inferred that the presence of the strong alkali in Fehling's fluid may, under certain circumstances, interfere with the power of this solution to demonstrate small quantities of sugar. The urine, for instance, contains compounds (chief among which is probably creatinin, as pointed out by Maclean[2]), which seriously interfere with the detection of glucose by Fehling's solution. Thus, although Fehling's solution will detect 0.001 per cent. of glucose in pure solution, at least a hundred times this amount must be present in urine to give a positive reaction with this reagent. This marked loss in delicacy of Fehling's test when applied to urine is unquestionably due to the fact that the normal reduction of the solution is inhibited for a period long enough to allow the strong alkali present to decompose the reducing substance formed from the sugar molecule. For the most part these facts were pointed out in the communication above referred to,[1] and the advantages of employing a copper solution in which alkalinity is secured by carbonate instead of hydroxid, for the detection of sugar in urine, were also mentioned.

It was shown in this connection that a solution containing copper sulphate, Rochelle salt and sodium carbonate is more than ten times as delicate a test for glucose in urine as is Fehling's solution. Not only is such a reagent delicate for the detection of sugar in urine, but it is also more specific, in that it is not reduced by many non-carbohydrate substances which readily reduce copper in the presence of the stronger alkali. Chloroform, chloral, formaldehyd, aldehyd, uric acid and creatinin all reduce Fehling's solution, while they are without appreciable effect on the carbonate reagent.

This reagent, however, as originally proposed, and containing copper sulphate, Rochelle salt and sodium carbonate, has a disadvantage which is common to so many of the alkaline copper solutions, in that, after mixing, it rapidly deteriorates and becomes unfit for delicate work. It has been found, however, that if the Rochelle salt in such a solution be replaced by sodium or potassium citrate, a mixture is obtained which is very sensitive for sugar detection, especially in urine, and may be kept ready-mixed indefinitely without undergoing the slightest change. This solution has the following composition.

	gm. or c.c.
Copper sulphate (pure crystallized)	17.3
Sodium or potassium citrate	173.0
Sodium carbonate (crystallized)[3]	200.0
Distilled water to make	1,000.0

The citrate and carbonate are dissolved together (with the aid of heat) in about 700 c.c. of water. The mixture is then poured (through a filter if necessary) into a larger beaker or casserole. The copper sulphate (which should be dissolved separately in about 100 c.c. of water) is then poured slowly into the first solution, with constant stirring. The mixture is then cooled and diluted to one liter.

This reagent is about ten times as sensitive to sugar in urine as is Fehling's or Haines' solution, and unlike these latter solutions, is not appreciably reduced by creatinin, uric acid, chloroform or the simple aldehyds. The mixture may be kept indefinitely in uncolored glass or cork-stoppered bottles. Samples prepared over two years ago show no detectable change. Although the reagent is very sensitive for detecting sugar in urine, normal urines give no trace of a reaction when tested with it. An examination of hundreds of samples with the solution served to demonstrate that whenever a positive reaction is obtained, pathologic quantities of dextrose are present. Homogentisic acid (from the urine of alkatonurics) or greatly increased amounts of glycuronic acid, both of which substances readily reduce Fehling's solution, will also affect the carbonate-citrate reagent, and when the presence of these substances is suspected, the urine should be tested before and after fermentation with yeast. If the reducing action of the urine is apparent after twenty-four hours' fermentation, the reduction is not due to glucose, but may be due to lactose, or to either of the substances mentioned above. Interference from homogentisic acid is exceedingly rare, and occurs from glycuronic acid only after the ingestion of drugs which lead to increased elimination of this substance.

In regard to the use of the reagent recommended in this paper, it should be pointed out that until one is familiar with its behavior the following directions should be closely adhered to. The solution is unlike Fehling's reagent in many respects, and should not be used in the same way as this latter solution. No strongly dehydrating substance (such as caustic alkali) is present in the new reagent, hence its reduction product is apt to be yellow, or even greenish-yellow (consisting of the hydrated suboxid of copper) rather than the red suboxid. For the detection of glucose in urine about 5 c.c. of the reagent are placed in a test-tube and *8 to 10 drops (not more)*, of the urine to be examined are added. The mixture is then heated to vigorous boiling, kept at this temperature for one or two minutes, and allowed to cool spontaneously. In the presence of glucose *the entire body of the solution will be filled with a precipitate*, which may be red, yellow or greenish in tinge. If the quantity of glucose be low (under 0.3 per cent.) the precipitate forms only on cooling. If no sugar be present the solution either remains perfectly clear, or shows a faint turbidity that is blue in color, and consists of precipitated urates. The chief points to be remembered in the use of the reagent are (1) the addition of a small quantity of urine (8 to 10 drops) to 5 c.c. of the reagent, this being desirable not because larger amounts of normal urine would cause reduction of the reagent, but because more delicate results are obtained by this procedure, (2) vigorous boiling of the solution after addition of the urine, and then allowing the mixture to cool spontaneously, and (3) if sugar be present, the solution (either before or after cooling) *will be filled from top to bottom with a precipitate*, so that the mixture becomes opaque. Since bulk, and not color, of the precipitate is made the basis of a positive reaction, the test may be carried out as readily in artificial light as in daylight, even when examining for very small quantities of sugar. The solution is not dark-colored like Fehling's fluid, so that the precipitate may readily be observed without waiting for it to settle.

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[*] From the Laboratory of Biological Chemistry of Columbia University, at the College of Physicians and Surgeons, and under the auspices of the George Crocker Special Research Fund.

[1] Benedict: Jour. Biol. Chem., 1907, iii, 101.

[2] Maclean: Biochem. Jour., 1907, ii, 156.

[3] One-half the weight of the anhydrous salt may be used.

A RAPID METHOD FOR THE QUANTITATIVE DETERMINATION OF SUGAR IN URINE

By modifying the composition of the solution described above, it has been found possible to apply the reagent to the rapid and accurate estimation of sugar in urine. Like the old titration process of Fehling, the method described below is based on the fact that in alkaline solution a given quantity of glucose reduces a definite amount of copper, thus decolorizing a certain amount of the copper solution. In the new method, however, instead of the reduced copper being precipitated as the red suboxid, which of its own color obscures the end-point of the reaction, the copper is precipitated as cuprous sulphocyanate, a snow-white compound, which is rather an aid than a hindrance to accurate observation of the disappearance of the last trace of blue color. The solution for quantitative work has the following composition:

	gm. or c.c.
Copper sulphate (pure crystallized)	18.0
Sodium carbonate (crystallized)[4]	200.0
Sodium or potassium citrate	200.0
Potassium sulphocyanate	125.0
Five per cent. potassium ferrocyanid solution	5.0
Distilled water to make a total volume of	1,000.0

With the aid of heat dissolve the carbonate, citrate and sulphocyanate in enough water to make about 800 c.c. of the mixture, and filter if necessary. Dissolve the copper sulphate separately in about 100 c.c. of water and pour the solution slowly into the other liquid, with constant stirring. Add the ferrocyanid solution, cool and dilute to exactly 1 liter. Of the various constituents, the copper salt only, need be weighed with exactness. Twenty-five c.c. of the reagent are reduced by 50 mg. of glucose.

Sugar estimations are conducted as follows: The urine, 10 c.c. of which should be diluted with water to 100 c.c. (unless the sugar content is believed to be low), is poured into a 50 c.c. burette up to the zero mark. Twenty-five c.c. of the reagent are measured with a pipette into a porcelain evaporation dish (25-30 cm. in diameter), 10 to 20 gm. of crystallized sodium carbonate (or one-half the weight of the anhydrous salt) are added, together with a small quantity of powdered pumice-stone or talcum, and the mixture heated to boiling over a free flame until the carbonate has entirely dissolved. The diluted urine is now run in from the burette, rather rapidly until a chalk-white precipitate forms, and the blue color of the mixture begins to lessen perceptibly, after which the solution from the burette must be run in a few drops at a time, until the disappearance of the last trace of blue color, which marks the end-point. The solution must be kept vigorously boiling throughout the entire titration. If the mixture becomes too concentrated during the process, water may be added from time to time to replace the volume lost by evaporation. The calculation of the percentage of sugar in the original sample of urine is very simple. The 25 c.c. of copper solution are reduced by exactly 50 mg. of glucose. Therefore the volume run out of the burette to effect the reduction contained 50 mg. of the sugar. When the urine is diluted 1:10, as in the usual titration of diabetic urines, the formula for calculating the per cent. of sugar is the following:

$\frac{0.050}{X} \times 1,000 =$ per cent. in original sample, wherein X is the number of cubic centimeters of the diluted urine required to reduce 25 c.c. of the copper solution.

In the use of this method chloroform must not be present during the titration. If used as a preservative in the urine it may be removed by boiling a sample for a few minutes, and then diluting to its original volume.

Like the reagent for qualitative employment, the one for quantitative work will keep indefinitely after its preparation. As regards the accuracy of the method, it may be stated that repeated determinations, and comparisons with results by the polariscope and by Allihn's gravimetric process have shown the method to be probably more exact than any other titration method available for sugar work.

437 West Fifty-Ninth Street.

DANGERS OF CERTAIN ETHICAL PROPRIETARY PREPARATIONS TO BOTH PHYSICIANS AND PUBLIC *

M. H. FUSSELL, M.D.
PHILADELPHIA

So much has been written on this subject that a new paper may seem superfluous. The reasons which have impelled this paper are the following:

1. My desk is continually flooded with medicaments sent by manufacturing pharmacists, and delivered by detail men who talk quasi-scientifically, and just as glibly as they did when I began to practice twenty-five years ago.

2. In mingling with other physicians I find many such mixtures and new preparations used in practice, the only excuse being the recommendations contained in literature accompanying the preparations.

3. Many such preparations are used by physicians without any knowledge of their contents or action. There can be no doubt that this use of the preparations is attended by dangers which I hope to make plain.

4. With few exceptions the preparations sent about as samples are mixtures. Now, every intelligent physician knows that if our use of drugs is to be of the least value, each prescription used must apply to the case in hand. It is literally impossible to make a cough mixture, a constipation pill, a remedy for nervousness, and so forth, that will be suitable for all cases. To teach that it is possible to do so, is most pernicious. We may as well—and indeed this often comes to pass under such circumstances—tell our patients they have pneumonia and send them to the druggist for a remedy for pneumonia. These dangers are particularly great to young men just entering the practice of medicine.

Numbers of conditions are necessary for intelligent therapeusis. Among them stand preeminently a careful diagnosis, accurate knowledge of the pathology of the condition under treatment, and an intelligent understanding of the action of the remedy to be used and what we expect to gain by its use. I realize that we cannot always make a diagnosis, that we do not always know the pathology of the condition we are forced to treat, and that we frequently use drugs and other remedies symptomatically. Indeed, as we do not know the cause of all diseases, we are in such cases forced to relieve the symptoms and correct the effects of disease and leave the cure to Nature. This is a most necessary and important duty. To allow a patient to suffer, simply because we cannot strike at the cause of the disease, would be folly. But the physician who leaves no stone unturned will find fewer of these conditions present in his work and will gradually learn to search for and treat the cause of diseases where possible.

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[4] One-half the weight of the anhydrous salt may be used.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

AN INTELLIGENT UNDERSTANDING OF THE ACTION OF THE REMEDY USED

Can this obtain where such mixtures as I quote below are used? As I write this, I have before me no less than thirty samples of simple drugs and mixtures of drugs which have been left on my desk within the past few weeks. Doubtless the same samples and probably many more have been left on the desk of every physician in my neighborhood. Let me analyze a very few of these preparations:

First I take up Neurosine. The label reads:

NEUROSINE contains: 5% Alcohol, .075 gr. per oz. each. Ext. Henbane and Fl. Ext. Belladonna, .060 gr. per oz. Oil Bitter Almonds. .60 gr. per oz. Fl. Ext. Cannabis Indica.

Serial No. 299—Guaranteed under the Food and Drugs Act, June 30, 1906

NEUROSINE.

The most powerful. Anti-Spasmodic
Neurotic attainable. Anodyne and Hypnotic.

FORMULA:—Each fluid drachm represents 5 grains each of C. P. Bromides of Potassium, Sodium and Ammonium; ⅛ grain Bromide of Zinc. .075 gr. per oz. pure Extracts Belladonna; .60 gr. per oz. Cannabis Indicas; .075 gr. per oz. Henbane; 7 gr. Extract Lupuli; 5 minims fluid Extract Cascara Sagrada with Aromatic Elixirs. Physicians may rely on this formula. (Beware of substitutes.)

DOSE:—Teaspoonful to a tablespoonful in water, three or more times a day, as in your judgment the case may warrant.

INDICATIONS:—Neurasthenia, Epilepsy, Chorea, Convulsions, Neuralgia, Headache, Delirium Tremens, Asthma, Migraine, Spermatorrhea, Whooping Cough, Alcoholism and all convulsive and reflex neuroses . . . Produces natural sleep. Neurosine contains no Opium, Morphine or Chloral. NO DETRIMENTAL AFTER EFFECTS. In female Neurosis combine Dioviburnia 2 parts, Neurosine 1 part.

DIOS CHEMICAL COMPANY, St. Louis, Mo., U. S. A.

The dangers present in this preparation are:

1. There is no absolute surety that the mixture does contain 5 grains of each of the bromids mentioned, or the other ingredients in the amounts given in the formula.

2. If the maximum dose advised is used, the patient would receive 60 grains of the bromids at a dose.

3. A dose of 0.037 gr. of henbane and belladonna extract might be dangerous if prescribed indiscriminately.

4. The physician is tempted to prescribe a mixture with a fixed and unalterable relative dose of various drugs, instead of prescribing as he should, that dose of each ingredient the special patient needs. Nothing leads more quickly to slipshod methods of practice than this use of compound mixtures for a disease named, rather than for a condition existing in a given patient.

5. The remedy is sold by pharmacists under its attractive and suggestive name, thus enabling the laity to dose themselves to the full with powerful if not distinctly dangerous remedies.

Furthermore, the label is misleading. It uses the name henbane instead of hyoscyamus. The physical action of belladonna and hyoscyamus is much the same. Also, the formula begins "Each fluid *drachm* contains . . .," and continues "0.075 gr. of ext. belladonna per *oz.*" This is confusing if not misleading.

LIQUOR SEDANS

Alcohol, 30 per cent.

Each fluid ounce represents:

Black Haw	60 gr.
Jamaica Dogwood	30 gr.

Hydrastine, representing 30 minims Fluid Extract Hydrastis. Aromatics.

UTERO-OVARIAN SEDATIVE AND ANODYNE

Used by leading medical practitioners in the treatment of diseases peculiar to women. The prescribed dose may be mixed with a little hot water before administration, to insure its prompt effect.

DOSE.—One-half to one teaspoonful (2 to 4 c.c.).

Guaranteed by Parke, Davis and Company under the Food and Drugs Act, June 30, 1906. Serial No. 6.

This is distinctly a bad label. In the first place, the common name of *Viburnum prunifolium* and *Pescidia* are used, it would seem, better to attract the attention of unthinking physicians and the laity. It is certainly a stretch of imagination and anything but proper to say that the preparation is used by leading medical practitioners. I would like to know their names.

Here the laity are tempted to use something used by "leading physicians." They are led to self-diagnosis and may miss many important conditions, notably carcinoma of the uterus, from which if there is any relief, the help must come early. Indeed, the physician who uses a preparation labeled "Utero-ovarian sedative and anodyne" will almost invariably depend on what the literature tells him rather than make a careful examination and discover if the patient has a serious disease.

DIOVIBURNIA

FORMULA

Every fl. oz. contains ¾ dr. each of the fl. Extracts:
Viburnum prunifolium,
Viburnum opulus,
Dioscorea villosa,
Aletris farinosa,
Helonias dioica,
Mitchella repens,
Caulophyllum thalictroides,
Scutellaria lateriflora.

Prepared exclusively for physicians' prescriptions.

Dioviburnia contains: 18 per cent. Alcohol.

Guaranteed under the Food and Drugs Act, June 30, 1906. No. 299.

NOTICE

The attention of the medical profession is called to this preparation on account of its unquestioned value as a uterine tonic and anti-spasmodic.

For indications read pamphlet around this bottle.

This is an especially pernicious form of preparation. In the first place, the value of the drugs is extremely problematic. In the second place, there are eight different drugs, and one fluid ounce of the preparation, according to the label, contains ¾ dr. each. The way the label is printed (3—4 dr. each) might easily lead to the thought that each ounce contained 3 drams or 4 drams of each extract.

Here the physician plays into the hands of unknown men and administers to patients drugs of unknown value in impossible doses. The patient is deceived and the doctor hoodwinked. Can the reader conceive of a more pitiable condition of both patient and physician, than where the physician is driven either through ignorance, indolence or cupidity to use such drugs in such a manner?

Germiletum.—Alcohol 18 per cent.: Formalin ¾ M. per oz. Amylacetate ⅓ M. per oz. Guaranteed under the Food and Drugs Act, June 30. 1906. Serial No. 299.

GERMILETUM

(Gim)

A perfect Antiseptic Germicide and Deodorant. Slightly Alkaline.

For internal and external use.

UNEXCELLED IN CATARRH AND ECZEMA

Par-Excellent in Obstetrical Practice.

Formula.—Borohydrofluoric Acid. Borosalybenzoic Acid, Boroglycerine, Formaldehyde with Menthol, Thymol Amyl Acelate and other Antiseptic Aromatics.

Dios Chemical Co., St. Louis, Mo.

The formula for Germiletum may safely be called a fake.[1] It is almost criminal to call a mixture like this "par-excellent in obstetrical practice." The dangers are great; there is no certainty, judging from the label, that it is the least value as an antiseptic. To depend on such material is to bring a blush of shame to the school from which we graduated. If there is any one condition which demands rigid antisepsis, it is our obstetrical work.

Let us analyze this "par-excellent" remedy. It contains 18 per cent. of alcohol. Alcohol is certainly valueless in this dilution. Formalin ¾ M. per ounce. I am uncertain what M. represents, possibly a meter. M. is an abbreviation sometimes used for minim. But judging from the odor entirely, there is about as much formalin in the preparations as there is in spring water.

Amylacetate is not mentioned so far as the writer knows in the eighth revision of the Pharmacopeia, and the National Standard Dispensatory (page 168), says: "It is a good solvent for resins, used as a component of fruit essences and as a solvent of resins in the preparation of lacquers and varnishes."

Neither borohydrofluoric acid nor borosalybenzoic acid is indexed in the "Dispensatory."

I repeat that to use such an article as this is to invite the dangers of inaccuracy and omissions.

SYRUP COCILLANA

COMPOUND

Each fluidounce contains:

Alcohol	5 per cent.
Heroin Hydrochlorid	8-24 grains
Tincture Euphorbiapilulifera	120 minims
Syrup wild lettuce	120 minims
Tincture Cocillana	40 minims
Syrup Squill Compound	24 minims
Cascarin (P. D. & Co.)	8 grains
Menthol	6.100 grains

Dose.—One-half to one fluid-drachm (2 to 4 c.c.).

Guaranteed under the Food and Drugs Act, June 30. 1906.

I have called attention to this preparation before. Is it safe to spread broadcast a preparation that would give 1/24 gr. of heroin to each full dose? No wonder the drug is a good repeater. The laity buys it, the physician prescribes a lot of useless materials and get 1/24 gr. of heroin as the result.

Cocillana, from which the mixture gets its name, is the bark of *Guaria rusbyi,* a tree found in Bolivia. Its action is said to closely resemble that of ipecac. Can anyone suggest a more pernicious method of practicing medicine than using this mixture or any like it for coughs? One thing is certain, to my mind, the man who uses it rarely makes a diagnosis and the firm which sells it helps him in slipshod methods of practice.

ANTIPHLOGISTINE

INDICATIONS

Antiphlogistine can be used in

Pneumonia
Bronchitis
Pleurisy
Osteitis
Periostitis
Sprains
Felons
Sunburn
Metritis
Vaccination Sores
Chronic Ulcer
Swollen glands
Boils
Buboes
Orchitis
External Piles
Moist Eczema
Erysipelas
Frost Bites
Croup
Inflammation of Bowels
Peritonitis
Tonsillitis
Poisoned Wounds
Inflamed Breasts
Bruises
Abscesses
Endometritis
Synovitis
Dysmenorrhœa

And whatever inflammation or congestion is a factor and local treatment is indicated.

Antiphlogistine is a notorious clay preparation. Notwithstanding the Pharmacopeia has added a preparation, cataplasma kaolini, which is said to resemble closely this preparation, it is little less than dangerous for the patient to use it in this line of ailments. Think of trifling with it in croup and peritonitis, to say nothing of pneumonia!

Croup should be held up to the laity as quite possible diphtheria. To persuade the parents of a child to apply clay to the throat is in the first place to do no good, and in the second place to invite danger, both to the individual suffering and to the family, for fear of diphtheria.

Pneumonia needs prompt treatment by rest and fresh air, not by clay.

Osteitis brings terrible results in its train. A physician knowing a patient to have osteitis and applying any clay preparation is recreant to his charge.

In regard to peritonitis, what has surgery taught us? That peritonitis has a cause; that this cause must be removed surgically, if our patient is not to risk his life.

ALKALOL

0.05 per cent. Alcohol

Is agreeable, non-toxic, non-irritant: combines correct alkalinity with a mild sedative and astringent action. Gives best results when used from one-half to full strength and frequently applied; particularly adapted to treating acute or chronic conditions in nose, throat, eye and ear. Cleansing and soothing when applied to any irritated or inflamed surface. A refreshing mouth and tooth wash in illness and health. In nasal or pharyngeal catarrh, hay fever, asthma, acute cold in the head, follicular tonsillitis, diphtheria or scarlet fever, it will keep nose and throat clean and add much to the patient's comfort. For burns, bruises, insect bites, ulcers, or any local inflammation, constant application by means of saturated gauze or cotton is desirable. Internally. Alkalol may be given in teaspoonful or tablespoonful doses.

Original Package, 8 oz., 50 cents; 16 oz., 75 cents.

Alkalol Co., Taunton, Mass., U. S. A.

This is a famous alkaline wash; certainly no better, where it is useful at all, than normal salt solution and useless in asthma and diphtheria.

And so I might go on through my whole list of thirty samples. Indeed, I might go further as I have done in another article and beseech you to avoid using the compound remedies found in the Pharmacopeia. They all have the common fault of ready-made prescriptions. They are "one-sized suits for a mass of men" and further, many of them are mere copies of well-known patented formulas.

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[1] Reports of Chem. Lab. Am. Med. Assn., iii, p. 11.

Why are such preparations used? Because we as physicians do not take pains for the best and because by our use of a drug firm's compound, we make it possible for them to sell. Do we not know that every time we prescribe a firm's special mixture, we make it possible for a patient to drug himself both to our loss and to his detriment? Since this article was written, indeed after I had started on my journey west, President Taft, in a most forceful message to Congress, has this to say about patented nostrums and the Food and Drugs Act:

> The Supreme Court has held in a recent decision (United States vs. O. A. Johnson, opinion May 29, 1911) that the Food and Drugs Act does not cover the knowingly false labeling of nostrums as to curative effect or physiological action and that inquiry under this salutary statute does not by its terms extend in any case to the inefficacy of medicines to work the cures claimed for them on the labels.
>
> It follows that, without fear of punishment under the law, unscrupulous persons, knowing the medicines to have no curative or remedial value for the diseases for which they indicate them, may ship, in interstate commerce, medicine composed of substances possessing any slight physiologic action and labeled as cures for diseases which, in the present state of science, are recognized as incurable.
>
> An evil which menaces the general health of the people strikes at the life of the nation. In my opinion, the sale of dangerously adulterated drugs or the sale of drugs under knowingly false claims as to their effect in disease, constitutes such an evil and warrants me in calling the matter to the attention of the Congress.
>
> Fraudulent misrepresentations of the curative value of nostrums not only operate to delude purchasers, but are a distinct menace to the public health. There are none so credulous as sufferers from disease. The need is urgent for legislation which will prevent the raising of false hopes of speedy cures of serious ailments by misstatements of fact as to worthless mixtures on which the sick will rely while their diseases progress unchecked.
>
> At the time the Food and Drugs Act was passed, there were current in commerce literally thousands of dangerous frauds labeled as cures for consumption and all lung diseases, cures for all kidney, liver and malarial troubles, cures for diabetes, cures for tumor and cancer, cures for all forms of heart disease in fact, cures for all the ills known at the present day.
>
> Unfortunately the statements were not true. The shameful fact is that those who deal in such preparations know they are deceiving credulous and ignorant unfortunates who suffer from some of the gravest ills to which the flesh of this day is subject. No physician of standing in his profession, no matter to what school of medicine he may belong, entertains the slightest idea that any of these preparations will work the wonders promised on the labels.

I might add to President Taft's sentence: "There are none so credulous as sufferers from disease," or physicians whose libraries are filled with circulars issued by drug firms. I believe that every physician in the United States, indeed every physician in the world, will agree with what President Taft has said so well. His words, I believe, must carry home to every one of my readers the points I wish to make. We, as physicians, have no right to prescribe for a patient anything but that which we know is for his greatest good. We can never fulfil this necessity by using such preparations as I have mentioned. It makes no difference whether the firm is unknown or whether it has a great name. I believe that we are perilously near being worthy of Taft's criticism of using preparations of which the statements are not true when we prescribe in such a manner, and I believe that firms who wheedle uneducated or young and inexperienced physicians into using such preparations are as guilty as the dispenser of a nostrum which he knows to be valueless.

ABSTRACT OF DISCUSSION

Dr. Theodore G. Davis, Los Angeles: I believe with Professor Schneider that the reason medical men of to-day use these proprietary preparations is that they know nothing about medicine, for they have not been taught medicine. They know nothing about the drugs they use. All they practically care for appears to be the dose. You cannot get the younger medical students of to-day to study pharmacology and therapeutics. I have taught students in materia medica therapeutics and clinical medicine and can speak from personal experience. The young men of to-day, especially in the state of California (I know it to be absolutely true) pay little or no attention to these subjects because they are not examined in therapeutics and materia medica. Four out of eleven students who were denied a passing mark in an examination that I gave were, without any consideration as to what their ratings were in my examination, passed in materia medica and therapeutics. The only way, I think, is to take the first year in pharmacy, as Professor Schneider has outlined, and let them know the drugs they are to use. They do not know one drug from another. Indeed, I became absolutely disheartened and disgusted in endeavoring to teach, and resigned from the position. It is true not only in California, but elsewhere. The young men of to-day do not study medicine and do not know how to treat the symptoms of disease. They have been taught anatomy, surgery, pathology, bacteriology and diagnosis, yet, as I have said to my classes, "What difference does it make to your patients whether you make a diagnosis or not if you cannot relieve them? If you do not know what to use, except some surgical procedure, what good does it do your patients?" A therapeutic diagnosis should be made with as great care as a pathologic diagnosis. I think that point of view is the point of view from which medical schools should take up the question.

Dr. F. E. Stewart, Philadelphia: Dr. Fussell's paper deals with problems of great importance to the profession of pharmacy as well as to the profession of medicine. The term "ethical" as applied to monopolized materia medica products seems to me a misnomer. I can see nothing ethical in the so-called proprietary medicine business. The principle on which medicine and pharmacal practice is based is altruism True pharmacy is a branch of medicine and its practitioners are under the same ethical obligations to the profession and to the public as physicians. There can be no two codes of ethics, one for the physician and another for the pharmacist and manufacturer of materia medica products. The dangers referred to by Dr. Fussell would all disappear if both professions would live up to their ethical obligations.

Mr. Lightheart, Sacramento: I have had various experiences with various physicians and I can answer in a way some of the questions that have been brought up. I see these things from a different point of view altogether. I am known as an ethical crank. I do no counter-prescribing because I think it is criminal. It is not allowed to go on in my business, but we have physicians who, for instance, advertise listerine. Who started that kind of a proposition? No one but the physicians. The same is true of other preparations. It is only a few years since we had a counter-trade on liquor antisepticus alkalinus. Who but the physician started the laity, by handing it out to his patient? Do not blame the pharmacist for all of these things; he is only too glad to put up prescriptions. I do not want to sell a "patent medicine." I try to persuade people to go to physicians. What do I get? I persuade John Smith to go to a physician; that physician sends that patient to his favorite druggist. I not only lose what little I would make on this particular transaction, but I lose all his patronage. This is a broad question. There is just as much wrong done on the side of physicians as on that of the pharmacists. It has been stated that the average physician does not know how to write a prescription. It was only the other day that I received a prescription containing strontium bromid and aromatic spirits of ammonia. A little while before I had one containing strychnin and strontium—therapeutically and chemically incompatible. I wish that physicians would come to us and say, "Here, can I write such a prescription?" They do it with me. They ring me up on the telephone. I do not see that it belittles the physician to ask the pharmacist. If we come together as scientific and broad-minded men we will accomplish what we desire. Otherwise we will never get anywhere.

Dr. M. H. Fussell, Philadelphia: I do not know how we are going to get the men who are prescribing these things to cease unless we hold up to their eyes the foolishness of such things. I know that unquestionably the best thing to do is to get the boy before he gets out of college, and that is what we are trying to do. Some years ago in Boston I read an article, for which I was belabored for about a year, on dispensing versus prescribing. I took the ground that it was the duty of the man who lived in a city where he had competent pharmacists to prescribe and not to dispense. In my own particular neighborhood, which is one of the outlying wards of Philadelphia, twenty-four of the twenty-seven physicians living and practicing there do their own dispensing. Now that, I think, is not right. Possibly it was not of any use for me to read my paper, but I am going to continue to write and speak on these lines.

THERAPEUTICS OF ABNORMAL HEART RHYTHM

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NEW YORK

A clear understanding of the manner in which disturbances of the cardiac rhythm are produced, and of the meaning of such disturbances, is so important to their intelligent management that I feel justified in presenting this subject, though I have nothing original or new to offer. While this subject has received the attention of many physiologists and clinicians, it is still a mystery to a large proportion of general practitioners, some of those we much respect not hesitating to admit that they "know nothing about it." This apathy cannot be too soon dispelled and it is therefore imperative that practitioners of medicine have this subject so frequently brought to their notice that they will be compelled to study it.

Whether we are ready to admit the correctness of the myogenic theory of cardiac action or not, it must be admitted that studies conducted with this theory as a basis have led to a much clearer understanding of cardiac function, and made possible an analysis of disturbances of cardiac rhythm, which in turn has made treatment of them less empiric than formerly was the case. Just as the recognition of a heart murmur is to some men, even to-day, an indication for treatment of that heart, no matter how well it may be acting, so, to very many more, is the appearance of a disturbance of rhythm a cause for anxiety and the issuing of a bad prognosis, followed by superfluous treatment, medicinal and other.

Incorporated in the adult heart is some tissue which is recognized as the remains of the primitive cardiac tube, and which is of great importance in the functioning of the heart. Modifications of this tissue lead to modifications of the normal functions. Normally, the most irritable part of this tissue is that situated at the mouth of the superior vena cava, called the sinoauricular node (Keith; Flack). Here the cardiac contraction is started and the contraction wave is then passed along to the rest of the heart. This node is therefore called the "pace-maker" of the heart's action. Some fibers of the primitive cardiac tissue are probably also scattered throughout the auricular wall, but, because not gathered in any bundles or masses, are harder to recognize. The normal cardiac rhythm, started at the sinoauricular node, is known as the fundamental or sinus rhythm. The rest of the primitive cardiac tissue arises in the auriculoventricular node (Tawara) situated in the wall of the right auricle, near the mouth of the coronary sinus, passes as the auriculoventricular bundle (Kent; His) to the auriculoventricular septum, where it divides into two limbs, one passing down the right ventricle and the other down the left ventricle. The function of this auriculoventricular tissue is to convey the contraction stimulus from auricle to ventricle.

The cardiac muscle is possessed of the following functions:

1. The power to produce a stimulus which will excite the heart to contract: *stimulus production.*
2. The power to receive a stimulus: *excitability.*
3. The power to convey a stimulus from one part of the heart to another: *conductivity.*
4. The power to contract on being stimulated: *contractility.*
5. The power to remain to a certain degree in contraction, even when the active stimulation has ceased: *tonicity.*

A disturbance of these functions leads to a disturbance of the normal heart action. There may be a disturbance of one of these functions without any interference with the others, or, there may be a disturbance of more than one function at the same time.

Heart muscle has a quality peculiar to itself, in that, given a heart which is possessed of excitability and contractility, any stimulus being applied, which is of sufficient strength to cause a contraction, the heart will contract with all its force. The strength of contraction will in no measure be dependent on the strength of the stimulus. Heart muscle either contracts with all the power it possesses or does not contract at all. This is known as the "all or nothing" law. Contracting with all its power, the heart muscle exhausts all its stored energy and as a consequence it becomes incapable of responding to further stimulation until it has had sufficient rest to allow a certain amount of energy to be reaccumulated. This period of non-excitability is known as the "refractory period." A stimulus applied to the heart during a refractory period, will not effect a contraction. It follows as a corollary that heart muscle cannot be tetanized. The bearing of these facts on our subject will later be apparent.

The disturbances of rhythm in relation to the several cardiac functions are shown in the accompanying table:

TABLE SHOWING DISTURBANCES OF RHYTHM IN RELATION TO THE SEVERAL CARDIAC FUNCTIONS

Normal cardiac function	Resulting abnormality, when corresponding function is disturbed	
1. Stimulus production.	Sinus irregularity.	Youthful irregularity.
2. Excitability.	Extrasystole.	Auricular. Ventricular. Auriculoventricular.
3. Conductivity.	Heart-block (partial or complete)	Sino-auricular. Interventricular (hemisystole): Auriculoventricular (functional). (organic).
4. Contractllity.	Pulsus alternans.	
5. Tonicity.	Absolute irregularity, Pulsus irregularis perpetuus. (Auricular fibrillation, Nodal rhythm).	

The analysis of abnormal cardiac rhythm into the various types, as shown in the table is much facilitated by a study of the venous pulse. This pulse reflects the variations of pressure within the right auricle, and when studied in conjunction with the arterial pulse (and apex-beat) which is the index of pressure in the left ventricle, we are enabled to compare the events occurring in auricle and ventricle at the same moment, and to determine by a comparison with what are known to be the normal relations, the existence or non-existence of disturbances in the case under investigation. For the study of the venous pulse, the internal or external jugular vein on the right side of the neck is usually chosen. The undulations in the veins are the result of the difference in pressure of blood within the veins and pressure of the atmosphere without the veins. When the pressure within is greater than the atmospheric pressure, the vein expands, and when the pressures are reversed, the vein collapses. The normal venous pulse depends on the suction-pump action of the heart. The normal relations of pressure in ventricle, artery and vein, as expressed in graphic curves, are shown in Figure 2.

While the curve obtained from the ventricle, and that from the artery (carotid, brachial or radial, according to special choice, or depending on the apparatus used for taking the tracings) are quite simple and easily understood; that obtained from the jugular is more complicated, and it may be well to here analyze the significance of the crests and vales. The essential crests are those marked *A* and *V*; the essential vales are those marked *X* and *Y*. While the crest marked *C* is of great importance in the analyses of combined tracings, it does not essentially belong to the jugular pulsation, because it is probably not dependent on increased auricular (and venous) pressure, but is transmitted from the carotid artery.

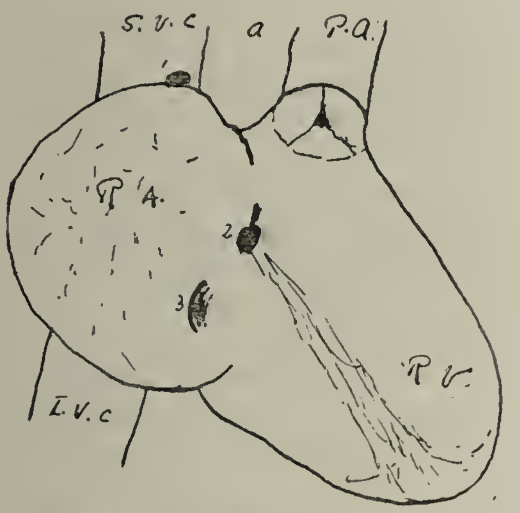

Fig. 1.—Diagram of right side of the heart. *S. V. C.*, Superior vena cava; *I. V. C.*, inferior vena cava; *A.*, aorta; *P. A.*, pulmonary artery; *R. A.*, right auricle; *R. V.*, right ventricle. 1. Sino-auricular node (Keith; Flack). 2. Auriculoventricular node (Tawara). 3. Mouth of coronary sinus. Arising from the auriculoventricular node is the auriculoventricular bundle (His Jr; Kent), which divides in two limbs, one for right and the other for left ventricle.

The crest *A* indicates a rise in auricular pressure due to the systole of the auricle. After this, the auricular pressure falls, to the point *X* (following the broken line) because of several factors: (1) the auricle relaxes after its systole; (2) the auriculoventricular valves are now closed, the ventricle is in systole, and, by virtue of its systolic contraction, it drags down the auriculoventricular septum, so enlarging the auricular cavity; (3) during ventricular systole, the heart becomes smaller in size and also blood is squeezed from the thoracic cavity into the greater circulatory tree, so increasing the negative pressure in the thorax; (4) also, at each systole, the movement of the heart in the chest pulls on the venæ cavæ, and so pumps blood from them into the auricle. While this last does not reduce auricular pressure, it does reduce pressure in the jugular vein. The crest *V*, which follows (ventricular wave; diastolic wave; telesystolic wave) indicates a rise in auricular pressure due to a storing of blood during auricular diastole and ventricular systole. This is followed by a sharp fall in pressure indicated at *Y*, this fall being due to the opening of the auriculoventricular valves which allows the blood stored in the auricle to flow freely into the ventricle. Crest *H* is of less importance, and is sometimes found during the diastolic period, in slowly acting hearts, and supposed to be due to a momentary floating up of the auriculoventricular cusps with the first rush of blood into the ventricle. This sends a wavelet back through auricle into vein. A third heart sound is described as accompanying this wave. Crest *C* is extremely important for clinical purposes. It marks the time of ventricular contraction, and so allows of measuring the time that elapses between auricular contraction, *A*, and ventricular contraction, *C*, i. e., the conduction time. It is of little clinical importance whether Mackenzie is correct in assuming this to be due to transmission of carotid pulsation, or whether it is due to a pushing up of the tricuspid valve when the intraventricular pressure rises during its systole. In either case, it marks the time of commencing ventricular systole and that is the important matter.

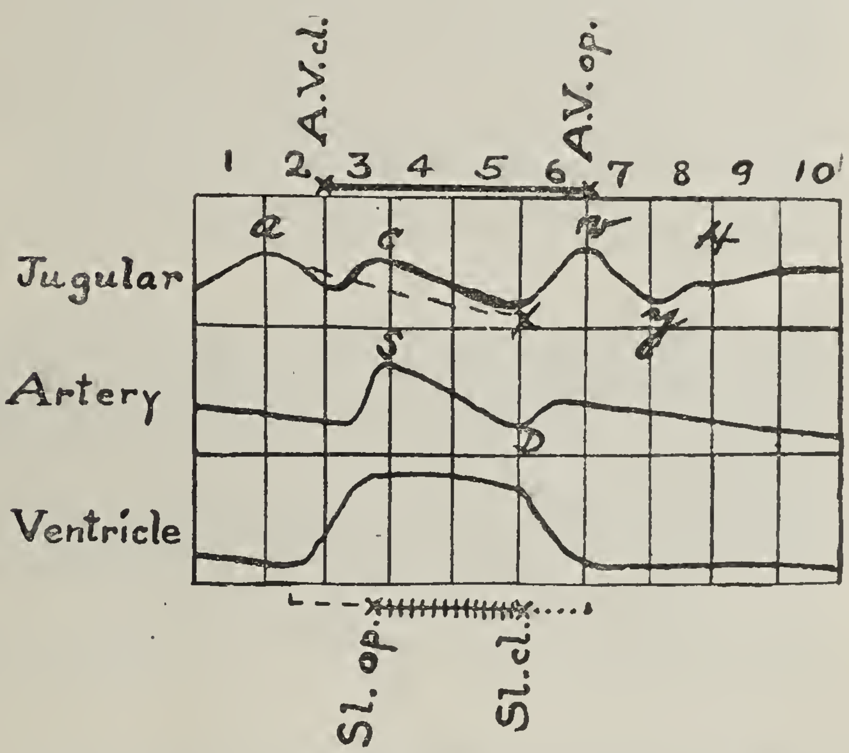

Fig. 2.—Normal relations of pressure in ventricle, artery and vein graphically represented. *A-V. cl.*, Auriculoventricular valves close; *A-V. op.*, Auriculoventricular valves open. In the interval they are closed; represented by a solid line. *Sl. op.*, Semilunar valves open; *Sl. cl.*, Semilunar valves closed. In the interval they are open; represented by a solid line with cross marks (sphygmic period); line of dashes, presphygmic period; line of dots, postsphygmic period. Time 1/10 second. (After Hirschfelder, modified.)

While the above assumes a study of the venous pulse from graphic tracings, and for accuracy these are indispensable, nevertheless the pulse is apparent to the eye, and can be seen in the veins of the neck, as a double wave. This normal venous pulse is called the double, or physiologic, or negative pulse. A venous pulse is obtainable in 80 per cent. of healthy individuals when they are lying down and the neck muscles are relaxed.

SINUS, OR YOUTHFUL IRREGULARITY (DISTURBANCE OF STIMULUS PRODUCTION).

When a normal individual takes some forced inspirations and the pulse is observed, it will be found that it becomes accelerated during inspiration, and slowed during the following expiration and pause. A pulse tracing taken from an artery will show that while the height of the pulse-waves is equal, indicating that the force of the pulse does not vary, the distance between the systolic peaks varies, indicating a variation in length of diastole. Thus, the acceleration and slowing of the pulse are at the expense of diastole. A venous tracing taken at the same time is found to be also perfectly normal except in length of intervals between pulsations, thus corresponding perfectly to the arterial pulse. When such variations appear during quiet unforced breathing, they are abnormal and constitute the sinus irregularity. This irregularity is best marked when the heart beats slowly, for when it beats fast, the diastolic period is shortened and hence variations in its length become less apparent. The pathologic physiology of this disturbance is a reflex, acting through the vagus nerve, its inhibitions coming to the sino-auricular node at varying rate. There is here no disease of the heart itself; the cause of trouble lies outside of the heart. One-half hour after 1/60 gr. atropine sulphate is given hypodermatically, a sinus irregularity will usually disappear.

It occurs in young individuals, neurasthenics, and convalescents from acute infectious diseases, such as influenza, etc. It usually gives rise to no subjective *symptoms*. Sometimes the patient is conscious of the irregularity. At times, the period of lengthened diastole may be so drawn out as to cause transient cerebral anemia, with syncope. It is extremely important to recognize this type of irregularity for the *prognosis* is good, even when accompanied by occasional syncope.

Treatment is usually best omitted, so far as the irregularity itself is concerned. If the underlying cause is of sufficient gravity, that should be treated. If the patient does not know of the existence of the irregularity, he should not be told, for the anxiety thus created will make it much worse, and the worry will do the patient more harm than will the sinus irregularity. The patient's family should be made acquainted with the state of affairs, for someone else may discover the irregularity and not recognizing the benign quality of it, start up trouble for the patient, family and previous physician. If any treatment is given at all, it should consist of reassurance, hygiene and nerve tonics. Probably the best drug is sodium glycerophosphate, gr. v, t. i. d. If there is anemia from the preexisting febrile disease, much fresh air, good eggs, and plenty of them, and iron in some form may be prescribed. Sexual irregularities and excesses must be tactfully inquired into and, if found, firmly suppressed.

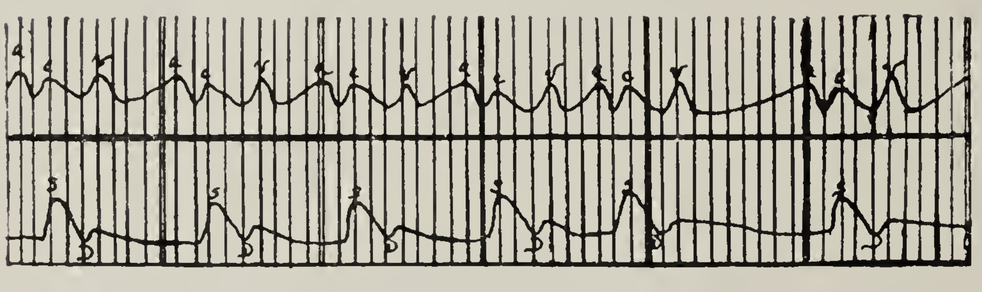

Fig. 3.—Sinus irregularity. Note height of systolic waves—*S*—is equal throughout, but distance between them varies. The venous pulse corresponds to the arterial.

EXTRASYSTOLE (DISTURBANCE OF EXCITABILITY)

While the cardiac contraction wave is normally initiated at the sino-auricular node, any other part of the remains of the primitive cardiac tissue which is found persisting in the adult heart, when rendered sufficiently irritable, may also start a contraction wave. Thus, while the sinus rhythm continues, there may be added to the contractions resulting from this, extrasystoles, due to a heightened irritability of the remaining primitive cardiac tissue. It is to be borne in mind that extrasystoles do not upset the fundamental sinus rhythm, but are interpolated, premature contractions, the impulse for them starting at some abnormal point in the heart. Depending on where these impulses start, we have (1) auricular extrasystoles, the impulse being started in the remains of primitive tissue in the auricle; (2) ventricular extrasystoles when the impulse starts in this tissue found persisting in the auriculoventricular bundle beyond the auriculoventricular node, or its ramifications in the ventricle, and (3) auriculoventricular (or nodal) extrasystoles, when the impulse is started in the auriculoventricular node. The several forms may be differentiated by means of polygraphic tracings (Figs. 4 and 5). (Auriculoventricular extrasystole is characterized by a shortened *a-c* interval. Beyond this I shall not discuss it.)

With the beginning of diastole, the heart muscle rests and the energy for its various functions, which during systole is exhausted, is gradually restored. Thus the refractory period of the heart terminates with the termination of systole, and the longer the heart has been in diastole, the more thoroughly are its functions recuperated and the more sensitive is it to stimuli that reach it. When conditions for starting extrasystolic stimuli are present, such a stimulus acting on the heart during diastole, even though premature, will elicit a response and contraction. It is clear that the earlier in diastole this stimulus acts, the feebler the resulting contraction and *vice versa*. Since extrasystoles are always premature, no extrasystolic contraction is as strong as a contraction which results from a stimulus started at the normal time in the cardiac cycle, when the heart's diastole is complete and its functional energy completely restored. Extrasystolic contractions sometimes are so premature and so weak as to be too feeble to cause the propagation of a pulse-wave to the wrist, so that it may seem, even on a sphygmographic tracing, that a heart's beat is entirely omitted, because the next normal sinus stimulus finds the heart in contraction as a result of the extrasystolic stimulus, hence refractory, and hence does not succeed in causing the contraction at the normal time. This is the *compensatory pause* which follows an extrasystolic contraction, and the time occupied by normal systole + extrasystole + compensatory pause, is equivalent to the time occupied by two complete normal cardiac cycles. The long pause gives the heart a longer rest than it gets during a normal diastole, as a consequence of which it responds to the next stimulus coming from the sinus with more than normal vigor, causing an abnormally large systolic wave in the pulse. A very early and feeble extrasystole which causes no wave in the arterial pulse may be recognized in a tracing from the cardiac apex, and usually also by the heart sounds. If the normal cardiac sounds may be represented as 1-2—1-2—1-2, etc., in case of extrasystole they are 1-2-3-4——1-2—1-2, etc., or, when a very feeble extrasystole, 1-2-3———1-2—1-2, etc. Also 3-4 are feebler than 1-2.

Extrasystoles may appear at regular or irregular intervals, and with varying frequency. They cause one form of pulsus bigeminus, when appearing after every other normal systole.

Extrasystoles point to a heightened irritability of the heart (disturbance of excitability) and this usually depends on disease of the cardiac tissue. There may be disease of the myocardium, or, more commonly, of the remains of the primitive cardiac tissue. It is found in hearts the seat of rheumatic trouble and in cardiosclerosis cases, with disease of the coronaries. It is met with in young adults, middle-aged and elderly. While some disease of the cardiac tissue is an underlying condition, functional disturbances that raise the irritability of the entire nervous system often precipitate the appearance of extrasystoles and the removal of such disturbances terminates the attack. This is especially true when it appears in rapidly acting hearts. More commonly, extrasystoles appear in slow-acting sclerotic hearts. Dyspepsia, flatulence, and indicanuria are exciting causes, as also, and quite markedly, the abuse of tobacco.

Symptoms often are absent and this, as a sinus irregularity, may be discovered by accident in the course of a routine examination. When subjective symptoms are noted, it is usually in the younger and neurotic individuals. They complain of "palpitation," and this means, either that they feel the irregular heart action, or that they notice the long pause and apparent stopping of the heart, or, what is more annoying, they feel the "thump" following the long pause and dependent on the abnormally vigorous systole occurring at such time. Rarely, the pause is so long as to cause transient cerebral anemia and syncope.

Prognosis depends on the underlying cause of the trouble. The appearance of the extrasystole in itself adds no great gravity to the condition. The recognition of an extrasystole may, however, be the first thing to attract attention to the heart at all, and a person with extrasystoles is not so good a physical risk as a normal person. Some maintain that it always points to disease of the myocardium. Also, a nervous woman may be made more nervous by the symptoms the extrasystoles cause her, and especially, by the fear of serious heart trouble which they will arouse in her. This increased nervous irritability will, in turn, aggravate the irregularity.

Treatment, again, depends on the underlying cause, and that should be treated. The condition must not be made too much of and the patient must be quieted, not excited and frightened. Worry and sleeplessness must be combated, and a run-down nervous system toned up by hygienic and hydrotherapeutic methods. Dyspepsia must be corrected, and especially should constipation and indicanuria be relieved. For the latter, as a symptomatic remedy, betanaphthol in 3 to 4 gr. doses given in capsules, three times a day, after meals, is very useful. Tobacco should be at first entirely stopped, and when symptoms have disappeared, allowed in very limited quantity. This alone frequently causes a disappearance of gastric hypersecretion and hyperacidity, which are also aggravating factors of the irregularity. As for direct drug treatment, the most important thing to remember is that digitalis, certainly in doses large enough to be of any value in a heart disturbance when it *is* indicated, should in this condition be cautiously avoided. When a heart is irregular and the circulation is so disturbed as to indicate the desirability of digitalis, the irregularity will be found to be of a different type than uncomplicated extrasystole. To small "tonic" doses, such as ¼ gr. of the powdered leaves, three or four times a day, there is no objection, and the same holds good for doses of gr. 1/200 to gr. 1/120 of strychnin sulphate, but the latter also is not to be used in larger doses. Large doses of digitalis may superadd functional heart-block to the extrasystole, for the two are not infrequently combined. Bromids and potassium iodid, the former in 20 gr. doses, t. i. d., and the latter in 5 to 10 gr. doses, t. i. d., are the most commonly useful drugs.

HEART-BLOCK (DISTURBANCE OF CONDUCTIVITY)

The normal impulse for cardiac action beginning at the sino-auricular node, may, in the progress to the rest of the heart, be partly or completely interrupted, thus resulting in partial or complete heart-block. Depending on the point where the interruption occurs, the block is classified as sino-auricular, interventricular and auriculoventricular. The commonest and by far the most important of these, at least for clinical purposes, is the last, and I shall therefore dismiss the other two forms without discussion, except to mention that it is still questionable whether interventricular block (or hemisystole) occurs at all.

Auriculoventricular heart-block may be functional or organic. Functional block is dependent on overstimulation of the vagus nerve, and while a tumor pressing on the nerve and some other still less frequent factors may produce it, the clinical factor of great importance is digitalis poisoning. Organic block is due to disease of the auriculoventricular bundle, depending on old rheumatic infiltration, sclerosis and consequent narrowing of the bundle, or, more commonly, sclerosis secondary to loss of nutrition dependent on fibrosis or sclerosis of the coronary arteries. Rarely, tertiary syphilis (gumma) may be the cause. Auriculoventricular heart-block is therefore found in middle-aged and elderly individuals, those suffering from general arteriofibrosis particularly, and in younger individuals with mitral stenosis.

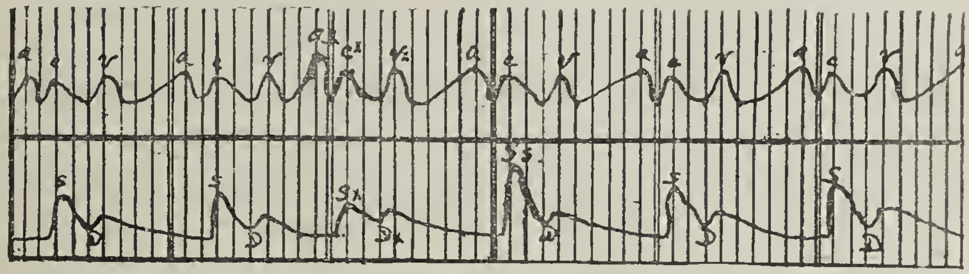

Fig. 4.—Auricular extrasystole. Note the premature auricular contraction at *Ax*, followed by a premaure ventricular systole at *Sx*, which reflects the waves *Cx* and *Vx* in the venous pulse. Note the long pause, with following large systolic-wave at *Ss*. Note persistence of sinus rhythm.

On referring back to the diagram of a normal venous pulse-tracing (Fig. 2) in which the pulse is taken as beating at a normal rate (here for the purposes of greater clearness made 60 per minute) it is found that the *a-c* interval is 2/10 second. This *a-c* period is occupied by three events: (1) the auricular systole, (2) conduction of impulse from auricle to ventricle, and (3) the presphygmic period. Event 2 occupies most of this time, and is the only one that is to any degree variable. Therefore any variation in the length of the *a-c* interval, may be ascribed to variations in the rate of conduction, and factors 1 and 3 entirely ignored. A lengthening of the *a-c* interval beyond the normal is the mildest degree of block, and may for a long time be the only objective evidence of trouble. When more advanced, ventricular systoles are at intervals entirely dropped, due to the occasional failure of the impulse to pass over the bundle to the ventricle. Such dropping may occur with varying frequency at irregular or regular intervals and is preceded by a progressive lengthening of the *a-c* interval. Partial block may be so far advanced as to show a single ventricular systole to 2, 3, 4, and even more auricular systoles. When the block is complete, the auricular impulse is not conveyed to the ventricle at all, and the latter chamber assumes an independent rhythm, which is usually 30 per minute, or less. In such case, the radial pulse, while slow, has a regular rhythm, and combined tracings show no regular relation between auricular and ventricular systoles (between *a* and *c* waves of the venous pulse).

In diagnosing heart-block, the type of irregularity most likely to be confusing is extrasystole. While in the latter during the period when a pulse-beat is apparently dropped, the short extrasystolic sounds can be heard, in heart-block, no sound is audible. When polygraphic tracings are taken, the difference is quite readily made out (Figs. 4, 5 and 6).

The subjective *symptoms* vary in intensity with the degree of trouble. The especially characteristic ones, in advanced cases, are those of the Adams-Stokes syndrome; i. e., vertigo, syncope, and epileptiform attacks, with a very slow and intermittent (or regular) arterial pulse. The slow pulse is what most readily raises the suspicion that this condition may exist. In the milder cases the patients suffer symptoms dependent on the insufficient peripheral circulation, for the total cardiac output is necessarily reduced by excessive slowing of the pulse, with its resultant prolongation of diastole into a stage of diastasis.

Prognosis is not good, even in moderate cases, because, when organic the condition, except in the rare cases of tertiary syphilis, is not removable.

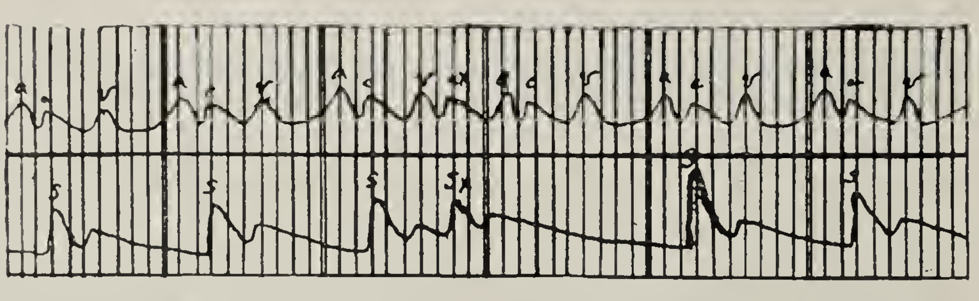

Fig. 5.—Ventricular extrasystole. Note premature systolic wave *Sx.* with reflected *Cx* in venous pulse. Note absence of a premature *a* wave in the venous pulse. Note persistence of sinus rhythm.

Treatment consists in advising the patient to live a life that will require activity only commensurate with a reduced cardiac output. If subject to syncopal attacks, he must be cautioned against being about alone, particularly in places where a sudden attack may leave him dangerously exposed. When syphilis is suspected, of course most vigorous antisyphilitic treatment must be promptly instituted, and here potassium iodid is most important. Digitalis must be carefully avoided. In the average organic case, the constant use of small doses of potassium iodid is indicated. In functional cases, if digitalis is the cause, of course this must be stopped, and atropin in large doses, gr. 1/100 to gr. 1/60 t. i. d. administered.

PULSUS ALTERNANS (DISTURBANCE OF CONTRACTILITY)

The pulse irregularity here to be considered is not an irregularity of rhythm, as the preceding three classes were, but an irregularity of force, with a maintenance, when uncomplicated, of a normal rhythm. It may, however, appear in combination with other irregularities, especially, extrasystole. The characteristics are shown in Figure 7.

It is there seen that the time interval separating all the systoles is the same, but the height of the systolic waves varies, every high wave being followed and preceded by a low one. All the high waves are of about equal height, and all the low waves are also of about equal height. The venous pulse shows no irregularity.

When, for any reason, the reserve stock of the contractile power of the ventricle becomes exhausted, the ventricle contracts in this alternating manner. Thus, during a strong and prolonged systole (high wave) the period of rest is encroached on, the contractile power is not fully restored and the succeeding beat is a feebler one (low wave). This results in a shorter systole, a longer period of rest becomes possible, and the ventricle so far regains its contractile power as again to be capable of producing a strong beat—and so on.

Factors that unduly increase the work of the heart tend to exhaust its contractile power. Thus we find as causes of this disturbance, old cardiac rheumatism with valvular defects, which thus mechanically embarrass its action; especially mitral stenosis, for in this the nutrition of the ventricular muscle also suffers. Cardiosclerosis, arteriosclerosis, sclerosis of the coronary arteries, chronic nephritis, and cardiac overaction (with marked increase of rate), from any cause. Under the last head, cases of paroxysmal tachycardia are especially to be noted.

This condition is found in middle-aged and elderly individuals, and most commonly with high blood-pressures.

The *subjective symptoms,* though dependent on an exhaustion of contractility, appear while the blood-pressure is still high, and usually while the classical signs of cardiac failure, with the exception of dyspnea, are not manifest. Thus, the blood-pressure is high, the pulse rhythm is regular, there is no cyanosis, no dropsy, and no cardiac dilatation (hypertrophy is usually present). The most distressing symptom is a sense of choking or smothering. There may be substernal oppression or even pain, with radiation to the neck and left arm, and marked palpitation. Sometimes all the syndrome of angina pectoris is manifest. There is a desire for absolute rest, for any movement, by increasing the demand on cardiac contractility, aggravates the distress. The distinctive objective sign of the condition is the alternating pulse.

The *prognosis,* while varying with the underlying cause, is always grave, for in most instances the fundamental pathologic change is permanent, and the function disturbed is the most important of the cardiac functions for the maintenance of the circulatory output. In cases of paroxysmal tachycardia, in which the exciting factor of the attacks of tachycardia is often a neurosis which is amenable to sedative treatment directed toward the nervous system (not forgetting psychotherapy), by removing the exciting cause and this stopping the attacks of tachycardia which are exhausting the contractility, the gravity of the prognosis may be modified.

Treatment consists of rest, mental and physical. All sources of worry must be removed, sleep encouraged, even if hypnotic drugs are required; muscular exertion reduced to a minimum; gastro-intestinal tract kept normal, to avoid flatulence and indicanuria. Excessive blood-pressure must be reduced to the point at which the patient feels most comfortable. No arbitrary rule as to how far to reduce blood-pressure can be given. The most satisfactory dilators are the nitrites in the beginning, to be succeeded by chloral hydrate, gr. v. every 4 hours. In mild cases or for prolonged use potassium iodid, gr. x, t. i. d., is useful. Here again, digitalis must be avoided.

ABSOLUTE IRREGULARITY; PULSUS IRREGULARIS PERPETUUS; AURICULAR FIBRILLATION; NODAL RHYTHM (DISTURBANCE OF TONICITY)

While in the irregularities until now considered the normal rhythm is disturbed, there may be some rhythm to the cardiac action, even though an abnormal one. In the type of irregularity now to be considered, all rhythm is lost. The cardiac action is absolutely disorderly, hence the name "absolute irregularity." With this type of irregularity generally goes a loss of tonicity, and the symptoms resulting from it.

The appearance of this irregularity is now recognized to be dependent on auricular fibrillation. When the wall of the auricle becomes so diseased as to cause this chamber to fibrillate (i. e., the individual fibers undergo independent contraction), the conducting system of the heart is bombarded by impulses begging for passage at the rate of 400 to 900 per minute. This system cannot convey the impulses so rapidly, so that most of them are blocked from passage to the ventricle. The impulses that do pass, however, are usually many more than normal, and they are passed through the conducting system at an irregular rate and in uneven degree. As a consequence, the arterial pulse that results is much more rapid than normal, irregular in both rhythm (or rather without rhythm) and force, the strength of a ventricular contraction not being commensurate with the length of the preceding pause. In venous tracings the *a* wave disappears because the auricle does not undergo any systole, and the resulting venous pulse is of the *ventricular* or positive type, or the *m*-shaped wave. In electrocardiograms, the *p* wave, which represents auricular systole, disappears and the curve bears evidence of fine undulations appearing at the rate of 400 to 900 a minute. In cases of mitral stenosis, a previously evident presystolic murmur disappears with the inception of this arrhythmia.

This type of disturbance may be transient and of short duration, as in some cases of paroxysmal tachycardia, but is most commonly found in chronic cases of rheumatic disease of the valves or myocardium, or old cardiosclerosis cases. Having once appeared, even though for a short time, it will usually reappear, and finally remain permanent. Of patients with valvular disease, mitral stenosis cases are the commonest subjects of this arrhythmia. The degree of irregularity and rapidity of the pulse are usually in direct proportion to each other.

The *symptoms* resulting are those of cardiac failure with loss of tonicity, as dyspnea, orthopnea, dropsy, enlarged liver and congested kidneys and lungs, and often hydrothorax. The heart is found dilated, sounds feeble, irregular and rapid.

The *prognosis* is bad, in so far as there is serious underlying disease, which it is not possible to remove, but we have in these cases a sovereign remedy in digitalis. With the proper use of this drug, which includes a good preparation, freshly made from good leaves, and given in sufficiently large doses, it is specific, so far as the decompensation is concerned. Once cardiac failure from auricular fibrillation is diagnosed, no matter what the size of the heart, no matter what valve lesion is present or not present, digitalis is indicated. If the stomach will tolerate a large potion, the best preparation is a freshly made infusion, given in doses of half an ounce to one ounce two or three times daily, and continued until the desired effect is produced, or until nausea and vomiting are caused. Then the dose must be reduced. If the large potions are too much for the stomach, it will often stand better a good fluidextract given in proportional doses (1 dram of the infusion equals 1 minim of the fluidextract). This constitutes a small dose to take, and may even be given in pill form, in which form it is very well tolerated. So far as drugs are concerned, no other need be considered in this condition, except perhaps to mention magnesium sulphate to produce free catharsis when there is dropsy, and sodium chlorid to be omitted or reduced to a minimum.

Of course, when massive doses of digitalis are indicated, rest is urgently indicated, and this includes reduction of the fluid intake to the minimum amount which is compatible with comfort.

In this condition, the benefit which digitalis exercises is chiefly to be attributed to its stimulating effect on the vagus, thus slowing the ventricular contractions by blocking out some of the numerous impulses which the fibrillating auricle is sending down to the conducting system. The ventricle can thus rest, fill better, and contract more vigorously and to more purpose. The direct stimulation of the ventricular muscle, while perhaps not so marked as the vagus stimulation and not so easily demonstrable, nevertheless does obtain. Digitalis has its most remarkable effect in cases in which the pulse is very rapid before it is used.

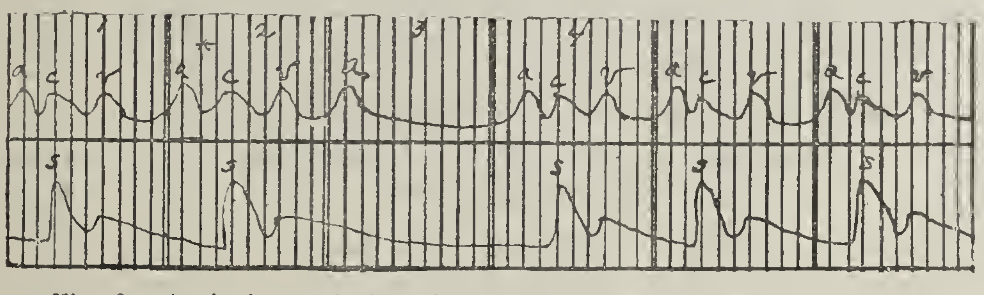

Fig. 6.—Auriculoventricular block. Note absence of response in arterial pulse to auricular contraction, *a* in period 3. Note lengthening of the *a-c* interval, comparing periods 1 and 2, previous to the block, and the shortened *a-c* interval in period 4, which follows the block.

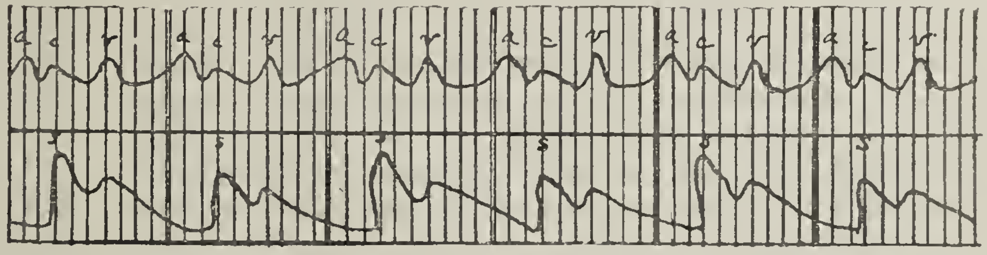

Fig. 7.—Alternating pulse. Note alternate variation in height of systolic waves—*S*, with even time distance between the waves. The venous pulse is normal. There is here an irregularity of force (contractility) but not of rhythm.

SUMMARY

To sum up, we must note the following points:

1. A disturbance of cardiac rhythm does not, in itself, indicate a bad prognosis.

2. A disturbance of cardiac rhythm in itself is no indication for the institution of treatment directed to the heart.

3. It is necessary to analyze a cardiac irregularity, so as to determine which of the types mentioned in Table 1 is present, for the prognosis and treatment depend on the type of disturbance. While for purposes of research, close study and further elucidation of the cardiac irregularities, they should be analyzed with the aid of polygraphs and electrocardiograms, it is, nevertheless, in most cases quite possible to determine which type of irregularity we are dealing with by the use of a simple

Jacquet or Dudgeon sphygmograph, instruments that can be conveniently carried in the pocket. Indeed, after a little experience with such an instrument it becomes possible to judge the type of irregularity present by the simple finger palpation of the radial pulse combined with stethoscopic examination of the heart.

4. Do not rush to digitalis as soon as a pulse irregularity is discovered, for in most of the types it is contraindicated.

5. When auricular fibrillation accompanies symptoms of cardiac failure, digitalis is the drug strongly indicated.

6. When, in case of cardiac failure, you are certain that digitalis is required, use it in sufficiently large doses and get a good fresh preparation. The chief reason that the infusion is more often effective than the other preparations is that it is used in larger doses. Thus, few of us prescribe less than half-ounce doses of the infusion, given three times a day, yet few prescribe as high as four minimum doses of the fluidextract three times a day, although it is no more than the equivalent of the half ounce of infusion.

229 West One Hundred and Eleventh Street.

THE INCIDENCE OF SEROFIBRINOUS PLEURISY AND EMPYEMA AS COMPLICATIONS AND SEQUELÆ OF PNEUMONIA, WITH REMARKS ON THEIR MEDICAL TREATMENT *

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AND
ARTHUR C. MORGAN, M.D.
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It is admittedly desirable that the guess methods relating to the incidence of both serofibrinous pleurisy and empyema as complications and sequelæ of pneumonia should give way at the earliest possible moment to exact knowledge. It has been the current professional impression that pleurisy is the most common complication of the pneumonic process, but it must be confessed that there is no available statistical evidence to confirm it fully. Again, the precise definition of the term empyema is free from difficulty, it being applicable to a collection of pus in the pleura, however small, while that of serofibrinous pleurisy secondary to pneumonia is distinctly difficult.

In our view, pleurisy in the clinical sense should be regarded as a complication when it co-exists, either as a severe form of the dry plastic variety with marked friction to auscultation or accompanied by sufficient effusion to be demonstrable by means of the physical signs. On the contrary, the slight dry pleurisy which is ordinarily associated with pneumonia is to be looked on as a part of the usual pathologic picture of the disease.

In all cases in which a pleural exudate is obtainable, an etiologic distinction between the recognized varieties is to be based alone on a bacteriologic examination. In the case of empyema, more particularly when it occurs in children, it may happen that the area of lung-consolidation is small, hence effectually cloaked by the secondary empyemic process. Unless a bacteriologic study is made of all pleural exudates, the cases last described would fail to be recognized as being of pneumococcic or secondary origin.

In general, it may be authoritatively stated that serofibrinous pleurisy is of more frequent occurrence than empyema in lobar pneumonia, a dictum strongly supported by the present statistical inquiries, as will be seen hereafter. It has been found that ante-mortem observations show a smaller percentage of complicating fibrinous and serofibrinous pleurisies relatively than post-mortem figures, for the apparent reason that the lighter graded of these varieties escape observation during the life of the patient. In the case of empyema, however, this discrepancy would appear to be less marked.

A post-mortem examination has frequently revealed an associated pleuritis entirely unsuspected, since this complication often has an insidious onset without either the usual "stitch-like" pain in the involved side or showing any effect on other phenomena belonging to the primary disease. The physical signs, although well-known, merit extended and careful investigation and, should doubt remain as to the diagnosis of complicating pleurisy, an exploratory puncture should be undertaken without delay. It is particularly true of the pleuritis which is secondary to pneumonia in children that while the withdrawn fluid may be serous at first, it soon becomes purulent. The transition, however, is not to be ascribed to a secondary invader but to the action of the pneumococcus.

The statistical observations which form the basis of the present paper embraced an examination of 68,982 clinical and post-mortem records, from which we culled 2,512 cases of pneumonia and found that of these, 1,335 presented complications. In the 2,512 cases of pneumonia, serofibrinous pleurisy occurred in 198 and empyema in 68.

A total of 68,520 clinical case reports, exclusive of 462 post-mortem records, for which no clinical notes could be found, were carefully scrutinized with the following result: Total number of cases of pneumonia, 2,050, in which 890 presented complications and of which 128 were instances of serofibrinous pleurisy and 41 of empyema.

The large number of cases of pleural effusion associated with pneumonia, or 169, in which the date of onset could be determined, promised us the opportunity we desired to determine the relative frequency of the different forms of pleurisy, both during the course of pneumonia and as sequelæ. It was necessary to discard a small proportion in which the notes, especially with relation to time of occurrence of the crisis, were imperfect or failed to show the day of onset of the pleuritis. It is not claiming too much to state that it was necessary to lavish extreme care and patience on the work of scrutinizing the histories in order to determine the date on which the pleurisy or empyema in question in each individual case commenced.

We found that of the 128 cases of serofibrinous pleurisy, 106 occurred as complications and twenty-two as sequelæ, while of the forty-one cases of empyema, twenty-four were classed as complications and seventeen as sequelæ. These figures indicate that serofibrinous pleurisy occurs in 5.12 per cent. as a complication and 1.07 per cent. as a sequel of pneumonia. Serofibrinous pleurisy as indicated by these collective investigations is of much more frequent occurrence secondary to lobar pneumonia than empyema, the ratio being 3 to 1 in favor of the former condition. Empyema occurred in forty-one out of 2,050 cases, or 2 per cent., and it will be observed somewhat more frequently as a complication than as a sequel.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Considering a total of 462 cases of pneumonia occurring at the Philadelphia Hospital, in which the autopsy records alone were consulted, we found that complications were mentioned in 445 instances, of which eighty-eight or 19 per cent., were pleurisy with effusion, e. g., seventy cases of serofibrinous character and eighteen of purulent character.

An analysis of 858 cases from the same institution, in which the clinical records were also scrutinized, showed complications in 404 cases, of which only thirty-nine were instances of pleural effusion. Of the latter, in thirty-four the exudate was serofibrinous, and in five, purulent. Among the thirty-four cases of serofibrinous pleurisy, twenty-five were classed as complications and nine as sequelæ, while all of the empyemas were complications, i. e., occurring before the crisis.

The total number of records examined at the Protestant Episcopal Hospital (see table) were 1,085. Of these, 464 showed complications, of which 124 were pleurisies, ninety-one serofibrinous and thirty-three purulent. Of the serofibrinous form, seventy-eight were complications and thirteen sequelæ, while of the thirty-three purulent, eighteen were complications and fifteen sequelæ.

The accompanying table will enable the reader to make a ready comparison between the figures obtained from the different institutions, which are there represented; and it also reveals at a glance the total number of records consulted, the number of cases of pneumonia from all sources, the number of instances in which complications were mentioned and the relative number of cases in which serofibrinous and purulent pleurisy, both as complications and sequelæ, occurred.

				Serofibrinous		Purulent	
Name of Hospital	Records Consulted	Total number of pneumonias	Complications mentioned	Complications	Sequelæ	Complications	Sequelæ
Philadelphia General	41,377	858	404	25 (2.9%)	9 (1.05%)	5 (0.58%)	0 .....
Protestant Episcopal	24,795	1,085	464	78 (7.19%)	13 (1.2%)	18 (1.66%)	15 (1.38%)
Medico-Chirurgical ...... (Recent records)	2,348	107	22	3 (0.28%)	0	1 (0.093%)	2 (0.196%)
Total	68,520	2,050	890	106 (5.12%)	22 (1.07%)	24 (1.17%)	17 (0.83%)

The figures of Musser and Norris[1] showing the results of their collective investigations, based on clinical observations, are quite in harmony with those given above. Thus, out of a total of 24,511 cases, studied by them, pleural effusion occurred in 1,535, or 6.26 per cent. On the other hand, the collected cases from autopsy records by these observers are at variance with our own results. For example, they found pleural effusion in 405 out of 974 necropsy records, or 41.58 per cent., while we found in 462 autopsy reports of pneumonia occurring at the Philadelphia Hospital (see above) only eighty-eight instances of pleural effusion, or 19 per cent.

Thomas McCrae stated in a personal communication that out of twenty-nine cases of empyema secondary to lobar pneumonia, twenty-five were classed as complications and only four as sequelæ. These figures indicate a much larger preponderance of empyemata occurring as complications in pneumonia than as sequelæ, thus differing from the results of our collective investigations, e. g., in a total of forty-one cases, twenty-four developed prior to the occurrence of the crisis and seventeen were distinctly postcritical.

TREATMENT

In non-pneumococcic pleurisy of the serofibrinous variety, it is the custom of many clinicians to aspirate early, and we believe that the disease has in the past been too conservatively treated. When we are dealing with either serofibrinous pleuritis or empyema occurring secondary to pneumonia, however, an expectant method, unless thoracentesis be urgently needed, is to be adopted until the crisis has been passed, but if the latter fail to appear at the proper time, then the exudate should be promptly withdrawn. On the other hand, if a critical decline of temperature takes place in due season, a serofibrinous effusion is quickly absorbed in some cases at least, but if not, then recovery must be enhanced by puncture followed by aspiration.

If a massive effusion develop during the fastigium of pneumonia, displacing the heart and other adjacent organs, or if under these circumstances signs of involvement of the non-affected side, such as moist râles, broncho-vesicular breathing and impaired resonance arise, and finally, serious symptoms such as urgent dyspnea or syncopal attacks with cyanosis manifest themselves, the withdrawal of the exudate is to be advised. Such cases, however, may demand more radical operative measures for their cure after the usual crisis, and these should not be too long withheld. Aspiration during the fastigium is a procedure calculated to do harm on account of the slight shock induced by it, hence it should be undertaken only in cases presenting large pleural collections which give rise to the untoward effects already stated.

We desire to state with emphasis that our results from aspiration for pleural effusion in pneumonia prior to the crisis, in patients that have been desperately ill, have been decidedly discouraging.

The aim in the treatment of individual cases of pneumonia in which pleurisy in one of its different forms is associated, is to secure the largest possible degree of comfort to the patient and the withdrawal of the exudate, if it should occur, at the earliest moment compatible with safety to life.

The indications for the use of medicinal substances in complicating pleurisy are few, and nothing in the nature of a depressant, especially such as the coal tar products, is permissible since pneumonia, the primary disease, debilitates every organ of the body, notably the heart. To be avoided also, therefore, are the salicylates, although these as well as quinin and opium exercise a more or less favorable effect in serous pleuritis in general. Opium is also open to objection in the more advanced stages of pneumonia, especially should the bronchi contain secretory products, since the drug exerts a drying effect, thus hindering their dislodgment. A pneumococcus pleuritis may develop and accompany the pneumonic process from the beginning in which case opium may have great usefulness as a therapeutic agent in the earlier stages, relieving the pain and inducing repose.

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[1] Osler: Modern Medicine, ii, 597.

Experience dictates that quinin has a beneficial influence on inflamed serous membranes, and it possesses a limited value at least, in the pleuritis of pneumonia, both as a supportive agent and in mitigating the intensity of the inflammatory process. It may be administered in 4 gr. doses in capsule, followed immediately by a few drops of dilute hydrochloric acid to insure its prompt solution, four times daily.

LOCAL MEASURES

In cases of pneumonia in which severe pains due to associated pleuritis develop early, fixation of the affected area by means of strips of adhesive plaster is an effective and feasible measure. These should be, however, removed in the event of the occurrence of effusion. The use of morphin in small doses, administered hypodermically, is not objectionable during the earlier stages of pneumonia, if demanded for the relief of intense pains that remain unrelieved by immobilization of the side involved. On the other hand, in light grades of associated pleurisy, counter-irritation by means of sinapisms is to be advised. In the adult, if the patient's nervous system be not too sensitively organized, cold applied in the form of an ice-bag or ice-water bag, or better still cold compresses reapplied at least every hour, as suggested by Baruch, with the least possible disturbance to the patient, is a remedy of choice.

We are quite convinced of the extreme importance of affording prompt relief of the pain, so as to enable the function of respiration to be carried on the more actively, and thus also to preserve the nervous tone and equilibrium of the patient.

In concluding, our best thanks are due to Drs. H. Leon Jameson, Harry W. Bauer and Ernest E. Laubaugh, for material assistance in collecting the statistical data presented above.

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ABSTRACT OF DISCUSSION

Dr. J. N. Hall, Denver: I wish to comment on a series of sixty-two cases of empyema seen in my private and consultation practice in the past nine years, with a view of urging the necessity of earlier diagnosis. I have to thank my assistant, Dr. T. R. Love, for compiling this brief record. Many of these cases were seen weeks or months after the beginning of the disease, and no less than thirteen of them ruptured through the lung. That is, of course, explained by the fact that in the simple and easily recognized cases operations were done at home, while in many of the obscure the patients came far, often from other states, for investigation. Twenty-two of the sixty-two patients died—a frightful mortality, and far higher than the average, because of the character of the material. Thirty-four of these cases followed an acute pneumonia; eight were found to be tuberculous patients, often originating, doubtless, in pneumothorax; five were associated with bronchopneumonia; three succeeded a simple pleural effusion; three followed an ascending infection from appendicitis; two occurred in cases of measles; two after injury to the chest; while one case was found in association with each of the following conditions: General sepsis; perforation of an infected gallbladder in typhoid fever; gangrene of the lung; sarcoma of the pleura; lipoma of the pleura (no exact cause was determined in the latter two cases). Twenty-nine of the cases were right-sided, thirty were left-sided, while three were not noted. There were forty-four males and but eighteen females.

The earlier and freer use of the exploring needle should prevent such humiliation as we must all feel over such a mortality rate as that quoted, and over such a number of perforations through the bronchi. No case should be allowed to drift with fever and obscure chest symptoms without well-considered and applied exploration. I have finally found pus at the thirteenth puncture under anesthesia in a case in which previous less persistent investigation had failed to reveal it, and the man is well to-day. Yet certain cases of empyema deep in the chest, either between the lobes or on the diaphragm, may go on to rupture or death without such external signs as to lead to their detention even by fairly expert clinicians. Such instances should, however, be rare. I wish to reiterate the importance of more persistent attempts to find the pus in cases of obscure chest disease, with fever and leukocytosis, and to urge the danger underlying the diagnosis of "unresolved pneumonia," "thickened pleura," etc. If not cleared up by one or two punctures, it is better, if we can be reasonably certain that pus is present somewhere in the chest, to give an anesthetic with everything prepared for operation and systematically explore the chest until pus is found. The drainage by the surgeon is often a far less formidable procedure than the finding of the purulent focus. We have from 15 to 20 per cent. of the total population of Denver who have come to us because of some form of disease; many of them have some changes in the chest such as an empyema, or the results of perforation, or lung abscess. I have seen a general streptococci infection resulting from the injection of some sort of a vaccine. It was afterwards learned that the needle was stuck into the lung; as a result an empyema developed and the patient died. As to any damage to the lung itself by exploration, I have never seen serious trouble.

Dr. Everett J. Brown, Decatur, Ill.: I think there is one crime which we can frequently hold against the general practitioner and that is the failure to recognize fluid in the chest. In consultation work in a country district I find many cases of empyema and other pleuritic exudates unrecognized. I recently saw a case of empyema in a young man, age 16 years, in which the amount of pus was so enormous as to cause actual deformity from the bulging of that side of the chest. I removed 7 pints by aspiration on one day and three days later 8 pints more were removed by drainage. The patient made a good recovery. I recently had two cases of empyema occur simultaneously in the same family; both were young men. The first case followed pneumonia, and the second boy became infected from the first case by blowing through the tubes attached to a James bottle which the first patient was using to expand the lung; pneumonia with empyema which required drainage occurred. Both patients recovered.

Dr. C. F. Hoover, Cleveland: A very good practice in examining patients with suspected disease of the pleuræ is to auscultate with the unaided ear. If this practice is adhered to it will be found that every accumulation of fluid in the pleural cavity causes an elevation of pitch of the murmur of inspiration and expiration. The sound may be faint or at times inaudible on account of thickening of the pleuræ, but when the respiratory sounds are audible they are heightened in pitch by the presence of fluid whether it is pus, blood or serum.

Dr. A. C. Morgan, Philadelphia: The discussion, it seems to me, has resolved itself into a study of the physical signs. It has, however, been immensely profitable. In the paper presented there were without any doubt many sins of omission as well as of commission: these may occur in attempts at making a diagnosis of a pleuritic exudate, no matter of what type, and may occur through carelessness or through ignorance, or through an improper interpretation of what is found in the physical examination of the chest. In teaching physical signs in the chest to students I have found that it is very hard to get them to study those that are normal; but they are always very eager to study the signs that are abnormal. Place a student to examine a normal chest and he soon assumes an air of satiety; he turns from it and it is very hard to keep his attention. But when given a chest to examine that is abnormal he is delighted and listens to what can be heard, although he is not fitted to interpret properly what he finds. I think, too, that general practitioners have this same fault; they will not study the normal conditions found in the chest; they do not maintain in their minds what is real and what is abnormal. The best way, I believe, to teach what is abnormal is first to insist on the students being taught what is the normal. They should be made to learn what is the normal; they should be made to become familiar with the normal conditions. If you can satisfy yourself that you know what is normal, then when you strike something that is abnormal, your interest will be aroused, and you will proceed to study the case along definite and concrete lines. I wish to make a plea that we get back of this and learn first the normal; then when we find something that is not normal we shall be in a better position to study our cases intelligently.

EOSINOPHIL CELLS AND POLLEN IN VERNAL CATARRH

BROWN PUSEY, M.D.
CHICAGO

In April, 1911,[1] I reported the finding of eosinophil polymorphonuclear leukocytes in smears taken from a series of cases of vernal catarrh, confirming Herbert's discovery. Interested in this finding and knowing the many points of similarity between vernal catarrh and the conjunctivitis of hay-fever, I have been led to the examination of smears taken from a series of cases of the latter disease.

In smears taken from the conjunctivæ of a series of cases of hay-fever, I have found eosinophil polymorphonuclear leukocytes in great abundance; indeed the cellular content of a smear from the one disease is the same as that from the other.

This observation shows another, and possibly a very important, similarity between the two diseases. We know that the conjunctivitis of hay-fever is due to pollen. From my observation of eosinophil cells in the conjunctival secretion of hay-fever, we know that pollen may cause an inflammation of the conjunctiva with secretion containing an abundance of eosinophil cells. This fact becomes of increased interest when it is realized that eosinophil cells are a negligible factor, as was shown in my previous work, in smears from all ordinary forms of conjunctivitis.

It is in the field of etiology of vernal catarrh (an unknown field) that the finding of these cells in hay-fever is of interest. I venture to think that the presence of eosinophil cells in the conjunctivitis of hay-fever and in vernal catarrh, and their absence in ordinary forms of conjunctivitis, point strongly to a similar etiologic factor—pollens.

7 West Madison Street.

Screw-Worms in the Ear.—Dr. W. S. Lorimer, Handley, Tex., writes: "A few days ago I was called to see a female child, 4 months old, who had been peevish and fretful for two days previous. She was well nourished, apparently healthy, being breast-fed and having healthful and sanitary surroundings. The history was negative, except for irritability and fretfulness for two days. There had been no previous illness. On examination, a small, white, moving object was seen in right ear, which proved later to be a screw-worm. Chloroform was applied to the ear, and, on irrigating with boric acid solution, three screw-worms came out. The child recovered and is well and healthy. I cannot imagine how this condition can occur in children in such sanitary surroundings."

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[1] Pusey, Brown: Vernal Conjunctivitis and Eosinophil Cells, The Journal A. M. A., April 1, 1911, p. 952.

AN ARTHROPLASTIC OPERATION FOR HAMMER-TOE

B. J. O'NEILL, M.D.
SAN DIEGO, CAL.

The following case is reported both on account of the good result secured and because, so far as is known to me, it is the first attempt to adapt Murphy's arthroplastic operation to hammer-toe.

History.—The patient, a woman of 22, came to me in January, 1911, with a hammer-toe, which had been present since childhood and which caused her great pain on walking.

Examination.—The third toe of the left foot was a typical and very marked hammer-toe, with a tender callus on the top of the first and on the bottom of the second joint, the adjoining toes almost touching in front of the vertical second phalanx and above the terminal phalanx, and an almost complete ankylosis of the first phalangeal joint. A general examination was negative.

Treatment.—I advised amputation, which was refused. As the patient insisted on trying some conservative operation, it occurred to me that the operation I had seen Dr. J. B. Murphy do on an ankylosed knee-joint might be repeated on a small scale here.

Operation.—Accordingly, under general anesthesia, I made a longitudinal incision about an inch long on the dorsal surface of the toe, its middle over the prominence of the joint, freed the bone from the soft parts, and removed the distal end of the first and the proximal end of the second phalanx for a distance of about one-fourth inch each. I then dissected loose a thin layer of the subcutaneous tissues at the outer side, cut it loose at its distal end so as to make a flap with the pedicle at the proximal end, passed this across between the two bones and sutured it by one stitch each to the inner side, below and above. I then closed the skin wound with a subcuticular silkworm gut and fastened foot and toe by adhesive strips to a specially prepared splint in such a way as to hold the toe perfectly straight.

Result.—Immediately after the operation, the joint was flail-like and the soft parts loose and baggy, but they gradually contracted down and backward, making the toe slightly shorter than its fellows and but little above the normal size. It remained tender for some time but this soon passed over and the healing was complete in about three weeks. I had feared recurrence on account of the pinching in of the toes on either side but the slight shortening of the toe seems to have prevented this. At the present time, six months after the operation, the toe is only slightly thickened at this joint, straighter than any other toe on the foot, and gives the patient no pain or discomfort whatever. There seems to be a new joint developed at the point, as there is fully as much mobility, both active and passive, as in the other toes.

Sefton Block.

Therapeutics

PRESCRIPTION WRITING

(*Continued from page 1135*)

CHAPTER II.—OFFICIAL PREPARATIONS

The principal preparations of the United States Pharmacopeia may be classified as follows:

1. Solids mostly for internal use:
    - A. Extracts (extracta).
    - B. Pills (pilulæ).
    - C. Powders (pulveres).
2. Liquids mostly for internal use:
    - A. Waters (aquæ).
    - B. Elixirs (elixira).
    - C. Emulsions (emulsa).
    - D. Fluidextracts (fluidextracta).
    - E. Infusions (infusa).

- F. Liquors (liquores).
- G. Mixtures (misturæ).
- H. Spirits (spiritus).
- I. Syrups (syrupi).
- J. Tinctures (tincturæ).

3. Semisolids for external use:
    - A. Cerates (cerata).
    - B. Ointments (unguenta).
4. Liquids for external use:
    - A. Liniments (linimenta).
    - B. Some waters (aquæ).
    - C. Some liquors (liquores).
    - D. Some tinctures (tincturæ).

1. Solids Mostly for Internal Use

A. *Extracts* are concentrated preparations of a drug, and are mostly moist and sticky. A few extracts are dry. They should be prescribed in pill or capsule.

The most important are:

Extractum belladonnæ foliorum	Dose, 0.01 gm. or gr. 1/6
Extractum digitalis	Dose, 0.01 gm. or gr. 1/6
Extractum ergotæ	Dose, 0.25 gm. or gr. iv
Extractum nucis vomicæ	Dose, 0.01 gm. or gr. 1/6
Extractum physostigmatis	Dose, 0.01 gm. or gr. 1/6
Extractum rhamni purshianæ	Dose, 0.25 gm. or gr. iv
Extractum opii	Dose, 0.03 gm. or gr. 1/2

B. Official *pills* are ready-made preparations, and consequently it should be remembered that they may have deteriorated or become more or less insoluble. Still some of the laxative pills, especially, are of value.

The following is a ready reference to the ingredients of the most used pills:

Bland's pills (pilulæ ferri carbonatis) contain 0.065 gm. (1 gr.) of iron.

Pills of aloes (pilulæ aloes) contain 0.13 gm. (2 gr.) of aloes.

Pills of aloes and iron (pilulæ aloes et ferri) contain 0.065 gm. (1 gr.) each of aloes and iron.

Compound cathartic pills (pilulæ catharticæ compositæ) contain extract of colocynth comp. 0.08 gm. (1¼ gr.); calomel 0.06 gm. (1 gr.); resin of jalap 0.02 gm. (⅓ gr.); gamboge 0.015 gm. (¼ gr.).

Vegetable cathartic pills (pilulæ catharticæ vegetabiles) contain extract of colocynth comp. 0.06 gm. (1 gr.); extract of hyoscyamus 0.03 gm. (½ gr.): resin of jalap 0.02 gm. (⅓ gr.); extract of leptandra 0.015 gm. (¼ gr.); resin of podophyllum 0.015 gm. (¼ gr.).

Compound laxative pills (pilulæ laxativæ compositæ) contain aloin 0.013 gm. (1/5 gr.): strychnin 0.0005 gm. (1/120 gr.); extract of belladonna leaves 0.008 gm. (⅛ gr.): ipecac 0.004 gm. 1/15 gr..

Compound podophyllum pills (pilulæ podophylli, belladonnæ et capsici) contain resin of podophyllum 0.016 gm. (¼ gr.): extract of belladonna leaves 0.008 gm. (⅛ gr.); capsicum 0.032 gm. (½ gr.).

Compound rhubarb pills (pilulæ rhei compositæ) contain rhubarb 0.13 gm. (2 gr.): aloes 0.10 gm. (1½ gr.); myrrh 0.06 gm. (1 gr.).

C. Official *powders* are dry preparations of two or more drugs. It is better to order a powder by its official title, but below are the common names and the ingredients of the most used of these preparations:

Dover's powder (pulvis ipecacuanhæ et opii) contains 10 per cent. each of ipecac and opium.

Tully's powder (pulvis morphinæ compositus) contains 1.5 per cent. of morphin and 32 per cent. of camphor.

Compound aromatic powder (pulvis aromaticus) is a mixture of aromatics.

Compound jalap powder (pulvis jalapæ compositus) contains 35 per cent. of jalap and 65 per cent. of potassium bitartrate.

Compound licorice powder (pulvis glycyrrhizæ compositus) contains 18 per cent. of senna: 23 per cent. of glycyrrhiza; 8 per cent. of sulphur.

Gregory's powder, compound rhubarb powder (pulvis rhei compositus) contains 25 per cent. of rhubarb; 65 per cent. of magnesium oxid: 10 per cent. of ginger.

Seidlitz powder (pulvis effervescens compositus) consists of two powders; one of Rochelle salt and bicarbonate of soda in blue paper, and the other of tartaric acid in white paper.

2. Liquids Mostly for Internal Use

A. *Waters* are solutions of *volatile* substances in *water:* mostly *weak* preparations. (Exception, ammonia waters.)

H. *Spirits* are solutions of *volatile* substances in *alcohol;* mostly *strong* preparations. (Exception, sweet spirits of niter.)

F. *Liquors* are solutions of *non-volatile* substances in *water;* mostly *weak* preparations. (Exceptions, the arsenic solutions and those for external use.)

J. *Tinctures* are solutions of *non-volatile* substances in *alcohol:* mostly *strong* preparations. (Exceptions are the aromatic and stomachic [bitter] drug tinctures.)

H. Some of the common names of spirits are:

Whisky (spiritus frumenti).
Brandy (spiritus vini gallici).
Sweet spirits of niter (spiritus ætheris nitrosi).

F. Some of the common names of liquors are:

Fowler's solution (liquor potassii arsenitis).
Spirit of Mindererus (liquor ammonii acetatis).
Lugol's solution (liquor iodi compositus).
Goulard's solution (liquor plumbi subacetatis).
Labarraque's solution (liquor sodæ chlorinatæ).

B. *Elixirs* are sweetened liquid preparations containing alcohol. They are weak preparations, and the National Formulary contains a large number.

C. *Emulsions* are liquid preparations containing a suspended oil.

D. *Fluidextracts* are liquids representing exact strengths of the drugs, i. e., 1 cubic centimeter (15 minims) contains the medicinal properties of 1 gram (15 grains) of the drug.

E. *Infusions* are weak watery preparations. One only is of value, viz., infusum digitalis.

G. *Mixtures* are liquids containing more than one drug, often an insoluble one. The most used are:

Brown mixture (mistura glycyrrhizæ compositus).
Chalk mixture (mistura cretæ).

The National Formulary contains a long list of mixtures.

I. *Syrups* are very sweet watery solutions of one or more drugs. These weak preparations are prescribed too frequently, as they readily cause disturbance of the stomach, and do not often modify a bad-tasting drug, but may even protract the taste. Sweet cough syrups are an abomination.

3 Semisolids for External Use

A. and B. The principal difference between *cerates* and *ointments* is their melting-points. The ointments contain more lard or petroleum fat and less wax than the cerates, hence they have a lower melting point than the latter. Cerates do not melt when applied to the skin.

4. Liquids for External Use

Some *waters,* some *liquors,* some *tinctures* and the *liniments,* as the name implies, are used externally only. Most of the liniments are stimulating to the skin, but two being sedative, viz., the belladonna liniment and the carron oil (linimentum calcis).

(To be continued)

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

PEROXIDES OF METALS

Metallic peroxides are compounds in which the hydrogen of hydrogen peroxide has been replaced by metals, and which are readily decomposed with liberation of hydrogen peroxide, or of oxygen in an active state. The peroxides of several metals have been suggested as substitutes for the hydrogen peroxide solution, official as aqua hydrogenii dioxidi.

The commercial products are usually mixtures containing but a limited amount of real peroxide; for example, commercial "magnesium peroxide" contains but about 15 per cent. of magnesium peroxide while commercial "sodium peroxide" contains about 75 per cent. of sodium peroxide.

The different peroxides vary considerably in their stability, their solubility and in their ease of decomposition in solution. In solutions of acids the peroxides are decomposed, forming hydrogen peroxide and the salt of the metallic radicle of the peroxide. In this way the entire active oxygen-content of the peroxide is quickly made available in the form of hydrogen peroxide in solution. Water dissolves only minute quantities of these peroxides, but it decomposes them with varying degrees of readiness. Thus zinc peroxide, although very insoluble, is decomposed by water into zinc hydroxide and hydrogen peroxide as follows:

$$ZnO_2+2H_2O \rightarrow Zn(OH)_2+H_2O_2$$

The energy of the oxidizing powers of different peroxides varies in direct ratio to the alkalinity of the solution produced in their decomposition. The variation in the alkalinity of the solutions formed affects the therapeutic uses of the peroxide. Sodium peroxide is not desirable for therapeutic use because of the formation of the strongly alkaline solution of sodium hydroxide (caustic soda). Magnesium and zinc peroxide, on the other hand, yield weakly alkaline solutions and are for that reason more desirable.

Actions and Uses.—Like hydrogen peroxide, the metallic peroxides depend for their value on the readiness with which a part of their oxygen becomes active. They are claimed to possess advantages over solution of hydrogen peroxide, because the oxygen is set free more gradually. Among themselves the metallic peroxides differ in their action in accordance with their solubility and the alkalinity produced by interaction of the peroxid with water. The action of peroxides is also affected by the nature of the metal which goes into solution when the peroxid is decomposed. Thus the use of sodium peroxide is limited by the strong base formed when it dissolves in water and that of zinc peroxide by the poisonous action of zinc solutions.

Because of the strong oxidizing effects on the lower organisms, the peroxides have been recommended as a convenient means of sterilizing water, thus a mixture has been used containing magnesium peroxide 0.2 Gm. and tartaric acid 0.5 Gm., the latter favoring the decomposition of the peroxide. It has been proposed to employ the oxidizing effect of peroxides in the treatment of skin diseases, by using a mixture of zinc peroxide, 10 parts; potassium iodide, 5 parts, and tartaric acid, 1 part from which on contact with moisture iodine is gradually liberated. As an ingredient of dentifrices magnesium and strontium peroxide have been used.

Internally the peroxides have been claimed to be of value as gastric and intestinal antiseptics and to be of use in the treatment of acid dyspepsia, abnormal fermentation and summer diarrhea of infants.

CALCIUM PEROXIDE—Calcii Peroxidatum.—Calcium peroxide is a mixture consisting essentially of calcium peroxide, the calcium salt CaO_2, of hydrogen peroxide and calcium hydroxide and carbonate, containing not less than 60 per cent. calcium peroxide, equivalent to 13.4 per cent. available oxygen.

Calcium peroxide is a light, cream-colored, odorless and tasteless powder. It is practically insoluble in water, but by such contact it is gradually decomposed into hydrogen peroxide and calcium hydroxide, the hydrogen peroxide being further decomposed by the alkaline calcium hydroxide with liberation of oxygen. It is decomposed by dilute acids with formation of a solution containing hydrogen peroxide.

If a few milligrams of calcium peroxide be shaken with 10 Cc. water and 1 drop diluted sulphuric acid, and a few Cc. ether added, the subsequent addition of a drop of potassium dichromate solution will produce a blue color in the aqueous layer. On shaking, the blue color will pass into the ethereal layer.

If 1 Gm. calcium peroxide be dissolved in 25 Cc. dilute nitric acid and 2 Cc. tenth-normal silver nitrate added to the solution and the resulting precipitate filtered off, the further addition of a few drops of silver nitrate solution to the filtrate should produce not more than a turbidity.

If 1 Gm. calcium peroxide be exposed to the full heat of a Bunsen flame for five minutes, then dissolved in 25 Cc dilute hydrochloric acid and the solution made up to 100 Cc., a solution will result which will conform to the following tests:

Ten Cc. of the solution, to which ammonium hydroxide in excess has been added, should yield a white precipitate on the addition of ammonium oxalate solution.

Ten Cc. of the solution saturated with hydrogen sulphide should yield no precipitate, nor become colored.

Ten Cc. of the solution should yield not more than a turbidity on the addition of barium chloride solution.

Ten Cc. of the solution, after addition of a slight excess of ammonium hydroxide and acidification with acetic acid, should yield no turbidity on the addition of potassium dichromate solution.

If 0.2-0.3 Gm. calcium peroxide, weighed into a flask, be shaken with 25 Cc. water, then 25 Cc. dilute hydrochloric acid added, the titration of this solution with tenth-normal potassium permanganate should indicate the presence of not less than 60 per cent. calcium peroxide. (One Cc. tenth-normal potassium permanganate is equivalent to 0.0036 Gm. CaO_2).

Actions and Uses.—See Peroxides.

Dosage.—0.06 to 0.3 gm. (1 to 5 grains) in water or with sodium bicarbonate, two to three times daily.

Calcium Peroxide, R. & H.—Manufactured by the Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

MAGNESIUM PEROXIDE.—For properties, actions, uses and dosage see New and Nonofficial Remedies; also The Journal A. M. A., Feb. 25, 1911, p. 591.

Magnesium Peroxide, R. & H.—Manufactured by Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

SODIUM PEROXIDE.—For properties, actions, uses and dosage see New and Nonofficial Remedies, 1911, p. 209.

STRONTIUM PEROXIDE—Strontium Peroxidatum.—Strontium peroxide is a mixture consisting essentially of strontium peroxide, the strontium salt, SrO_2, of hydrogen peroxide and strontium hydroxide containing at least 84.5 per cent. strontium peroxide, equivalent to 11.3 per cent. available oxygen.

Strontium peroxide is a fine, white, odorless and tasteless powder. It is practically insoluble in water, but by such contact is gradually decomposed into hydrogen peroxide and strontium hydroxide, the hydrogen peroxide being further decomposed by the alkaline strontium hydroxide with liberation of oxygen. It is decomposed by dilute acids with formation of a solution containing hydrogen peroxide.

If a few milligrams of strontium peroxide be shaken with 10 Cc. water and 1 drop dilute sulphuric acid, and a few Cc. of ether added, the subsequent addition of a drop of potassium dichromate will produce a blue color in the aqueous layer. On shaking, the blue color will pass into the ethereal layer.

If 1 Gm. strontium peroxide be dissolved in 25 Cc. dilute nitric acid and 2 Cc. tenth-normal silver nitrate added to the solution and the resulting precipitate filtered off, the further addition of a few drops of silver nitrate solution to the filtrate should not produce more than a turbidity.

If 1 Gm. strontium peroxide be exposed to the full heat of a Bunsen flame for five minutes, then dissolved in 25 Cc. dilute hydrochloric acid and the solution made up to 100 Cc., a solution will result which will conform to the following tests:

Ten Cc. of the solution made alkaline by the addition of ammonium hydroxide and then slightly acid with acetic acid should yield a white precipitate on the addition of ammonium sulphate solution.

Ten Cc. of the solution saturated with hydrogen sulphide should yield no precipitate nor become colored.

Ten Cc. of the solution should yield not more than a turbidity on the addition of barium chloride solution.

Ten Cc. of the solution which has been made alkaline with ammonium hydroxide and then acidified with acetic acid should yield no turbidity on the addition of potassium dichromate solution.

If 0.2-0.3 Gm. strontium peroxide, weighed into a flask, be treated with 50 Cc. water and dissolved by addition of 20 Cc. dilute sulphuric acid, the titration of this solution with tenth-normal potassium permanganate should indicate the presence of not less than 84.5 per cent. strontium peroxide. (1 Cc. tenth-normal potassium permanganate is equivalent to 0.0061 Gm. SrO_2).

Actions and Uses.—See Peroxides.

Dosage.—It is used in the form of ointments and as a dusting powder.

Strontium Peroxide, R. & H.—Manufactured by the Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

ZINC PEROXIDE.—For properties, actions, uses and dosage, see New and Nonofficial Remedies, 1911, p. 234.

Zinc Peroxide, R. & H.—Manufactured by the Roessler & Hasslacher Chemical Co., New York. Not patented or trademarked.

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[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 7, 1911

THE PROGRESS OF CHEMOTHERAPY

In an address before the society of microbiology in Dresden[1] last May, Ehrlich drew back the curtain and gave several glimpses of the seething activity with which the new field of chemotherapy is being cultivated at the laboratories in Frankfort. Only one who is familiar with the difficulties and obstacles to be overcome at both the chemical and experimental ends of this work, can fully appreciate the enormous energy and tireless industry to which the abundant results that pour out from the Ehrlich institutions testify.

Evidently the immunity or resistance which parasites acquire to both chemical parasiticides and immune serums has occupied much of the attention of the investigators. Biologists will find much to interest them in the demonstration that once a strain of parasites has acquired such immunity, the descendants of this strain will continue to exhibit the acquired characteristic for an indefinite number of generations, through years at least. Physicians will see in this fact a justification of the fear, which was aroused early in the study of chemotherapy, that in time we may become the prey of parasites which are immune to every known sort of parasiticidal agent. Happily, Ehrlich has discovered that this danger is not imminent, and perhaps our fears are entirely groundless; the escape lies through another observation of profound biologic interest, which may be described as follows: As long as a strain of a parasite immune to a given poison is perpetuated by direct passage from animal to animal, the reproduction is asexual, and the protoplasm is directly continued from generation to generation; in this case the immunity persists. But if by passage through a natural intermediate insect host the parasite is reproduced through sexual conjugation, the new generations are devoid of the acquired specific immunity to the parasiticidal drug. Therefore, since most of the protozoan diseases, at least, are transmitted through intermediate hosts, it is probable that the danger of perpetuation of drug-immune parasites is not serious.

Parasites become immune to serum antibodies much more quickly than to chemical parasiticides, but the immunity to the chemicals is much more difficult to eliminate by experimental means. According to Ehrlich's views, when a parasite becomes refractory to an immune serum it does so by developing new groups of receptors to take the place of those occupied by the antibodies, these receptors being the same receptors as combine with the food materials, and hence called "nutriceptors." But it is possible for the host to develop new antibodies specific for the newly developed receptors, and this alternate counter-immunization may continue until the parasite has exhausted all possible means for producing the new receptors necessary for maintenance of nutrition, when it will be obliged to die out because the serum of the host contains all the different forms of antibodies necessary to combine all the different receptors of the parasite. Experimental evidence has been obtained on which this conception of the counter-reaction of host and parasite is based, and also it has been found that the number of new recurring strains which most parasites can develop is, fortunately, quite limited. To prevent the development of these immune strains it is desirable to produce a complete sterilization of the host with one dose of the therapeutic agent, if possible, but if a parasiticidal agent kills only a fraction of the parasites it still may happen that the antibodies formed in reaction to the killed organisms will be sufficient to destroy the survivors; on this account it may sometimes happen that a therapeutic injection will give more complete destruction of the parasites when these are present in large numbers than it will at earlier stages of the disease when but few parasites are present.

In syphilis the decreasing number of organisms present as the disease advances may be ascribed to the wiping out by specific antibodies of most of the strains present, leaving a few survivors refractory to all the antibodies developed by the host up to that time. The fresh outbreaks of syphilitic lesions are, on this basis, brought about by new strains of the spirochete which have developed immunity to the existing antibodies, and the subsidence of the lesions depends on the formation of a new set of antibodies to combat the new strain. Hence it comes to pass that during the actual existence of syphilitic infection the individual is not susceptible to a new infection, because of the abundance of antibodies present in his blood to which the new strain of spirochetes is not immune. But when the disease is over and the antibodies have been eliminated, reinfection becomes possible. The recurrence of lesions after salvarsan injections, especially in certain nerves, is ascribed by Ehrlich, not to an injury of the nerve tissue by the drug, but to an actual syphilitic lesion set up by organisms present in the nerves, where they are somewhat protected from the salvarsan, so that after the drug has been sufficiently eliminated they multiply and set up local lesions. The best protection against this form of complication will be early treatment, before such localization has occurred.

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[1] Ehrlich: Folia Serologica, 1911, vii, 697.

Certainly this address, as well as the numerous papers that have recently appeared from Ehrlich's workshops, carries the conviction that the progress in chemotherapy is being based on most sound and careful experimental work, and that as yet this work, large as its results already are, is still in the earliest preliminary stages. We have every right to look for more brilliant results in the future. The fear expressed that in diseases with local lesions chemotherapy must be less successful than in such blood infections as trypanosomiasis and similar diseases with which most of the experiments have been conducted, is already discounted by the highly successful results obtained by many in the treatment of frambesia or yaws.

STANDARDIZATION OF ERGOT

Another important contribution[1] to the subject of the physiologic standardization of drugs has been made by the Hygienic Laboratory of the Public Health and Marine-Hospital Service. The authors conclude, both from their own work and from that of others, that the proposed chemical methods of assay throw little light on the therapeutic value of a preparation of ergot. This view seems now to be accepted by most manufacturers. Thus a member of a firm which has been laying much emphasis on the fact that its product was assayed by the cornutin of Keller (which, the firm said, it had found to be a "trustworthy guide as to the therapeutic strength of the drug"), states that "he has come to the conclusion that cornutin assay is not a criterion of therapeutic value."

Three principal methods have been proposed for the physiologic standardization of ergot, the cock's comb, the uterine, and the blood-pressure methods; all are in use and the chief object of the present work was to determine which is the most trustworthy. Inasmuch as ergot is ordinarily used for the purpose of influencing the activity of the uterus, the authors considered that a method based on the effects of the drug on this organ would have the most value. They found that different observers, working independently of each other, were by this method able to obtain concordant and satisfactory results. It is, however, tedious and somewhat expensive, and the authors were gratified to find a close parallelism between the results obtained by this method and those obtained by the "cock's comb method," which was introduced into this country some years ago by Houghton. No constant relation was found between the results obtained by these methods and the effects on the blood-pressure, a result readily explained by the fact that ergot contains, in varying amounts, certain amins which have a greater action, proportionately, on the blood-pressure than on the uterus.

The authors recommend for practical purposes, the cock's comb method. It is suggested that ergotoxin, one of the alkaloids of ergot, may be taken as a standard and that the strength of fluidextracts may be adjusted so that 2 c.c. equals in physiologic action 5 mg. of ergotoxin.

The primary object of the bulletin was to test the value of the various methods. The subject in which the practitioner is most interested, the comparative value of the preparations of ergot on the American market, received less attention; but some of the results are of much interest from this point of view. The preparations examined consisted in fluidextracts, prepared by the authors themselves, and in commercial preparations purchased on the open market in both Washington and Ann Arbor. In addition certain specimens were obtained directly from the manufacturers. The fluidextracts made by the authors themselves according to the U. S. P. were more active (usually from two to four times as active) as the commercial fluidextracts. Such results suggest that a reliable pharmacist following the official method may be able to supply the physician with as good preparations as the large manufacturing houses, or even better. The authors remark that the fact of the commercial preparations being usually inferior need not be considered a reflection on the manufacturers, as it may be merely the result of aging, but that in view of this deterioration it would be desirable for the date of manufacture to be stated on the bottles.

The case is different, however, with a number of special, proprietary preparations, for these are generally claimed to be permanent and often to be much more active than the official preparations. The most active of the special preparations examined was "cornutol," which was found to be as active as the best fluidextract; it is claimed, however, to be two and one-half times as active as the latter. If this statement be true of this preparation, the specimen examined had evidently undergone deterioration. The "concentrated purified ergot" of another firm was found to be only about three-fourths as active as a good fluidextract. A specimen of "ergotole" was found to be only one-third as strong as a good fluidextract although the manufacturers claim it to be two and one-half times as strong as the latter; much emphasis is laid by the manufacturers on its being a "permanent solution" which "does not change with age," and is "therefore always reliable." Two samples of "ergone," another proprietary preparation claimed to be "permanent," were examined. The sample obtained directly from the manufacturer was somewhat more than half as active as the authors' fluidextract: the other sample, obtained through the usual channels of trade, was almost devoid of physiologic activity. The "permanent" preparation had evidently deteriorated greatly.

Although, as was said above, the authors do not lay especial emphasis on the results obtained with the commercial preparations, being chiefly interested in the general principles involved, these are sufficient to emphasize the need of far more care and accuracy on the part of manufacturers, both as to their preparations and the claims made for them.[2]

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[1] Edmunds, C. W., and Hale, Worth: The Physiological Standardization of Ergot, Hyg. Lab. Bull. 76. This bulletin may be obtained by addressing the Surgeon-General of the P. H. and M. H. S.

It is doubtful whether uniform preparations of ergot and digitalis will be available until the U. S. Government adopts a system of continuous control similar to that which has proved so satisfactory in the case of antitoxins, vaccine virus, etc.; manufacturers are failing to supply satisfactory preparations of these drugs just as they failed to supply antitoxins, etc., of uniform value until the passage of the law placing them under the control of the Public Health and Marine-Hospital Service.

THE GRAND CLIMACTERIC IN MAN

That man, passing through life, is subject in certain years to special dangers is an idea now tenaciously held by many, and one which, since very early times, seems to have appealed to the minds of both medical and lay observers. The antiquity of the conception is illustrated by the etymology of the word "climacter": it is derived from the Greek κλιμακτήρ which means literally, "a step of a stair-case or ladder," though it was used also to designate "a dangerous period of life." References to "climacterical years," or to the "grand climacteric," are to be found in the writings of older English authors, including Sir Thomas Browne in his "Vulgar Errors," Massinger in "The Old Law," and Burke in his "Reflections." Every seventh or ninth year was considered dangerous, most of all the sixty-third year of a man's life.

That some relation exists between certain of these critical periods and the sexual functions has also long been maintained. In both male and female, the fourteenth year corresponds approximately to puberty, and, in woman, the forty-second, or the forty-ninth year, is not uncommonly the date of the menopause. In man, at the age of sixty-three—his *grand climacteric*—some assume that, owing to the cessation or marked diminution of the activity of the testicles, a profound change takes place in the body and that this change corresponds closely to that supposedly dependent on the more sudden alteration in the function of the ovaries at the menopause in woman.

That certain tolerably characteristic symptoms, not unlike those presented by women at the "change of life," are undoubtedly manifest in many men at about the age of sixty-three, will be vouched for not only by physicians in general practice, but also, particularly, by nerve-specialists, to whom the patients ordinarily turn for relief. On the symptoms referred to attention has recently been focused again in the articles of Mendel[1] and of Fürst.[2] The most striking of the disturbances attributed to the *climacterium virile* are a certain lack of emotional control and a tendency to shed tears, combined with more or less outspoken signs of depression, disinclination for exertion, lack of will-power, and irritability. Other symptoms, sometimes prominent, are dizziness, a sense of pressure in the head, hot flushes, and palpitation of the heart.

In connection with these observations the questions at once arise whether these symptoms are, in reality, due to a disturbance of internal secretion of the testicles, or whether they can be the result of the arteriosclerosis which develops, almost with regularity, at about this age, and if there may not possibly be a relation between testicular function and vascular integrity in the male. In the present state of science these are queries not at all easy to answer.

Those who defend the doctrine of the sexual origin of the male climacteric point to the nervous emotional and vasomotor phenomena which follow castration, analogous to the menopause symptoms artificially called forth in women by double oophorectomy. Though they admit the plausibility of the objection that the natural male climacteric may depend on arteriosclerosis rather than on retrogression of the activity of the sexual glands, they argue that the arteries are not always sclerosed when the symptoms appear and that, when they are, the sclerosis might be looked on as evidence of the importance of the internal secretion of the testicles for the normal regulation of the circulatory apparatus and for the welfare of the general metabolism.

According to another opinion, recently expressed, the symptoms under discussion, though dependent on anomalies of internal secretion, owe their origin not to changes in the functions of the testicles alone, but, in addition, to alterations in the activities of other related glands, notably the prostate. It seems to be undeniable that some functional connection between the prostate and the testicles exists. Paul's studies[3] indicate that the enlargement of the prostate in advanced life is a retrogressive process, perhaps comparable to the chronic atrophic or inflammatory change in the female breast at the menopause. It is conceivable that further study may prove that the symptoms so often presented by men in their early sixties are due to polyglandular insufficiency.

Fascinating as these several hypotheses are, sober-minded medical men will, until evidence of validity is compelling, refrain from too ready acceptance of any one of them. Such hypotheses are, however, valuable as stimuli to more exact observation and to the extension of experimental inquiry; it is, accordingly, worth while occasionally to review the opinions put forward and the work which is being done in connection with so interesting a matter as the male climacteric.

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[2] The results of such studies as these are one reason why some of the widely advertised specialties of some American firms do not appear in N. N. R.

[1] Mendel: Neurol. Centralbl., 1910, No. 20.

[2] Fürst: Umschau, 1911, xv, 507.

[3] Paul: Lancet, London, 1910.

THE ETIOLOGY OF BERIBERI

So many observations have been reported of late favoring the belief that beriberi is caused by a dietary insufficiency, that this conclusion is now apparently well established. In a recent contribution to the subject, Fraser and Stanton[1] not only have furnished additional evidence toward this view, but have carried the investigation of the dietary factor peculiarly lacking to a point previously unattained.

The employment of 300 native laborers in the construction of a road through virgin Malayan jungle offered an unusually favorable opportunity for their work. By properly examining all candidates for employment it was possible to exclude with a presumption of certainty men already suffering from the disease; and regulation of all sanitary conditions precluded the possibility that these might influence the results. The laborers so circumstanced were divided into two equal parties, and housed some distance apart. One section was then fed on polished rice as the staple article of diet, the other on rice which had been parboiled before husking. The latter grain differed from the former in the preservation of a great part of the subpericarpal layers, which are removed almost wholly by the more usual methods of polishing. Of the two parties, the men fed on polished rice began to develop cases of beriberi in three months, without the appearance of any cases in the other section. Conditions were then reversed, and after a somewhat longer period, the party previously exempt began to suffer from the disease, without any cases originating in the control party. The influence of place and the possibility of communicability were tested by the transfer of groups of sufferers, with negative results.

The polished rice thus responsible for the human disease was then tested by feeding to fowls. Eijkman[2] and others had previously shown that by feeding chickens on such grain it was possible to produce in them an affection very closely resembling human beriberi, both clinically and anatomically. Basing their experiments on this, Fraser and Stanton were able to cause a peripheral neuritis almost at will. It was found that the polished grain invariably caused the disease in a large proportion of the fowls if fed to them for a sufficient time. Substitution of parboiled rice, and the addition to the polished rice of the parts removed in polishing, served to protect the animals. Attempts to extract a soluble poison from the polished grain were unsuccessful, but on the other hand the extraction of unpolished rice with alcohol destroyed its protective power. The clue so obtained was followed up, and Fraser and Stanton succeeded in isolating to a certain point the element essential for protection. In addition to being extracted by alcohol, it was dissolved by 0.3 per cent. hydrochloric acid. An important constituent so removed is phytin—a complex organic compound with a high percentage of phosphorus pentoxid. As the amount of phosphoric acid in the grain had been found to give an index to its power to prevent neuritis, it was first thought that this might be the desired constituent; but feeding experiments contradicted this view, while the extract after removal of the phytin was still effective.

Although it has not so far been absolutely proved that the peripheral neuritis of fowls is identical with beriberi, there is no good reason for the contrary belief, so that quite probably the results of Fraser and Stanton will be found directly transferable to the human disease. While they unfortunately did not succeed in the ultimate isolation of the essential dietary factor, they have apparently carried the problem much further along, and more investigation should soon clear up its last uncertainties.

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[1] Studies from the Inst. for Med. Research, Federated Malay States, 1911, No. 12, p. 1.

[2] Eijkman: Virchow's Arch. f. path. Anat., 1897, cxlviii, 523.

Current Comment

THE GREAT LAKES AS A WATER-SUPPLY

A movement of significance to a vast population was inaugurated at the recent meeting of the Municipal Congress in Chicago in the action looking toward the preservation of the purity of the Great Lakes as the most available water-supply for the cities and towns along their borders. The Great Lakes Basin International Pure Water Association was there formed, including in its membership city health officers, sanitary engineers and others, from both sides of the Canadian border-line. Each of the eight states and the two Canadian provinces bordering on the lakes is to have two official delegates, one appointed by the governor of each state or province, and the other by the health authorities. A temporary organization was formed and officers selected. The organization will be made permanent, and permanent officers elected on the appointment of the official delegates as provided above. It is expected that the Lake Michigan Water Commission will be merged with this organization. Canada has begun agitation for laws controlling the discharge of sewage into the Great Lakes, and the present organization will make the movement international. The Lake Michigan Water Commission was formed in 1908 to study the pollution of Lake Michigan. This commission was composed of representatives of the United States Public Health and Marine-Hospital Service, the engineering department of the War Department and the state and municipal health authorities of the states surrounding Lake Michigan. Much valuable work was done by this commission in the study of the contamination of the lakes, and reports have been made from time to time. Largely as the result of this study, it has been found necessary by the cities along the lakes deriving their water-supply from this source to extend their intakes farther and farther from the shores to avoid pollution. Even this is found not to surmount the difficulty altogether, as with the increasing volume of sewage discharged into the lakes because of the rapid increase in population and temporary or accidental storm conditions affecting the lake currents, the pollution is found to extend farther and farther from the shore. Pollution from passing shipping has also been determined to be a source of contamination which must be taken into consideration. The present organization seeks to apply such study to conditions along the whole body of the Great Lakes and to promote such legislation as is necessary to preserve the purity of the water-supply. The question is of increasing importance to the people affected. Chicago found it necessary to build a drainage canal which has only partially, and perhaps only temporarily, overcome the difficulty for a portion of the city and is now engaged in constructing another canal to give relief to the southern section of the city in the Calumet region. Many other cities along the lakes have individually put forth efforts to overcome to some extent the pollution of their water-supply, but the question is not wholly a local one and is far from being settled. This new organization ought to aid in bringing the necessity for concerted action before all the people concerned, and will, no doubt, result in both state and national action by the two governments with the effect of preventing, in large measure, the continued pollution of this great source of urban water-supply.

SMALL-POX IN THE UNITED STATES IN 1910

The number of cases of small-pox in the United States reported to the United States Public Health and Marine-Hospital Service for the year 1910 was 30,352, with 415 deaths. Complete reports were furnished by twenty-seven states, only partial reports being received from the others on account of their having no vital statistics laws. The total number of cases occurring, therefore, was no doubt considerably more than the figures quoted. The light death-rate, however, indicates that the infection was mild, as it has been throughout the past ten or twelve years of its prevalence in the United States; and yet in some instances, for reasons not apparent, the disease assumed considerable virulence and the death-rate ran up to 50 per cent. of the cases, as in the instance of thirty-eight cases reported from a certain district in Michigan during the months of October, November and December, 1910. This merely emphasizes what is well known—that the disease may at any time assume a virulent form and in non-vaccinated communities work great havoc. Though the number of deaths (415) is small, it is too large to represent the sacrifice in one year to a wholly preventable disease. In this day of general preventive medical measures, the occurrence of over thirty thousand cases of small-pox, with the attendant deaths, is discreditable to the wisdom of the people among whom they occur. Failure to insist on the enforcement of a protective measure that has proved its effectiveness for almost a hundred years invites the reflection that even in as progressive a country as ours compulsory general vaccination may yet have to be adopted, as it has been in Germany, Japan, Cuba, Porto Rico and the Philippines. Protective vaccination against some other infectious diseases, as typhoid, cholera and plague, seems to be demonstrating its value, but has not yet reached the point of such absolute proof by repeated trial and voluminous statistics as in the case of small-pox. Failure to benefit by the application of this proved procedure probably tends to postpone the employment of other preventive or protective measures. Small-pox, the first of the infectious diseases in which successful preventive inoculations have been applied, should long ago have disappeared from the face of the earth, or at least from civilized communities.

SUDDEN DISASTER AND CONSTANT DISEASE

The nation has been shocked by another appalling disaster, this time in Pennsylvania. A dam built across a narrow gap between two hills to hold back a vast volume of water, suddenly gave way. The flood poured down the valley, carrying death and destruction with it. Reports indicate that from 40 to 50 lives were lost in a few minutes. A wave of sympathy swept over the country. Red Cross physicians and nurses hastened to the scene. Food, clothing, hospital supplies and money poured into the death-swept valley. Special trains loaded with supplies and men started for the town almost as soon as the news of the disaster was received. The State of Pennsylvania and the entire nation, if necessary, stood ready to relieve suffering and to save life, without regard to the cost in labor or money. All this is right; nor should it be otherwise. Yet how strange that our sympathies should be aroused to immediate and purposeful action by the loss of 50 lives in a sudden and unusual way, yet leave us callous and indifferent to the fate of thousands who die from preventable but familiar causes. A Johnstown flood, an Iroquois fire, a San Francisco earthquake, will convulse the world with horror, yet the death from preventable diseases of over 600,000 people in the United States each year excites little interest. The newspapers announce the Austin disaster with front page "stories" and enormous head-lines, yet the United States Census report for 1908 (the last one available) shows that in that year in Pennsylvania alone, 2,450 people died of typhoid, 1,920 of diphtheria, 8,703 of tuberculosis, and that 9,026 infants under 2 years of age died of infantile diarrhea, a total mortality of 22,099 from only four preventable diseases in only one state. So accustomed are we to these enormous losses through familiar diseases, that we accept them as a matter of course and as the inevitable lot of mankind. Yet each of these diseases is as preventable as was the Austin flood.

SANITARY CONDITIONS IN THE COUNTRY

It is well known that advances in public sanitation have been much more rapid and effective in cities than in rural districts. Surface privies, the ubiquitous fly, and the horse manure pile which is its chief breeding-place, all combine to maintain the prevalence of typhoid fever in rural districts on a practical equality with that of the cities in the same districts. Infantile diarrhea, dysentery and tuberculosis exist in the country to a degree seemingly out of proportion to the exposure to infected water and food supplies. Speaking generally, farm life perhaps deserves its reputation for health-giving qualities. In this respect it is potentially as nearly perfect as any reputed health resort. The conditions rendering country life unhealthful are such as could easily be overcome, and with far less expense to the individual than in the city. Sanitary privies are easily and cheaply constructed; kitchen garbage can be protected from flies at a nominal cost, and the chief breeding-places of the fly can be rendered inaccessible without great trouble. The two factors most essential to a betterment of conditions are a campaign of education in sanitary matters among the people themselves and a more efficient organization of the local sanitary police force of the rural districts. As an example worthy of emulation, the work undertaken a few years ago by the New York State Department of Health is to be commended. Since 1907 it has carried on a system of inspecting summer resorts to determine any existing insanitary conditions which might be detrimental to the health of guests and to arrange for the amelioration of such conditions. The work of inspection each year has been confined to summer hotels and boarding-houses having accommodations for more than twenty-five persons, which are not connected with municipal water-supply and sewerage systems. During 1909, 259 out of 307 such resorts were found to maintain unhealthful conditions. The fault was generally in connection with privies and sewage disposal, though unsatisfactory water-supplies, defective plumbing and manure piles came in for a share of the censure. The matter of improving the sanitary condition of these 259 resorts was taken up with their proprietors, and as a result 156 had their places in good order during the inspection of the summer just past, leaving 103 of the original 259 still open to criticism. A list of these insanitary resorts is printed in the *Monthly Bulletin*.[1] The name of the resort, its location and its specific sanitary inadequacies are all placed in tabulated form on the first page. As this publication enjoys a large circulation among the laity, this ought to be a most efficient way of influencing the proprietors of these places to remedy the evil conditions. Practically every public library in the city of New York and throughout the state has the *Bulletin* in a conspicuous place on its reading-tables and in this way there is a "black list" of undesirable resorts at all times open for public inspection. Other states might profitably follow the example of New York. This work should also have a salutary effect in inducing non-resort rural communities to improve general sanitary conditions.

PRIZE CARTOONS

The Committee on Scientific Exhibit of the American Medical Association offered a prize of $200 for the best series of cartoons that should be exhibited at the Los Angeles session. The prize was awarded to Mr. Charles Batchelor, of Kansas City, who exhibited six cartoons. Although this was the first time such an offer had been made, the response was most gratifying: twenty-five contestants exhibited over 150 cartoons. The first of the series we published last week, and the second appears in this issue. It is the plan to print one each week hereafter until the series is completed. Arrangement has been made for the continuance for some time of other cartoons that will be of general medical interest.

Medical News

ILLINOIS

New Hospital.—The new Sparks Hospital, Carlyle, was formally dedicated, September 21. The hospital occupies site of the Lucas residence, to which an extensive addition has been built.

Personal.—Dr. John Haig, Le Roy, was injured recently by falling down a grain chute in an elevator.——Dr. Charles B. Dirks, Kankakee, has been appointed acting superintendent of the Elgin State Hospital.——Dr. Josiah M. Cody, Tremont, has been reappointed physician of Peoria County.

Chicago

Spinelli at Chicago.—Dr. Pier Giuseppe Spinelli, professor of gynecology of the Royal University of Naples, Italy, who has been visiting the Mayo Clinic at Rochester, Minn., is visiting in Chicago, and has been entertained by his countrymen and by the local medical association.

Personal.—Dr. and Mrs. Charles Adams, Dr. Vernon C. David, Dr. and Mrs. Glenn M. Hammon, Drs. Addison E. Elliott and Elmer L. Kenyon have sailed for Europe.——Dr. and Mrs. Arthur Geiger, Dr. and Mrs. L. L. McArthur, and Dr. Stephen C. De Veny have returned from Europe.——Dr. George J. Spencer, city physician, is reported to be seriously ill with pneumonia.

New German Hospital.—Plans have been approved for a new building to be occupied by the German Hospital of Chicago. The present building will be pulled down, and a new one erected. Mrs. Conrad Seipp has given $150,000 toward the improvement of the hospital in memory of her son and husband and this has been augmented by gifts from other friends of the institution, aggregating $100,000.

INDIANA

Asks for an Assistant.—Dr. J. P. Simonds, head of the pathological laboratory of the State Board of Health, Indianapolis, has asked for an additional pathologist, to be assigned to duty October 1.

Alumni Organize.—About forty alumni of the Kentucky School of Medicine held a meeting at the Denison Hotel, Indianapolis, during the meeting of the State Association, and formed a permanent organization. Dr. James B. Duncan, of Bedford, Ind., was elected president, Dr. Thomas C. Kennedy, of Indianapolis, secretary, and Dr. Daniel C. Peters, of Greentown, treasurer.

Defense Fund for Physicians.—The creation of a defense fund for the legal protection of physicians who are made the victims for suits for alleged malpractice was the most important matter before the house of delegates of the State Medical Association. The report of the committee as adopted provides that 75 cents should be set aside from the annual dues of each member for the defense fund. This will bring in about $1,800 a year.

Personal.—Dr. William W. Kemper, Muncie, has given up the practice of medicine and has moved to his farm near Lancaster, Ohio, where he will engage in agricultural pursuits.——Dr. Victor V. Bacon, Michigan City, secretary of the local board of health, is about to leave Michigan City and settle in Spokane, on account of the health of Mrs. Bacon.——Dr. Asa W. Brown, health officer of Bluffton, has resigned.——The condition of Dr. Adoniram J. Banker, Columbus, who is seriously ill at a sanatorium in Indianapolis, is reported to be improved.

State Society Meeting.—The Indiana State Medical Association met in annual session at Indianapolis, September 27, 28, 29. More than 700 physicians registered at the meeting and a medical achievement banquet was given on the night of September 28. This banquet was notable on account of the fact, although there were several thousand present, yet hundreds were turned away for lack of room. The principal speaker was Dr. Harvey W. Wiley, who spoke on "The Public Health Our Greatest Asset." Indianapolis was chosen as the meeting place for next year, and the following officers were elected: president, Dr. William F. Howatt, Hammond, Ind.; vice-presidents, Drs. George E. Keiper, Lafayette, Bader S. Hunt, Winchester, Dr. Thomas F. Spink, Washington, and secretary, Dr. Charles N. Combs, Terre Haute (reelected); delegates to the American Medical Association, Drs. J. Rilus Eastman, Indianapolis, and Edwin Walker, Evansville; and alternates, Dr. William R. Davidson, Evansville, and Dr. George R. Osborn, Laporte. Dr. Osborne also was elected as the tenth district member of the board of councilors, this being the only change in the board. A resolution was adopted by the house of delegates creating a new section of the association. It will be known as the eye, ear, nose and throat section, and it will hold sessions at the meeting next year.

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[1] Monthly Bulletin N. Y. State Department of Health, August, 1911

MARYLAND

Monument for Revolutionary Surgeon.—The grave of Assistant Surgeon Richard Waters of the Maryland Line Continetal Army at Laytonsville is to be marked by a monument. The ceremony will take place October 7, and will be under the charge of the Daughters of the American Revolution.

Hospital to be Opened.—The new Havre de Grace Hospital will be formally opened, October 16. The new institution is located in the old Baker Home, which has been remodeled at the cost of $12,000, and later a $6,000 addition will be built. Among the directors are Drs. James Lee Hopkins, secretary, and Frederick W. Steiner.

Personal.—Dr. Charles L. Mattfeldt has been elected president of the Catonsville Country Club.—— Dr. Harry F. Shipley, Granite, who was recently a patient at the University Hospital, Baltimore, has recovered and returned home.——Rt. Rev. Luther B. Wilson, M.D., has recovered from his recent attack of African fever and has gone to Syracuse, N. Y.

Baltimore

To and from Europe.—Drs. William M. Dabney and George H. Everhartd have sailed for Europe, and Drs. Emil Novak, Anton G. Rytina, John Ruhräh and William C. Baer have returned from abroad.

Kelly Recovered.—Dr. Howard A. Kelly left Rochester, Minn., September 21 for his camp at Indian Point, 150 miles northwest of Toronto, Ont., and he expects to return to Baltimore about the end of October.

New Department in the University.—A new department is to be inaugurated in Johns Hopkins Hospital this fall, namely that of art as applied to medicine. It will be under the charge of the associate professor Max Broedel, who has had charge of the medical illustration department of the hospital for several years. Two classes are to be provided for medical students and artists. The purpose of the department is "to bridge over the gap existing between art and medicine, and to train a new generation of artists to illustrate medical journals and books in the future, and to spare them the years of trial and disappointment of their self-taught predecessors."

Personal.—Drs. Mary Sherwood and Joseph E. Gichner have been reappointed members of the Public Bath Commission.——Dr. Christian Deetjen has recovered from the operation which he underwent at St. Agnes' Hospital in June last for *x*-ray burns. Fourteen of these spots were removed from the hands of Dr. Deetjen and replaced by fresh skin grafts from the thighs of the patient.——Dr. Willis D. Gatch has resigned from the staff of Johns Hopkins Hospital to become professor of surgery in the Indianapolis Medical College.——Dr. J. P. Pratt has been made assistant resident surgeon in Johns Hopkins Hospital, and Dr. W. E. Dandy has been appointed assistant to Dr. Harvey W. Cushing.

MICHIGAN

Personal.—Dr. Herman H. Ruonavaara, Calumet, has given up general practice in order to study through the winter.——Drs. John E. Handy, Caro, and John G. Maurer, Watrousville, sustained cuts and bruises in an automobile accident, near Watrousville, September 19.—Drs. John H. Kellogg and James T. Case, Battle Creek, have sailed for Europe.

Physicians Honor Carstens.—A complimentary banquet was given to Dr. John Henry Carstens of Detroit, by his colleagues, September 27, in honor of his service in contributions to the medical profession. Dr. Henry O. Walker, Charles G. Jennings and Eugene Smith acted as toastmasters. The toasts took up various characteristics of Dr. Carstens. Dr. Theodore A. McGraw spoke of him as a student, practitioner and surgeon. Dr. Colonel B. Burr, Flint, president of the state medical society, spoke of Dr. Carstens' service to the profession of the state of Michigan. Dr. Joseph L. Hudson, Detroit, one of the managers of the Harper Hospital, eulogized Dr. Carstens as a hospital chief and citizen. Dr. Ernest L. Shurly, Detroit, spoke of Dr. Carstens as a friend and colleague, and Walter Hume Sawyer, Hillsdale, regent of University of Michigan, has as his subject, "Specialties." Governor Osborn paid a high tribute to the entire medical profession, and closed by saying: "Here to-night you are recognizing a master among you and that proves that you are all masters in your profession."

MISSOURI

Applicants for License Must Have Clear Record.—The State Board of Health has instituted a system of checking the courses in medical colleges taken by applicants for license to practice. Whenever it appears that any one of the courses has been taken in a college not on the accredited list the applicant will be denied the right to take the examination.

Dr. Wheeler Sustained.—The Hospital and Health Board of Kansas City has exonerated the health commissioner, Dr. Walter S. Wheeler of all charges brought against him by the milk producers' association. The board praised the work of Dr. Wheeler; it declared there had been no favoritism in dealing with dairymen, and that the milk-supply of the city was much better than it was before the campaign which Dr. Wheeler started. The investigation was ordered by the mayor on complaints brought by the milk producers' association.

St. Louis

Local Schools Disqualified.—The daily papers of October 1 and 2 announce that Barnes University and the College of Physicians and Surgeons, which are preparing to consolidate, were stricken off the list of approved schools by the State Board of Health, September 30, on account of numerous deficiencies. Inadequacies in methods of teaching were disclosed, and the laboratories of both are said to have been found defective, and the records so incompletely kept as to give no positive evidence as to the completeness of the course their students have been receiving.

Wiley Addresses City Club.—Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, was entertained at luncheon by the City Club, September 27. About 400 members attended and listened with rare appreciation to the address Dr. Wiley delivered on "Public Health the Nation's Greatest Asset." He declared that the most precious thing in St. Louis was its citizenship. He said the average human adult costs his parents and the state $12,000 and the annual loss through deaths from preventable diseases would far out-total the capital of all the banks and public utilities in the city. He made a strong plea for the conservation of the health of the people.

NEBRASKA

Asylum Changes.—The governor of Nebraska announced September 28 that he would retain Dr. Benjamin F. Williams as successor to the late Dr. John T. Hay, superintendent of the Nebraska Hospital for the Insane, Lincoln, until Jan. 1, 1912, and that he will then appoint Dr. Gustav W. Dishong, superintendent of the institution.

NEW YORK

Personal.—Dr. Arthur E. Soper of Northport has been appointed junior physician at the Manhattan State Hospital. ——Dr. Fred M. Meader, Syracuse, has succeeded Dr. Willis W. Waite, as bacteriologist of Syracuse.

New Pavilions for Tuberculosis Patients.—Two new pavilions were opened on September 26 at the State Hospital for Incipient Tuberculosis at Raybrook, on which occasion bronze tablets were unveiled in each pavilion. That in one of the pavilions commemorates the work of Dr. John H. Pryor of Buffalo and that in the other that of the late Dr. Willis G. MacDonald of Albany. The cost of these pavilions was about $200,000 and doubles the capacity of the institution, making it possible to care for 600 patients annually. A new home for the help to cost $65,000 is also being erected on the grounds.

New York City

Personal.—Dr. Thomas E. Satterthwaite has returned from Europe.——Dr. Walter Lester Carr has been elected president of the American Pediatric Society, and not Dr. Augustus Caille, as erroneously stated in The Journal of July 1.——Drs. Delmer H. Durgin, Richard G. Eaton and Joseph H. Shufelter have been appointed junior physicians of the King's Park State Hospital.

Harvey Society Lectures.—The Harvey Society announces that during October the following lectures will be given at the Acadmey of Medicine at 8:30 p. m.: October 7—"Local Specific Therapy of Infections," by Dr. Simon Flexner of New York; October 14—"Chemical Structure of the Cell," by Prof. Albrecht Kossel, Heidelberg; October 28—"Anesthesia," by Prof. Max Verworn, Bonn, Germany.

Diseases in Books.—Dr. Samuel D. Hubbard of the Board of Health in speaking before the New York Library Association warned against the dangers of spreading disease through the circulating library. He thought that every library should have a corps of inspectors whose duty should be subject to a rigid examination of all books returned. All those which bore suspicious-looking marks should be destroyed and all books should be disinfected at frequent intervals.

To Study Tropical Diseases.—The New York Post-Graduate Medical School and Hospital is preparing to send out an expedition next spring for the purpose of studying tropical diseases. A special fund of $15,000 for this purpose has been donated by Col. Robert M. Thompson of this city and John H. McFadden of Philadelphia. Capt. Joseph F. Siler, M.C., U. S. A., lecturer on tropical diseases, will have charge of the expedition and is actively engaged in the preliminary work.

The Common Drinking Cup Prohibited.—The new provision of the Sanitary Code of the Board of Health reads: The use of a common drinking cup or receptacle for the drinking of water in any public place or in any public institution, hotel, theater, factory, public hall, or public school, or in any railroad station or ferry house in the city of New York, or the furnishing of such common drinking cup or receptacle for use in such place is hereby prohibited. . . . The same to take effect on and after the first day of October, 1911.

Low Infant Mortality.—The department of health announces that for the week ended September 23, there were 324 deaths from all causes of infants under 1 year of age in Greater New York as compared with 343 for the same period in 1910. From January 1 to September 23 there have been 11,442 deaths of infants under 1 year of age, as compared with 12,603 for the same period of 1910. This is a reduction in the number of deaths of 1,161, so that the agencies which started out early in the year to save 1,000 infants may be considered as having succeeded in their effort.

Will Continue Pure Food Fight.—The Pure Food and Drug Department of the National Civic Federation, of which Seth Low is president, held two meetings in the rooms of the New York Board of Trade on October 2. At this time the following questions were up for consideration: "What is the Actual Situation in This Country with Reference to the Enforcement of the Federal and State Pure Food and Drug Laws?" and "What Legislation and What Changes in Administration will More Effectually Safeguard the People Against Alleged Food and Drug Adulterators, Misbranders and Short-Weighers?" Dr. Thomas Darlington, New York City, Dr. Harvey W. Wiley, Washington, D. C., and Dr. William C. Woodward, Washington, D. C., were speakers on this occasion.

OHIO

Health Boards to Convene.—The thirty-first conference of the Ohio State Board of Health with representatives of local health boards will be held at the Sinton Hotel, Cincinnati, October 19 and 20.

Personal.—Dr. Samuel S. Thorn, for more than fifty years a surgeon of Toledo, was the guest of honor at a banquet, September 22, tendered by the Toledo Academy of Medicine, on the occasion of his eightieth birthday anniversary.——Dr. W. W. Peter, Toledo, sails this month for China as a medical missionary of the Evangelical church.——Dr. and Mrs. Dudley P. Allen, Cleveland, have reached San Francisco on their return from the Orient.

Antituberculosis Society Election.—At the annual meeting of the Ohio Society for the Prevention of Tuberculosis, held in Columbus, September 9, the following officers were elected: Dr. John H. Lowman, Cleveland, president; Drs. Walter W. Brand, Toledo, and Frank Warner, Columbus, vice-presidents; Dr. Henry Baldwin, Springfield, secretary; and Foster Copeland, Columbus, treasurer. The following physicians were elected members of the board of directors: Drs. Robert H. Bishop, Cleveland; Charles O. Probst, Columbus; Edward V. Hug, Lorain, and Harry E. Welch, Youngstown; John S. Beck, Dayton; Clayton B. Conwell, Cincinnati; Ralph P. Daniells, Toledo; Horace Bonner, Dayton; Otto P. Geier, Cincinnati; Esther M. Tyrrell, Canton, and James B. Poling, Lima.

PENNSYLVANIA

Personal.—Dr. A. Chester Wolfe, Ridley Park, sustained a fracture of two ribs, and severe lacerations and contusions in an automobile accident, September 23.——Dr. Daniel P. Maddox, chief of the surgical staff at the Crozier Hospital, Chester, who suffered from a fracture of the skull, while alighting from an automobile, September 26, is reported to be doing well.

State Society Meeting.—The sixty-first annual session of the Medical Society of the State of Pennsylvania was held in Harrisburg, September 25-28. At the meeting of the House of Delegates, September 27, the following officers were elected: president, Dr. James Tyson, Philadelphia; vice-presidents, Drs. Hugh Hamilton, Harrisburg; Walter F. Lathrop, Hazelton; George W. Kehl, Reading, and Howard C. Frontz, Huntingdon; secretary, Dr. Cyrus L. Stevens, Athens (reelected); treasurer, Dr. George W. Wagoner, Johnstown; delegates to the American Medical Association, Drs. George W. Guthrie, Wilkes-Barre; Theodore B. Appel, Lancaster, and John B. Lowman, Johnstown; alternates, Drs. Wilmer Krusen, Philadelphia; George D. Nutt, Williamsport; George R. S. Corson, Pottsville; Americus R. Allen, Carlisle, and Henry D. Jump, Philadelphia; A. Wayne Baugh, Paoli; George G. Harman, Huntingdon; John C. Gilland, Greencastle; Lowell M. Gates, Scranton, and Philip Y. Eisenberg, Norristown. On September 28, the following trustees were elected: Drs. William T. Staples, West Chester; Frederick L. Van Sickle, Olyphant, and Dr. Alem P. Hull, Montgomery. At the meeting of the house of delegates on September 28, the following resolution endorsing Dr. Harvey W. Wiley was passed: "Resolved, That the Medical Society of the State of Pennsylvania commends the work of Dr. Harvey W. Wiley as chief of the Bureau of Chemistry of the Department of Agriculture for his earnest efforts to enforce the pure food and dairy laws of the United States." Scranton was selected as the place of meeting for 1912.

Philadelphia

Personal.—The following physicians have returned from Europe: Drs. James M. Anders, Henry K. Gaskill, J. Nicholas Mitchell and G. Oram Ring.——C. P. Decker sailed for Europe on September 30.

Medical Club Reception.—The first reception of the Medical Club of Philadelphia for the year was given at the Bellevue-Stratford Hotel, October 6, in honor of the recently elected professors of the University of Pennsylvania: Drs. Gwilym G. Davis, John B. Deaver, M. Howard Fussell, Milton B. Hartzell, Edward Martin, A. M. Pearce, A. H. Richards, Alfred Stengel and Alonzo E. Taylor.

Baby Hospitals Close.—The Chestnut Street Pier Hospital and "The Babies Hospital" in the park closed October 1. According to the report of the department of health, 10,000 babies and 6,000 mothers received attention of the physicians and nurses at the Chestnut Street Pier up to September 15. Babies received treatment and food, and the mothers were taught the care of infants and how to "modify" milk. The cost of this work was less than 7 cents a day per head.

WISCONSIN

Free Antityphoid Vaccine.—Dr. Mazyck P. Ravenel, head of the department of bacteriology in the State University of Madison, and director of the state laboratory, announces that beginning December 1, antityphoid vaccine will be supplied to physicians of the state free of charge.

Health Bulletins Planned.—The committee on hygiene of the University of Wisconsin plans to issue twelve bulletins during the academic year, for the benefit of the students, dealing with such subjects as the care of the feet, rest and exercise, the use of "patent medicines," and the care of the throat, mouth and teeth, etc.

Sanatorium Plans Approved.—The plans for the new Fond du Lac County Tuberculosis Sanatorium, as submitted by the board of control, were approved at a joint conference of the special county board committee, with Dr. Frisbie of the State Board of Control, and Miss Edyth L. M. Tate of the Wisconsin Antituberculosis Society.

State Convention to Meet.—At the annual meeting of the Wisconsin Antituberculosis Association to be held in Milwaukee, October 13, reports from twenty Wisconsin cities on the antituberculosis work in their respective districts will be grouped under the head of "A Bird's-Eye View of the Crusade." The chief speaker will be Dr. Richard C. Cabot, Boston.

Advocates Convalescent Farm.—The State Tuberculosis Commission is considering the purchase of a plot of ground 40 acres in extent, near Milwaukee, for market gardening. The raising of poultry and garden truck is considered by many members as the most feasible solution of the problem of securing work for patients who have suffered from tuberculosis, and have been discharged as apparently cured.

Personal.—Dr. Fernando C. Mock, Milwaukee, has been elected chancellor and Dr. John A. Winters, La Crosse, national sentry of the Yeomen of America.——Dr. John V. R. Lyman, Eau Claire, broke two ribs and sustained other serious injuries in a collision between his automobile and a street car, September 24.——Dr. Robert A. Kitto, Racine, who was seriously injured in an automobile accident, is reported to be convalescent.——Dr. Aart Van Westrienen, Kenosha, caught his left hand in the gearing of his automobile, September 23, and fractured and lacerated the fingers of the hand.——Dr. Warner B. Strong, Health Commissioner of Waukesha, has resigned and will remove to St. Martins.——Dr. David W. Ashum, Eau Claire, who is ill at the Sacred Heart Hospital, is reported to be convalescing.

GENERAL NEWS

Leper Deported.—Aeieto Paleby, a Philippino leper, who has been held in isolation in Washington for six months, was deported on the transport *Dixon* which sailed from Seattle for Manila, September 15.

District Association Meeting.—The fall meeting of the Iowa and Illinois Central District Medical Association will be held in the Harms Hotel, Rock Island, Ill., October 12, under the presidency of Dr. Herbert M. Decker, Davenport.

Army Medical School Opens.—The Army Medical School, Washington, opened for its regular term, October 2. Fifty-eight candidates for appointment for the medical corps, who have successfully passed the examination, reported for duty.

Health Experts' Conference.—The annual conference of the New York State Department of Health will be held in New York City, October 25. Health departments of adjoining states will be represented by delegates. E. J. Lederer, Health Commissioner of New York City, will speak on the "Activity of the Health Department."

Health Lectures in Canal Zone.—A series of health lectures is being given in Colon, under the auspices of the Cristobal Women's Club, and the success of the series has been so marked that it is probable that similar lectures will be given in the other American villages in the zone. The first lecture was on tuberculosis and was illustrated; the second was on the typhoid germ and the danger of the house fly.

National Conservation Congress.—At the third meeting of the National Conservation Congress held at Kansas City, September 26, the congress adopted resolutions approving the work of the United States Government in improving sanitary conditions and in lowering the death-rates of Cuba, the Philippine Islands and the Canal Zone; expressing satisfaction that in 1911 the national government, through its wise provisions for the maneuver division of the United States Army operating in Western Texas, demonstrated that the achievements in health and life security found possible in Cuba, the Philippine Islands and the Canal Zone, are possible with Americans on American soil; calling on our national, state and municipal governments to accomplish the same results for the people of the United States; calling attention to the fact that the national government, in the Canal Zone of Panama, has demonstrated that Caucasians, properly directed, can work in the tropics and semi-tropics without loss of efficiency; expressing the opinion that this is one of the monumental discoveries of the age; endorsing the efforts of the hookworm commission and all other efforts, governmental and extra-governmental, for increasing human efficiency through promotion of physical welfare, and calling on our governments—national, state and municipal—to increase their activities along these lines; favoring a child welfare bureau as a part of the health department of the national government, and each state and municipal government endorsing the plan of bringing together, under one direction, the various human health activities of the United States Government as a coordinated branch of its administrative work, divorced from the impediment of being a part of other administrative work of an entirely different character and conducted for entirely different purposes—this in order that the efficiency of the service may be increased to a point in some degree commensurate with its importance; protesting against the present rank neglect of health and life security, and of work for physical efficiency by the national, state and municipal governments, asking that they be given that study and care that has proved so broad an economy in the case of live stock and farm crops, and reaffirming its belief in the health conservation principles and methods endorsed by the Second National Conservation Congress. Other resolutions were also adopted, one on the pollution of streams, by sewage and trade wastes, which called on all governments to pass legislation to prevent the pollution of all waters and coast waters, and to formulate regulations regarding the pollution of streams, conforming to the requirements of the law already in force in Pennsylvania; and also one amplifying that of the American Medical Association, advocating that public health be taught in all schools and enumerated ten conditions against which there should be legislative and administrative action. These included blindness of infants, birth accidents, infant mortality, communicable diseases of childhood, work by immature children, occupational diseases and occupational accidents, especially transportation and mining. The congress emphatically showed its approval of the national department of health, by tabling by an almost unanimous vote a motion to strike out an endorsement of such a department. The speeches best received were those on medical subjects and that of Dr. Harvey W. Wiley received more applause than any other address presented. The address by Judge Ben Lindsay of Denver on "The Care of the City and Country Child," also received much attention. He considered chiefly the physical side, the diseases of childhood and infant mortality and the neglect of the health side of the child. The suggestion for a national child's bureau was formulated. It must be understood that this congress was chiefly devoted to soil conservation and soil fertility and most of the delegates were connected with farming, mining, forestry and water interests, and that these problems consequently were chiefly in evidence.

International Pure Water Association.—The Great Lakes Basin International Pure Water Association was organized in Chicago, September 29, and the following officers were elected: President, Dr. Clyde E. Ford, health officer of Cleveland, O.; vice-president, Dr. Chas. J. C. O. Hastings, health officer of Toronto, Ont.; secretary, Prof. Edward Bartow, Urbana, Ill.; editor, Dr. William A. Evans, Chicago; and member of the executive committee, Dr. Francis E. Fronczak, Buffalo, N. Y. The reason for the formation of the association is the growing pollution of the water of the Great Lakes.

Railway Surgeons to Meet.—The American Association of Railway Surgeons will hold its annual meeting at Hotel La Salle, Chicago, October 18-20, under the presidency of Dr. A. R. Mitchell, Lincoln Neb.——The twenty-first annual session of the New York and New England Association of Railway Surgeons will be held at the Hotel Astor, New York City, November 16, under the presidency of Dr. Frederick A. Goodwin, Binghamton, N. Y.——The tenth annual meeting of the Association of Seaboard Air Line Railway Surgeons will be held in the New Willard Hotel, Washington, October 17-18, under the presidency of Dr. Jarvis G. Dean, Dawson, Ga.

Railway Surgeons in Session.—The fourth annual meeting of the Railway Surgeons' Association of the Pennsylvania Railroad Lines East of Pittsburgh, was held at Atlantic City, N. J., September 22-23, under the presidency of Dr. Spencer M. Free, Du Bois, Pa. The following officers were elected: president, Dr. Laban T. Bremerman, Dowington, Pa.; vice-presidents, Drs. Edward B. Heckel, Pittsburgh, Pa., and Dr. E. E. Harrison, Baltimore, Md.; secretary, Dr. Amos W. Colcord, Clairton, Pa. (reelected), and treasurer, Dr. Eugene H. James, Harrisburg, Pa. (reelected). It was decided to hold the next meeting in Atlantic City, just prior to the meeting of the American Medical Association.

Academy Meeting.—The sixteenth annual session of the American Academy of Ophthalmology and Oto-Laryngology opened in the convention hall of the Claypool Hotel, Indianapolis, September 25, with Dr. John J. Kyle, of Indianapolis, as president. The annual address was given by Dr. Albert Gray, of Glasgow, his subject being "The Problem of Otosclerosis and Allied Conditions." In recognition of his contributions to otological science he was elected an honorary member of the Academy and awarded a gold medal. On Monday evening occurred the annual dinner. The following officers were elected: president, Dr. George F. Suker, Chicago; secretary, Dr. Lee M. Francis, Buffalo; treasurer, Dr. Secord H. Large, Cleveland; vice-presidents, Drs. John W. Murphy, Cincinnati, Edward C. Ellett, Memphis, Tenn., and Thomas E. Carmody, Denver, and councilors, Drs. Emil Mayer, New York, James M. Ray, Louisville. Resolutions advocating separate rooms in public schools for children with defective vision and inspection of all public school children with the aim of conserving their sight and hearing were adopted. The next meeting will be at Atlantic City or Chattanooga.

FOREIGN NEWS

Retirement of Kernig.—The chief of the Obuchow hospital for women at St. Petersburg, Dr. W. Kernig, has retired after forty-seven years of service. The city authorities have appointed him for life as consulting physician to the hospitals and on the board of hospital medical directors. Kernig's name is best known by his sign of meningitis.

Cholera in Europe.—According to *Public Health Reports*, September 22, there were sixty-three cases of cholera in Naples the week ending September 2, 220 cases in Leghorn, and 1,377 cases throughout Italy with 613 deaths. The total for Italy June 8 to September 15 has been 10,397 cases and 4,123 deaths. The cable has reported rioting and "rescue" from the doctors of cholera patients from the hospitals in two towns in the extreme south of Italy. The hospital at Massafra was set on fire by the mob and two cholera patients were burned and one of the doctors was seriously wounded. It is significant that none of our Italian medical exchanges mentions even the presence of cholera in Italy this year. They chronicle the appearance of cholera at various points in Turkey and other countries, but when it comes to Italy—"Nice weather we are having." This reticence to date has been so universal and complete that it suggests compulsion. The only reference to the cholera that we have noticed in any of our Italian exchanges is a quotation from a daily paper relating an interview with Professor Sclavo in regard to the campaign against cholera last year of which he had charge. He said "Bacteriologic skill is not needed so much in fighting an epidemic as good practical common sense. In our campaign we were constantly at work, in the schools, factories, prisons and in families, lecturing, talking and distributing circulars giving simple plain directions for hygiene, a hygienic ten commandments. Our force was constantly on the go, talking and interrogating everyone, on the streets, in the market places, in street cars, etc., asking questions and inculcating the principles of hygiene in old and young, adults and children. Local hygiene propaganda committees were organized everywhere which did most valuable service, and prizes of $1 or $2 were given for the best cleaned up houses and families."

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, Sept. 15, 1911.

Contraband Trade in Saccharin

Following the recent drought there has been a shortage in the beet-sugar crop in Germany and Austria as well as in France, and it is now likely that saccharin will again make its appearance on the market. Its manufacture and use are not, however, permitted in France, except for pharmaceutic purposes, and then only under strict oversight by the customs officials. Unfortunately, however, it has always been difficult to prevent smuggling across the Belgian frontier from Holland and across the eastern frontier from Switzerland. Still, thanks to the supervision exercised, smuggling is comparatively slight in France, especially compared to that practiced in Russia, where the use of saccharin is likewise forbidden. In view of the existing difficulty—her boundaries being entirely of land—in the struggle against smuggling, Russia has taken the initiative in forming an international conference to take measures against this smuggling which is so disastrous both from the point of view of public health and of money interests. This conference was held at Paris. Germany, Austria, Belgium, Denmark, Greece, Holland, Hungary, Italy, Portugal, Russia, Sweden and Switzerland were represented. The propositions suggested by France were unanimously accepted. It was not a question of keeping watch over smuggling, but simply of the right of control over the firms which manufacture saccharin (Switzerland has six, Germany two and Austria one), of supervising the manufacture and of seeing that the product crosses the frontiers only under properly guaranteed conditions. Representatives from the different powers which took part in the conference will meet in Paris about October 1 to sign the decisions agreed on, and thus it is hoped that smuggling of saccharin will be definitely done away with.

The Prevalence of Heat and Odors at Paris

In spite of the advanced season, the heat continues in Paris, the temperature in the afternoon being as much as 34 C. (93 F.), and at the middle of the day about 10 degrees higher than the normal. In addition to the normal inconveniences of extremely hot weather, there are also those of scarcity of water on the one hand, and on the other the bad odors which permeate the city. On several occasions the water department has been obliged to shut off the supply of water from midnight until 6 o'clock in the morning. As to the odors, they are most noticeable around the manufactories in the suburbs. It is true that for fifteen years the prefect of police has not authorized the opening of a single ill-smelling factory, but unfortunately those already existing continue to operate, and their inconveniences are particularly felt at this season.

Death of Professor Girod

The death of Dr. Paul Girod, professor of natural history at the Ecole de médecine de Clermont, is announced.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, Sept. 15, 1911.

Personal

After Professor Sauerbruch, now at Zurich, had declined the call to be director of the surgical clinic at Königsberg, the invitation was extended to Professor Friedrich of Marburg. It is doubtful if he will accept.

September 13, Professor Leopold, director of the royal gynecologic clinic at Dresden, died at his summer home. He had reached the age of 65. Leopold belonged among the most prominent gynecologists. He was a pupil of the well-known Leipsic gynecologist, Credé. In 1874, Leopold joined the Leipsic faculty and in 1883 he succeeded Professor Winckel as director of the Dresden gynecologic clinic after Winckel had accepted the position of director of the university gynecologic clinic at Munich. Leopold has published a large number of scientific works. We may mention his studies of the uterine mucosa, of the scoliotic pelvis, of Cesarean section in artificial premature labor, and of the structure of the placenta. The latest edition of the Saxony official manual for midwives was prepared by him. Since 1894 he has belonged to the editorial staff of the *Archiv für Gynäkologie*. He married a daughter of Credé.

International Congress for Laryngology

In the latter part of August and the early part of September, the third international congress of laryngology held its sessions here. About 400 members assembled from all countries and the scientific proceedings were very active. To be sure no great subjects were debated and, so far as known, no new inventions were presented. It is worth noticing that the congress appointed a special committee to introduce a collective investigation of ozena and report to the next congress which will meet in Copenhagen in 1915. As is the custom, there were a number of banquets which were chiefly instituted by the laryngologic society of this place. It should not go unmentioned that the badge of the congress contained as an important feature the reflector of a laryngeal mirror. This innovation opens a fruitful perspective for future congresses; we may expect at the next gynecologic congress that the badge will represent a pair of forceps or some other characteristic object.

Infant Mortality this Year During the Great Heat

The extraordinarily high temperature of the past summer, as was to be expected, resulted in a great increase in infant mortality. This is shown by a compilation recently published by the director of the bureau of statistics of our neighboring city Schöneberg. In the first two weeks of July there were 1,031 and 1,200 deaths of infants and even the week from July 16 to 22, which in many places produced unbearably hot days, required only 1,368 victims, which is less than the average of August of last year. But in the week from July 23 to 29 the number increased to 2,539 and then rose to 2,866, reaching in the week of August 6 to 12 its highest point, 3,381. The heat abated the following week, but this was unable to diminish the toll of deaths to any considerable extent, for still 3,307 children succumbed; it was not until the week of August 20 to 26 that the number of deaths fell to 2,856.

For all the larger German cities, the mortality for the two weeks from August 6 to 19 was three times as high as from July 2 to 15. In some of the large cities, particularly in the Rhine provinces, the difference was even greater. In Aix la Chapelle, Krefeld, Mülheim and Plauen from August 6 to 19 from five to seven times as many children died as from July 2 to 15, and in Düsseldorf and Hamborn from five to six times as many. In Hamborn and Chemnitz the infant mortality in the week from July 13 to 19 reached a height equivalent to an annual mortality of more than 100 per cent. The same was true of Leipsic in the week of August 6 to 13 and of Erfurt for the week of July 23 to 29. In the five weeks period from July 23 to August 26 the mortality was highest in Leipsic, being 88.5 per cent., Duisburg 81.8 per cent., Hamborn 80.7, Chemnitz 78.0, Erfurt 74.3, Aix la Chapelle 74.0, Cologne 73.2, and in Halle 71.3 per cent. In all these cities the babies were literally decimated in the short space of five weeks. The average mortality for the forty-eight larger cities was 45.2 per cent., more than double that in July and August of last year. In many large cities the increase was considerably greater. A smaller rate was found only in Kiel and Königsberg. If the mortality in the large cities of Germany had been the same as in the previous year, as many as 9,000 children would have lived who fell victims to the murderous heat.

Medical Care for the Members of Soldiers' Families

Since 1909 the management of the army has provided medical care for those belonging to the families of soldiers. Hospital treatment was given when deemed necessary by the army surgeon and the cost of board and nursing was charged to the empire. Furthermore specially educated medical officers are sent from other garrisons for special cases, operations, etc. While in the beginning these treatments were given only for life-saving operations it is now extended to a variety of cases in which hospital care is desirable. Provisions are also made for transporting the sick members of soldiers' families to sanatoria. The entire cost of the increased hospital treatment is estimated at $50.000 (200.000 marks) yearly, for which heretofore only 20.000 marks were appropriated.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, Sept. 23, 1911.

Care of Tuberculous Patients in Vienna

It was only a few years ago that our authorities and organizations grappled with the problem of controlling tuberculosis; nevertheless, the results obtained so far are very promising. First of all, two public sanatoriums have been erected, but, although equipped in up-to-date manner, they are generally admitted to be sadly insufficient, a large number of such institutions being needed. The Krankenkassen have instituted a special tuberculosis service for their members, and the relative importance of this service may be judged from the fact that of a population of 2,000,000, the three principal Krankenkassen alone count fully 400,000 (20 per cent.) as their members, and altogether about 50 per cent. of the wage-earning population is under the influence of the Kassen and thus may profit by the system, which may be described as follows: The physician is required to report each case of tuberculosis, or what he thinks may be an incipient case, to a central board, which causes the patient to be examined by a specialist. If found to be tuberculous and capable of treatment the patient is submitted to a course of tuberculin injections by a competent tuberculosis specialist, or, as the case may be, is sent to a convalescent home or a private sanatorium. In the meantime, his conditions of living are investigated, note is made of his environment, etc., so that the course of the disease may be controlled. Valuable information is thus gathered as to the ultimate fate of such patients. Thus in the "Gremial" Krankenkasse, which has a membership of 33,000, about 600 cases are on the control list, while the total number of tuberculous members is estimated at 1,500. Another large body is the Krankenkasse of the trade-unions, which has a membership of 300,000, and to which in 1909, about 15,000 notifications of illness and 600,000 days lost on account of tuberculosis were reported. This organization contributes fully one-third of all fatal cases in Vienna among persons over 15 years of age. Some 7,000 patients who were on the sick list for other reasons proved to be tuberculous, and 22,000 members of this organization may be estimated as tuberculous. One feature of the gigantic mechanism required is the appointment of specialists to treat with tuberculin all patients who are still able to work. This is as yet a huge experiment, having been in force only since January, 1911, though some of the organizations have already reported very favorably on the procedure. A centralized control has also been adopted here.

BUDAPEST LETTER

(*From an Occasional Correspondent*)

Budapest, Sept. 6, 1911.

Pellagra in Hungary

A recent report of the public health service of Transylvania (the southeastern part of Hungary), announces the appearance of pellagra which is spreading rapidly. As generally held here, the disease is due to eating damaged maize, and the prevalence of it is not surprising in view of the fact that maize is the staple food of the peasantry in this part of Hungary. The maize is rendered unwholesome by the modern intensive method of cultivation, the grain being harvested while still unripe, with the result that putrefaction occurs. In parts of Italy, especially in Lombardy and Piedmont, and also in Roumania, pellagra is even more common than in Hungary. The government of Hungary has distributed wheat flour among the indigent inhabitants of southern Hungary. The disease itself is by no means severe, though some patients suffer from mental disturbance which does not yield readily to treatment. Many of the sick with pellagra recover when supplied with wholesome food.

The Relation of Alcoholism to Crime

At a meeting of the Society of Medical Practitioners held on September 2, Dr. Gerö, medical expert attached to the law courts, reported that he has had to examine ninety-four individuals charged with homicide or attempted homicide. In this number there were six malingerers and four persons who were wrongly supposed to be the subject of mental defects. Of the remaining eighty-four criminals seventy were males and only fourteen were females. With regard to their condition of health, the following conditions were noted: one case of pregnancy with mental derangement, one case of morphinomania, one case of hysteria, nine cases of delusions of persecution, seven cases of various states of mental disorder, eight cases of hysteria or epilepsy, thirteen cases of various diseases either supposed or known to have an effect on the brain, ten cases of mental defect, and thirty-four cases of alcoholism.

Dr. Gerö emphasized the fact that the cases of alcoholism thus formed more than one-third of the total number of persons charged with homicide. He added that the influence of alcohol as a contributory cause of homicide would be seen to be even greater if, instead of a mere enumeration of accused individuals personally addicted to alcohol, an examination were made of the antecedents under other headings. This would show that many epileptics and mental defectives were the children of alcoholic parents. Gerö went on to say that acts of extreme violence might be committed not only by habitual inebriates but also by persons in a state of occasional alcohol intoxication, in illustration of which he quoted two cases.

Marriages

Herbert Lentz Freeland, M.R.C., U. S. Army, to Miss Emma E. Pritchard of Los Angeles, Cal., at Manila, P. I., August 14.

George Plummer Howe, M.D., Lawrence, Mass., to Miss Marion Dudley Endicott of Boston, Mass., September 20.

George B. Scholl, M.D., Baltimore, to Miss Ethel Waterbury Jones, at Drexel Hill; Philadelphia, September 20.

Wilfrid Adelard Plourde, M.D., Overly, N. Dak., to Miss Blance Desilets of Grandes Piles, Canada, September 4.

Bert Chamberlain Kern, M.D., Mogollon, N. Mex., to Miss Eva Jackson of Colorado Springs, Colo., September 27.

Edwin Luther Stevens, M.D., Des Moines, Ia., to Miss Mabel Quam Hilbish of Sheridan, Ill., September 21.

Francis R. Blanchard, M.D., Lakeview, Mich., to Miss Lottie Castle of Richland, Mich., September 20.

Walter Bayard Huey, M.D., El Campo, Tex., to Miss Caroline Jerusha Burry of Chicago, September 27.

Charles G. Mixter, M.D., Boston, to Miss Helen Worthington McIntosh of Milwaukee, October 5.

Martin Russ Edwards, M.D., Shanghai, China, to Miss Ethel Hooper of Chicago, September 27.

Snyder R. Miller, M.D., Windsor Hills, Baltimore, to Miss Nell Miller of Pittsburgh, September 7.

Edwin Janas, M.D., Los Angeles, Cal., to Miss Florence Cluff of San Francisco, September 12.

Carl Richard Bassler, M.D., Elkhart, Ind., to Miss Edna Hollinger of Pittsburgh, September 6.

Harry Lorenzo James, M.D., Springfield, Ill., to Miss Mildred Falk of Chicago, January 14.

Arthur H. R. Krueger, M.D., to Miss Grace Wolter, both of Carpentersville, Ill., September 27.

Harold A. Hume, M.D., Owosso, Mich., to Miss Nina Beebe of Ovid, Mich., September 20.

Albert Brewer Landrum, M.D., to Miss Flora Esther Rohe, both of Columbus, O., June 12.

C. Ben Wiley, M.D., to Miss Lucille Johnson, both of Winkelman, Ariz., September 14.

Bert P. Cole, M.D., to Miss Rose M. Persinger, both of Kenney, Ill., September 8.

William Jason Mixter, M.D., to Miss Dorothy Fay, both of Boston, September 21.

Angus MacIver, M.D., Marysville, O., to Miss Gladys Jewell, of Peoria, September 21.

Walter L. Clay, M.D., to Miss Meta Henderson, both of Hannibal, Mo., recently.

Amzi S. Plummer, M.D., to Miss Bessie I. Pitney, both of Peoria, September 6.

Deaths

John Titus Hay, M.D., for many years superintendent of the Nebraska Hospital for the Insane, Lincoln, an alienist of distinction, and a gentle and unassuming man whose life was devoted to helping sufferers from mental disorders; died September 28, from arteriosclerosis, aged 62.

He was born at Schoharie, N. Y., Aug. 3, 1849, and secured his medical degree from the University of the City of New York in 1878. A year later he became first assistant physician at the State Insane Hospital, Lincoln, and served in that position for fourteen years. In 1893 he was appointed superintendent, but with the change of administration he was removed. He was again appointed assistant physician in the State Hospital by Governor Dietrich and again made superintendent by Governor Mickey and held this position through the administration of Governor Sheldon, being succeeded in 1909 by Dr. Woodward. Governor Aldrich, on assuming office in February, 1911, reappointed Dr. Hay superintendent of the institution.

In the interims Dr. Hay practiced medicine in Lincoln, specializing in nervous and mental diseases and acting as alienist for the Lancaster County Board of Examiners and as a member of the County Insanity Commission. He was a member of the American Medical Association and the state and county medical societies.

Henry Herbert Herbst, M.D. University of Pennsylvania, Philadelphia, 1881; a member of the American Medical Association; chairman of the medical section of the Medical Society of the State of Pennsylvania, and first vice-president of the society, and a member of the American Academy of Medicine; at one time coroner's physician; formerly mayor of Allentown, Pa., and for nine years president of the board of control; for several years a member of the board of health and school director in 1894; a pioneer in the medical inspection of public school children; died in the University of Pennsylvania Hospital, Philadelphia, September 20, from disease of the kidneys, aged 53.

James Curtis Hepburn, M.D. University of Pennsylvania, Philadelphia, 1836; for more than forty years a medical missionary in China, the Straits Settlements and Japan; who issued the first Japanese-English dictionary and assisted in the first translation of the Bible into Japanese, and for this and other work was given the insignia of the Imperial Order of the Rising Sun by the Emperor of Japan; died at his home in East Orange, N. J., September 21, from senile debility, aged 96.

Jefferson Dudley Poindexter, M.D. College of Physicians and Surgeons, Baltimore, 1886; a cadet at the United States Military Academy, West Point, N. Y., in 1883 and 1884; who entered the Medical Corps of the Army in 1887, and was made captain in 1892; was retired with the rank of major in 1901 on account of disability in line of duty, and since his retirement has been a resident of Danville, Va.; died at his home in that place, September 10, aged 45.

William Alexander Graham, M.D. University of Pennsylvania, Philadelphia, 1899; a member of the American Medical Association; medical director of Watts Hospital in Durham, N. C., in 1906; attending physician to Watts and Lincoln hospitals and city health officer; died at his home at Durham, September 19, from the effects of a gunshot wound in the head believed to have been self-inflicted with suicidal intent while despondent, aged 35.

Byron Caldwell Hendershott, M.D. Miami Medical College, Cincinnati, 1892; formerly a member of the American Medical Association; chief of staff of the Union Hospital, Canal Dover and New Philadelphia, O.; local surgeon of the Pennsylvania and Baltimore and Ohio systems; president of the local board of U. S. pension examining surgeons; died at his home in New Philadelphia, September 22, from cerebral hemorrhage, aged 43.

Samuel L. Cheaney (license, Illinois Army Board, 1862; Illinois State Board of Health, years of practice, 1880); a practitioner since 1858; assistant surgeon and later surgeon of the Twenty-Ninth Illinois Volunteer Infantry during the Civil War; for many years a leading practitioner of Harrisburg, Saline County, Ill., and state senator in 1878; died at the home of relatives at Henderson, Ky., August 27, aged 76.

William J. Stanford, M.D. University of Nashville (Tenn.), 1858; surgeon in the Confederate service throughout the Civil War; for twenty-two years a practitioner of Ben Wheeler, Tex.; died at the home of his son in Canton, June 11, aged 76.

Hiram Gettman DuBois, M.D. University of Buffalo, N. Y., 1866; a member of the American Medical Association; once president, twice vice-president and a permanent member of the Oneida County Medical Society; in 1881, 1893 and 1896 coroner of Oneida County; for many terms village trustee of Camden; died at his home, September 19, from cerebral hemorrhage, aged 74.

Reed B. Burnham, M.D., Starling Medical College, Columbus, O., 1894; a member of the American Medical Association, and National Association of U. S. Examining Surgeons; from 1895 to 1900 assistant surgeon at the Ohio State Soldiers' and Sailors' Home; died at his home in Piqua, O., recently, and was buried September 17, aged 44.

Edward Winslow Warren, M.D. Harvard Medical School, 1883; afterward district physician at the Boston dispensary; for three years a practitioner of Ansonia, Conn., and thereafter of Boston; especially interested in laryngologic and bacteriologic research; died at his home in Boston, June 28, from pneumonia, aged 55.

James H. Dickerson, M.D. Philadelphia University, 1870 (license, Illinois, years of practice, 1878); Missouri Medical College, St. Louis, 1899; a member of the American Medical Association; local surgeon of the Wabash system at Taylorville; died at his home in that city, September 15, from pneumonia, aged 64.

Edgar Lee Freiberger, M.D. Denver and Gross College of Medicine, Denver, 1906; a member of the Colorado State Medical Society; a specialist in diseases of the eye, ear, nose and throat, who recently erected the Alamosa Hospital; died in that institution, September 16, from sarcoma, aged 38.

Martin Lucius Fielder, M.D. Graffenburg Institute, Dadeville, Ala., 1859; an honorary member of the Medical Association of the State of Alabama; for several years superintendent of the Soldiers' Home, Mountain Creek; died suddenly at his home in Wetumpka, September 18, aged 76.

John J. Pickett, M.D. Curtiss Physio-Medical Institute, Marion, Ind., 1884; a member of the Nebraska State Medical Association; district surgeon of the Union Pacific system; died at his home in Broken Bow, September 13, from cerebral hemorrhage, aged 61.

John A. Vieregge, M.D. St. Paul (Minn.) Medical College; (license, Minnesota, examination, 1887) a member of the Ramsey County Medical Society; died at his home in St. Paul, September 17, from diabetes, aged 50.

J. C. M. Cunningham, M.D. Cooper Medical College, San Francisco, 1900; of San Francisco; surgeon on the steamer *San Juan;* died on that boat, July 28, from heat exhaustion, off the coast of Central America, aged 34.

William Henry Cope, M.D. Cooper Medical College, San Francisco, 1887; district surgeon for the Southern Pacific system; died at his home in Pleasanton, Cal., May 28, from chronic interstitial nephritis, aged 59.

Lawrence Sterling Alexander, M.D. University of Maryland, Baltimore, 1868; since 1880 a practitioner of St. Augustine, Fla.; died at his home in that city, Nov. 6, 1910, from heart disease, aged 68.

Samuel R. Berg, M.D. Iowa Medical College, Eclectic, Des Moines, 1889; formerly city physician of Independence, Mo., and later a resident of Holden, Mo.; died in Warrensburg, Mo., September 19.

William Lee Berry, M.D. Cooper Medical College, San Francisco, 1889; of Tonapah, Nev.; died in the Miners' Hospital in that city, September 21, from hemorrhage of the stomach, aged 46.

Albert E. Gundry, M.D. Kansas Medical College, Topeka, 1894; of Junction City, Kansas; died in Christ's Hospital, Topeka, September 14, from carcinoma of the stomach, aged 45.

Daniel Franklin Coolidge, M.D. Bellevue Hospital Medical College, 1867; a veteran of the Civil War; died at his home in Ludlow, Vt., September 17, from disease of the brain, aged 71.

William Lorenzo Goodale, M.D. University of Vermont, Burlington, 1888; of Montpelier; died at the Heaton Hospital in that city, September 17, from nephritis, aged 45.

Harriet A. Anderson, M.D. Northwestern University Woman's Medical School, Chicago, 1882; died at her home at Mount Horeb, Wis., September 17, aged 72.

Edwin J. Atkinson (license, Missouri, 1883); a practitioner since 1856; died at his home in Nevada, September 17, from cerebral hemorrhage, aged 81.

George Washington Gaddy (license, Arkansas, 1903), died at his home in Fourche, Dec. 5, 1910, from pneumonia, aged 70.

The Propaganda for Reform

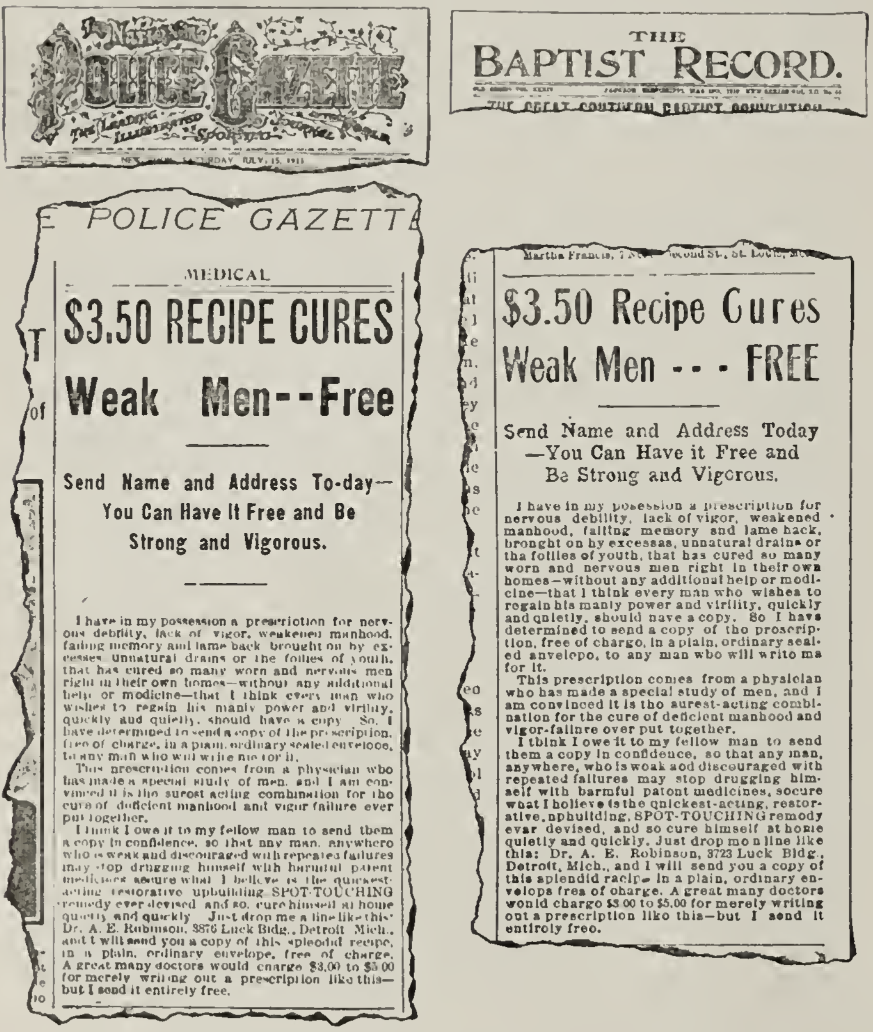
In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE INTERSTATE REMEDY COMPANY*

A Mail-Order Medical Fake and Its "Free Recipe" Bait

Readers of the less particular newspapers and magazines are doubtless familiar with an advertisement which is headed in bold type: "$3.50 Recipe Cures Weak Men—Free" (Fig. 1). This "free prescription" will be sent, so the advertisement says, by a "Dr." or, as it has sometimes appeared, "Mr." A. E. Robinson, Luck Building, Detroit, Mich. Investigation seems to show that A. E. Robinson is the style adopted by one Andrew Robinson, who some years ago was connected with a fraudulent mail-order "men's specialist" concern in Indiana known as the "State Medical Institute." Afterward he secured a license to practice in Illinois and in 1904 he registered, by reciprocity, in Michigan. Here he has been employed to act as the stool-pigeon for a mail-order medical concern—the Interstate Remedy Company. This company, advertising under Robinson's name, is incorporated and has the following officers and directors:

Edward D. Hayes, President.
William H. Bourke, Vice-President.
Henry F. Coon, Secretary and Treasurer.


POLICE GAZETTE
THE LEADING ILLUSTRATED SPORTING JOURNAL
NEW YORK, SATURDAY, JULY 15, 1911
THE BAPTIST RECORD.
POLICE GAZETTE

MEDICAL

$3.50 RECIPE CURES Weak Men--Free

Send Name and Address To-day—You Can Have It Free and Be Strong and Vigorous.

I have in my possession a prescription for nervous debility, lack of vigor, weakened manhood, failing memory and lame back brought on by excesses, unnatural drains or the follies of youth, that has cured so many worn and nervous men right in their own homes—without any additional help or medicine—that I think every man who wishes to regain his manly power and virility, quickly and quietly, should have a copy. So, I have determined to send a copy of the prescription, free of charge, in a plain, ordinary sealed envelope, to any man who will write me for it.

This prescription comes from a physician who has made a special study of men, and I am convinced it is the surest acting combination for the cure of deficient manhood and vigor failure ever put together.

I think I owe it to my fellow man to send them a copy in confidence, so that any man, anywhere who is weak and discouraged with repeated failures may stop drugging himself with harmful patent medicines secure what I believe is the quickest-acting restorative upbuilding SPOT-TOUCHING remedy ever devised and so, cure himself at home quietly and quickly. Just drop me a line like this: Dr. A. E. Robinson, 3876 Luck Bldg., Detroit Mich., and I will send you a copy of this splendid recipe, in a plain, ordinary envelope, free of charge. A great many doctors would charge $3.00 to $5.00 for merely writing out a prescription like this—but I send it entirely free.

$3.50 Recipe Cures Weak Men - - - FREE

Send Name and Address Today —You Can Have it Free and Be Strong and Vigorous.

I have in my posession a prescription for nervous debility, lack of vigor, weakened manhood, failing memory and lame back, brought on by excesses, unnatural drains or the follies of youth, that has cured so many worn and nervous men right in their own homes—without any additional help or medicine—that I think every man who wishes to regain his manly power and virility, quickly and quietly, should have a copy. So I have determined to send a copy of the prescription, free of charge, in a plain, ordinary sealed envelope, to any man who will write me for it.

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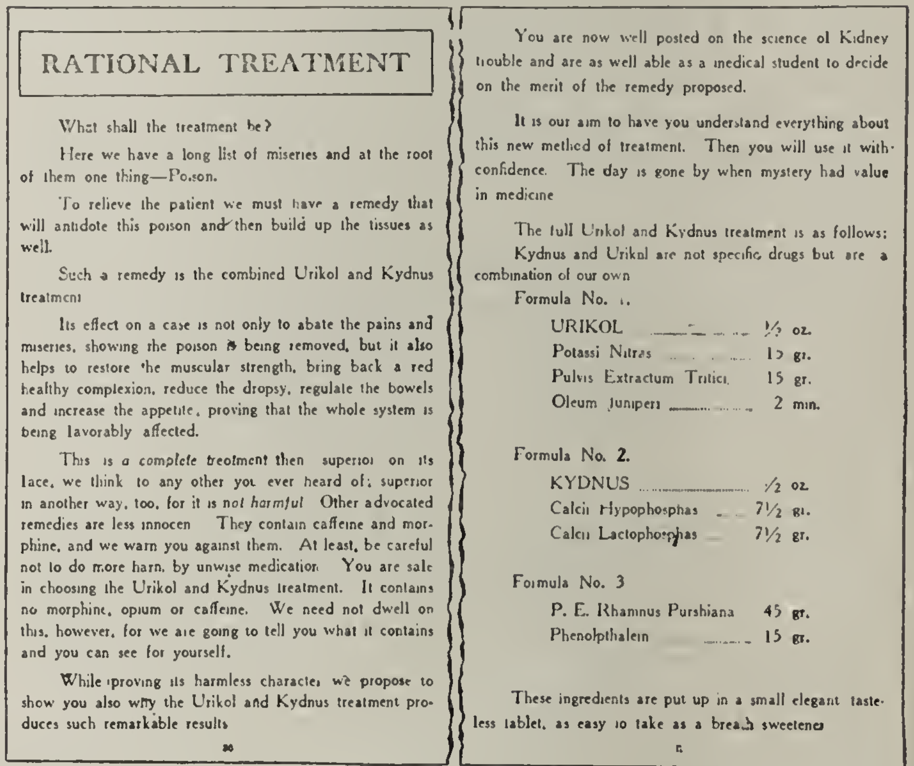
Fig. 1.—Photographic reproductions (reduced) of the stock advertisement sent out by the Interstate Remedy Company under the name of A. E. Robinson. One of these "lost manhood" advertisements appeared in the *Police Gazette*, the other in the *Baptist Record*. One would expect to find this type of advertising in a sheet like the *Police Gazette*, but in a religious weekly it seems disgustingly incongruous.

ITS UNSAVORY PAST

The Interstate Remedy Company is a successor to the Dr. Knapp Medical Company and the Dr. Raynor Medical Company. The Knapp and Raynor medical companies of Detroit were two names for the same concern, which was put out of business in 1904 by the government "for operating through the mails a scheme or device for obtaining money or other property by means of false or fraudulent pretenses, representations or promises." Not only did the Dr. Knapp Medical Company operate a fraud, but it published such filthy newspaper advertisements that some of them were declared to violate the obscenity law.

"Dr. A. E. Robinson," then, is the Interstate Remedy Company and the Interstate Remedy Company is Messrs. Hayes, Bourke and Coon. These three men are, we understand, also the officers and stockholders of another "patent medicine" fake, the Marmola Company. Marmola is an "obesity cure" which has been advertised both by the "fake prescription" method and also direct. According to various analyses, Marmola depends for its action on the presence of thyroid extract, a powerful and, in the hands of the public, a dangerous drug.

The "$3.50 recipe," which Robinson advertises that he will send free, is said to be for "nervous debility, lack of vigor, weakened manhood, failing memory and lame back, brought on by excesses, unnatural drains or the follies of youth . . ." The close resemblance of this advertisement to the dirty sheets put out by the "men's specialist" quacks is apparent. Those who answer the advertisement and ask for the free "recipe" are sent a form-letter which is filled in, here and there, to give it the verisimilitude of a personal communication; they are also sent a booklet entitled "Rational Treatment of Kidney and Bladder Diseases."



RATIONAL TREATMENT

What shall the treatment be?

Here we have a long list of miseries and at the root of them one thing—Poison.

To relieve the patient we must have a remedy that will antidote this poison and then build up the tissues as well.

Such a remedy is the combined Urikol and Kydnus treatment

Its effect on a case is not only to abate the pains and miseries, showing the poison is being removed, but it also helps to restore the muscular strength, bring back a red healthy complexion, reduce the dropsy, regulate the bowels and increase the appetite, proving that the whole system is being favorably affected.

This is *a complete treatment* then superior on its face, we think to any other you ever heard of; superior in another way, too, for it is *not harmful* Other advocated remedies are less innocent They contain caffeine and morphine, and we warn you against them. At least, be careful not to do more harm by unwise medication You are safe in choosing the Urikol and Kydnus treatment. It contains no morphine, opium or caffeine. We need not dwell on this, however, for we are going to tell you what it contains and you can see for yourself.

While proving its harmless character we propose to show you also why the Urikol and Kydnus treatment produces such remarkable results

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You are now well posted on the science of Kidney trouble and are as well able as a medical student to decide on the merit of the remedy proposed.

It is our aim to have you understand everything about this new method of treatment. Then you will use it with confidence. The day is gone by when mystery had value in medicine

The full Urikol and Kydnus treatment is as follows:

Kydnus and Urikol are not specific drugs but are a combination of our own

Formula No. 1.

URIKOL	½ oz.
Potassi Nitras	15 gr.
Pulvis Extractum Tritici	15 gr.
Oleum Juniperi	2 min.

Formula No. 2.

KYDNUS	½ oz.
Calcii Hypophosphas	7½ gr.
Calcii Lactophosphas	7½ gr.

Formula No. 3

P. E. Rhamnus Purshiana	45 gr.
Phenolpthalein	15 gr.

These ingredients are put up in a small elegant tasteless tablet, as easy to take as a breath sweetener

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Fig. 2.—Photographic reproduction (reduced) of two pages of the book sent in answer to the request for the free "$3.50 recipe." The "free recipe" is shown on the right-hand page and consists of three formulas, two of which contain "patent medicines"—Urikol and Kydnus—which can be obtained only from the Interstate Remedy Company. In other words, the offer of a "free recipe" is a mere catch-penny cheat.

THE FREE PRESCRIPTION

The form-letter states that the "free prescription" asked for will be found on page 37 of this booklet. On the page mentioned there are to be found (Fig. 2) not one prescription but three, designated respectively as Formulas Nos. 1, 2 and 3.

A study of these prescriptions reveals at once to the physician, although it is not evident to the public, that Formulas 1 and 2 each contain a "joker" in the form of a "patent medicine." That is to say, "Urikol" and "Kydnus" are both secret preparations obtainable only from the Interstate Remedy Company and are not kept in stock by the druggist. This scheme of operating what has been called the "prescription fake" dodge is a comparatively recent innovation on the part of the Interstate Remedy Company. Their older method consisted in sending three bona-fide prescriptions, one of which called for a drug (muirapuama) which while not proprietary was unofficial. It is perfectly natural, however, that the men who have worked the Marmola "prescription fake" to such great financial advantage should have modified the humbug so as to apply it to another branch of their medical frauds.

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* This article, like similar ones of interest to the laity, will be reprinted in pamphlet form with additional illustrations and somewhat elaborated; price 4 cents.

THE C. O. D. HUMBUG

To go back to the form-letter: No matter what excuse the prospective victim may have given for writing, he is told that his letter "indicates that you need the actual medicines at once also the best medical advice while you are using them." To meet this trumped-up indication, the letter goes on to state:

> "For this reason and in order that there may be no loss of time, also that it may be just as handy for you to get the remedies of this big, old-established company as of your druggist, I have shipped you to-day one full and complete treatment as per the prescription enclosed by Pacific Express, C. O. D. $3.50, which by the time this letter reaches you should be in your express office. I have prepaid the express charges, also the charges for the return of the money to us, so that all you are to pay is $3.50 only for the package."

In some cases, the Interstate Remedy Company sends its package of pills by mail instead of by express. If, in such instances, the recipient of the pills does not send the $3.50, he receives a long series of follow-up letters urging him to remit. Each letter is more insistent than its predecessor until at last one arrives that purports to come from the firm's attorneys and threatens legal reprisal. If the money is still not forthcoming, another "lawyer letter" comes offering to take one-half the amount of the bill!

If, on the other hand, the patient is foolish enough to send $3.50, about a week later he receives another letter—printed so as to indicate a personal typewritten communication—telling him that a month's treatment is on the way and will be delivered by the express company on the payment of $6.00. Of course, "$6.00 is a special price for a month's treatment, being one dollar less than two fifteen-day treatments would cost if sent separately."

BLACKGUARDING THE DRUGGIST

Like most mail-order quacks, the Interstate Remedy Company does not like the druggist any more than it loves the physician. While the Detroit concern states in its booklet that Urikol and Kydnus may be obtained from any druggist on special order, yet it would prefer "that you obtain them from us direct, for several reasons." One of the reasons is that "the medicine should be in tablet form" and, of course, the druggist does not know how to make tablets! Another reason is that "there are a number of ingredients in each of Formulas 1 and 2 and unless they are thoroughly mixed together the synergizing effect is lost." This "synergizing" humbug will sound familiar to physicians who remember the great stress that the purveyors of so-called ethical proprietaries used to lay on this same point a year or two ago in exploiting their wares. "Synergizing" has long been such a favorite piece of clap-trap among the nostrum fraternity that it is entirely fitting that the Interstate Remedy Company should bring it into use.

But the vital reason that you should order Urikol and Kydnus from Messrs. Hayes, Bourke and Coon, *alias* A. E. Robinson, is that "a great many unscrupulous druggists try to deceive their customers into taking something they do not want, and which may be a positive damage to you rather than a benefit." So the patient is warned that if he orders his Interstate Remedy "dope" through his local druggist he should insist on the druggist giving him the empty packages in which Kydnus and Urikol came!

WHAT ARE URIKOL AND KYDNUS?

To determine the composition of the prescription fakes in Formulas 1 and 2, that is, Urikol and Kydnus, it was decided to obtain specimens of these products direct from the Interstate Remedy Company. Accordingly, a Chicago druggist was asked to write direct to the Interstate Remedy Company for an original package of Urikol and an original package of Kydnus. This was done, but the Detroit concern, instead of sending what was ordered, tried to do what it has charged druggists with doing, substitute, and sent one of its packages of pills similar to the regular $3.50 C. O. D. "treatment." This the druggist returned and insisted that he wanted half-ounce packages of Urikol and Kydnus, respectively. These finally came and were turned over to the American Medical Association laboratory for investigation. The Association's chemists reported as follows:

LABORATORY REPORT

Urikol.—The powder in the box labeled "Urikol" is greenish yellow in color and possesses an odor in which, among others, that of buchu is most prominent. Quantitative analysis yielded the following results:

Water-soluble matter	37.93 per cent.
Alcohol-soluble matter	0.55 per cent.
Chloroform-soluble matter	3.67 per cent.
Insoluble matter	52.96 per cent.
Moisture	5.20 per cent.
Undetermined	0.69 per cent.
	100.00

The portion soluble in water contains what appears to be sugar and some drug extracts, the most prominent appearing to be buchu. The alcohol-soluble part has in general the same properties as the water-soluble portion. The substance soluble in chloroform was identified as hexamethylenamin. The portion insoluble in the above solvents consists approximately of equal parts of starch and calcium carbonate. The remainder of the powder is chiefly moisture. The presence of alkaloids, arsenic or metals could not be demonstrated.

From these results it appears that the powder called Urikol is essentially a small quantity of hexamethylenamin and some drug extracts in a mixture of starch, sugar and calcium carbonate.

Kydnus.—The powder in the box labeled "Kydnus" is light brown in color, possessing a taste and a slight odor of hydrogen sulphid. Quantitative analysis yielded the following:

Water-soluble matter	38.75 per cent.
Dilute acid-soluble matter.......	27.20 per cent.
Concentrated acid-soluble matter.	2.94 per cent.
Insoluble matter	28.08 per cent.
Moisture	2.80 per cent.
Undetermined	0.23 per cent.
	100.00

The portion soluble in water consists of about 32 per cent. sugar and the rest potassium and calcium sulphates. The acid-soluble part consists of about 27 per cent. calcium carbonate and about 0.2 per cent. calcium sulphid. The portion soluble in concentrated acid consists of iron equivalent to about 3 per cent. ferric oxid. The residue insoluble in the above solvents is practically entirely starch. The remainder of the powder is chiefly moisture.

From these results it is concluded that Kydnus is essentially a mixture of calcium carbonate, starch and sugar containing a small quantity of calcium sulphid and iron.

As usual, of course, it is found that the nostrums used by these quacks are drugs that are in common use by regular physicians. It is the same old story: Well-known drugs enveloped in a cloud of secrecy and mystery, endowed with properties they do not possess and sold at a price enormously in excess of their worth.

"WEAK WOMEN" ALSO

Nor do these quacks confine themselves conclusively to the "recipe for men" fraud. They have, as a sideline, the "Interstate Woman Medicine," by which they are able to humbug suffering women. In their booklet "How Women Cure Themselves at Home" they repeat almost verbatim some of the matter that appears in the other booklet issued to "weak men." To quote:

URIKOL AND KYDNUS	WOMAN MEDICINE
"When a man is young he makes body poisons by the philter full, but the vigor of his tissues casts them forth."	"When a woman is young she makes body poisons by the philter full, but the vigor of her tissues casts them forth."
"The body suffers in brain and muscle and nerve; to greater extent than the liver; most disastrously of all in the kidney."	"The body suffers in brain and muscle and nerve; to greater extent in the liver; most disastrously of all in the kidney, bladder and organs of generation."
"In short, with advancing age a man must seek kidney help. It must be fortified. Its tasks overmaster its strength. Its outcry is feebleness."	"In short, with advancing age a woman must seek help for the vital organs. These are her weak spots. They must be fortified. Their tasks overmaster their strength. Their outcry is feebleness."

"What even pretty well people should have, we think, is kidney help. The waning power of the body to get rid of its own poisons makes intelligent assistance imperative."	"What even pretty well women should have, we think, is help for weakness. The waning power of the body to get rid of its own poisons makes intelligent assistance imperative."
"It is a duty you owe yourself to take heed of your kidney's health. You have no excuse for neglect. There is little chance for escape in our opinion."	"It is a duty you owe yourself to take heed of your health. You have no excuse for neglect. There is little chance for escape in our opinion."
"Therefore, use the Urikol and Kydnus treatment—it has every recommendation: simple, safe and quick acting, and consequently inexpensive."	"Therefore, use the 'Woman Medicine' treatment — it has every recommendation: simple, safe, quick acting and consequently inexpensive."

All of which means that the Interstate Remedy Company exists not for its pretended purpose of furnishing professional advice and treatment to the ill, but to capitalize sickness and wring dividends from distress.

MAIL-ORDER FAKES

Founded on falsehood, maintained by deceit, dependent on ignorance—mail-order medical fakers are concerned only with the commercializing of suffering. In place of the knowledge of the family physician, they offer only an ignorance that is as dense as it is dangerous; for the kindly personal interest of the home doctor, they substitute a set of "form letters"; instead of the confidential and private consideration of the patient's infirmities, the mail-order quacks give them all the publicity of a large corps of mailing clerks and finally sell the patients' letters to others in the same business; in place of an individualized treatment, they prescribe stock pills and tablets of the cheapest and least reliable kind—instead, in fact, of treating the patient as a suffering, human entity, the victim of sickness is a mere customer in whom the quack is interested only to the extent of the length of his purse or the ease with which he may be swindled.

Correspondence

The Tabulation of Cases of Tuberculosis After Treatment in Sanatoriums or Dispensaries—Follow-Up Work

To the Editor:—In The Journal, Sept. 2, 1911, occurred a thoughtful article by Dr. Lawrason Brown, of Saranac Lake, concerning "Sanatorium and Dispensary Treatment of Tuberculosis."

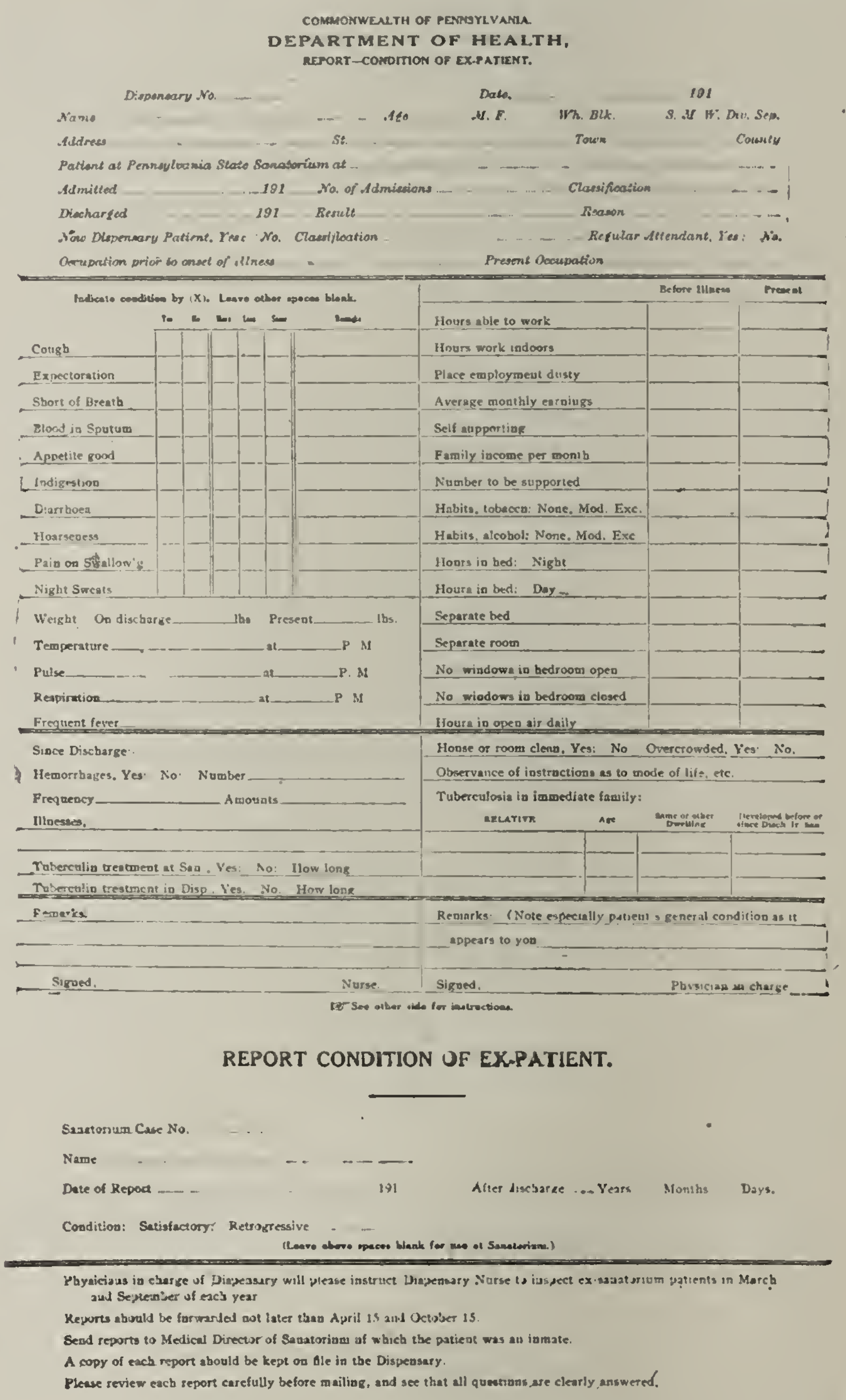
In the course of this article the following statement appears:

> A number of dispensaries in America have published reports of the immediate results of treatment, but such figures carry far less weight than the percentage of living, dead and untraced among a number of carefully classified patients. There is no doubt great difficulty in following these patients either to their death or to recovery at the end of five years, but with the excellent facilities at the disposal of many modern dispensaries, such for instance as the visiting nurses, the various relief associations and the hearty cooperation of the boards of health, such work should present no insurmountable difficulties . . . It will be of great value to compare results obtained in the dispensaries before and after the introduction of this method. Many patients from the dispensaries are sent to the sanatoriums. On return they should report to the dispensary. These patients should be studied separately and the problem of the best treatment of tuberculosis might then be solved.

It was with precisely this view that, during the summer of 1909, I appointed two physicians to visit the 115 tuberculosis dispensaries of the State Department of Health of Pennsylvania for the purpose of gathering and tabulating statistics concerning the individual tuberculous patients. It will be borne in mind that the department was not established until 1905 and the appropriation enabling the department to undertake a campaign for the control of tuberculosis was not made until 1907. The dispensary system was inaugurated at the close of that year, but it was not until the middle of the year 1908 that it was perfected.

It will be observed that the only means of admission into state sanatoriums is through a dispensary, the certificate of the dispensary physician being essential.

The examination of the patient on making application at the dispensary is thorough, including family history, environment, previous condition of health, present illness and physical examination, and a nurse's report which goes fully into the sociologic conditions of the family. The certificate of the dispensary physician for admission to a sanatorium contains an expression of opinion as to the stage of the disease, whether incipient, advanced or far advanced. On admission to the sanatorium a careful examination is again made which is repeated at frequent intervals. On the discharge of the patient, the dispensary from which he was accredited to the sanatorium is at once notified and takes up further supervision of the treatment. It becomes the duty of the dispensary nurse, however, if the patient does not again resume attendance on the dispensary, to inspect the patient at his home in March and September of each year and report his condition to the medical director of the sanatorium from which he was discharged. This report indicates the condition of the patient's health in detail, comparative weight and capacity for work, with character of occupation. Thus the basis is laid for following up every case discharged from one of our state sanatoriums for an indefinite number of years. The first of these reports reached the sanatorium at Mont Alto in April, 1911, and the statistics are now being compiled. A similar scheme for the dispensaries has not yet been formulated but is in contemplation.



COMMONWEALTH OF PENNSYLVANIA.
DEPARTMENT OF HEALTH,
REPORT—CONDITION OF EX-PATIENT.

Dispensary No. *Date,* *191*
Name *Age* *M. F.* *Wh. Blk.* *S. M. W. Div. Sep.*
Address *St.* *Town* *County*
Patient at Pennsylvania State Sanatorium at
Admitted *191* *No. of Admissions* *Classification*
Discharged *191* *Result* *Reason*
Now Dispensary Patient, Yes: No. Classification *Regular Attendant, Yes: No.*
Occupation prior to onset of illness *Present Occupation*

Indicate condition by (X). Leave other spaces blank.

	Yes	No	Bett	Less	Same	Remarks
Cough						
Expectoration						
Short of Breath						
Blood in Sputum						
Appetite good						
Indigestion						
Diarrhoea						
Hoarseness						
Pain on Swallow'g						
Night Sweats						

Weight On discharge lbs Present lbs.
Temperature at P M
Pulse at P. M
Respiration at P M
Frequent fever

	Before Illness	Present
Hours able to work		
Hours work indoors		
Place employment dusty		
Average monthly earnings		
Self supporting		
Family income per month		
Number to be supported		
Habits, tobacco: None, Mod. Exc.		
Habits, alcohol: None, Mod. Exc		
Hours in bed: Night		
Hours in bed: Day		
Separate bed		
Separate room		
No windows in bedroom open		
No windows in bedroom closed		
Hours in open air daily		

Since Discharge:
Hemorrhages, Yes: No: Number
Frequency Amounts
Illnesses,

Tuberculin treatment at San., Yes: No: How long
Tuberculin treatment in Disp., Yes. No. How long

House or room clean, Yes: No Overcrowded, Yes: No.
Observance of instructions as to mode of life, etc.
Tuberculosis in immediate family:

RELATIVE	Age	Same or other Dwelling	Developed before or since Disch. fr. San

Remarks.

Signed, Nurse.

Remarks: (Note especially patient's general condition as it appears to you

Signed, Physician in charge

☞ See other side for instructions.

REPORT CONDITION OF EX-PATIENT.

Sanatorium Case No.
Name
Date of Report 191 After discharge Years Months Days.
Condition: Satisfactory: Retrogressive
(Leave above spaces blank for use at Sanatorium.)

Physicians in charge of Dispensary will please instruct Dispensary Nurse to inspect ex-sanatorium patients in March and September of each year

Reports should be forwarded not later than April 15 and October 15.

Send reports to Medical Director of Sanatorium of which the patient was an inmate.

A copy of each report should be kept on file in the Dispensary.

Please review each report carefully before mailing, and see that all questions are clearly answered.

The reader will note that with the state's sanatoriums and the dispensaries all under the centralized governmental control of the department of health, a scheme of organization is at once available for following up each individual patient until we know how many patients with incipient tuberculosis remain well, how many patients in whom the disease is arrested remain quiescent or go on to cure and how many cured patients remain cured after a period of years, and after all until we have compiled such statistics for a period of years we shall not be able to say definitely how much good we are accomplishing with hospital and dispensary treatment.

Accompanying is the blank on which the nurse's report is to be returned.

Samuel G. Dixon, M.D., State Health Commissioner,
Harrisburg, Pa.

Virchow and Pasteur

To the Editor:—All those who relish rich and lofty natures, great characters who have marked their impress on a whole generation, and left of their passage a trace that time shall not obliterate, will have read with interest and emotion your editorial in The Journal, Sept. 9, 1911, page 904. The very day your article was published was the anniversary of that on which Virchow was laid to rest nine years ago; and it was indeed a fitting tribute to him to commemorate on such a day the personality of this great man, and to take as the motto of his eulogy what was the characteristic of his personality: his generosity.

A great scientist, a great educator and above all a great citizen and patriot—Virchow was all that, and to a degree that is uncommon to see combined in a single man. An absolute faith in the progress and the destinies of humanity, to which he had devoted all the gifts of his rich nature, and an ardent and generous sympathy for anything that was noble and great were among the most eminent characteristics of Virchow. And so, when he was called on to take the defense of Pasteur, and to vindicate his memory before the German scientific world, he had no great effort to make: he had only to obey the commands of his lofty nature. As for Pasteur himself, there is a peculiarity concerning his attitude toward Germany which has not been put in the proper light, and which, distorted as it has been by the passions of the time, is apt, if left unchallenged, to misrepresent him before posterity.

Your editorial seems to ascribe Pasteur's unwillingness to accept the distinctions offered him by the German government to a natural soreness over the reverses of his country in the Franco-German war. This is not, however, the true reason of his attitude.

Men of the present generation could not adequately realize the stress of calamities and horrors that were visited on France during that unfortunate war. To recall them to-day would be to revive unnecessarily the bitterness and the animosities of a conflict on which, in the interest of peace and the comity between nations, it is preferable to let impartial history pass judgment. But while we admit that war is war, and that its excesses and violences must be condoned in a spirit of philosophic equanimity, if not of absolute submission, it is nevertheless true that the rigors and the bitterness evinced during the Franco-German conflict must have strained the fibers of patriotism to a point that left in the heart of a man like Pasteur an unconquerable soreness, to put it very mildly. As Virchow mentioned in his address, the unfortunate city of Strasburg, endeared particularly to Pasteur by family ties, sustained a continuous bombardment from August 14 to September 28, which made of that old and magnificent city a pile of ruins, including its lofty cathedral. And to cap the climax, what must have been for a scientist and a patriot an unforgivable affront, is the fact that the German scientists hastened to return their French distinctions, and to sever their scientific connections with their erstwhile rivals, now become their vanquished enemies. Virchow alone indignantly refused to participate in such undignified proceedings. In recalling those unfortunate episodes, my purpose is merely to point out that what seemed to superficial or misinformed observers the vain exhibition of a pique or the bitterness of national vanity, was in reality the deep feeling of self-respect and of wounded patriotism. It would have been unworthy the name of a true patriot to accept any distinctions from the German government, on whatever ground or pretext they were proffered. And such, we confidently expect, will be the verdict of impartial history, to which we must always appeal in these controverted matters. A. Delcourt, M.D., Sr., Houma, La.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TECHNIC OF PROCURING NORMAL HUMAN BLOOD-SERUM

To the Editor:—Can you give me the technic of procuring normal human blood-serum? I have a case of epistaxis in a child of 6 who has had general nose-bleeding for several years, sometimes on one side and sometimes the other. He has had diphtheria antitoxin three or four years ago and I have given him an injection of normal serum (horse), which was followed by rather alarming symptoms of anaphylaxis so that I feel in doubt about using further horse-serum.

J. H. Farber, M.D., Dayton, Ohio.

Answer.—For obtaining sterile human serum, use either a large antitoxin syringe or a large glass pipette, depending on the quantity of blood desired. Connect to this a medium-sized needle (an antitoxin needle does very well), and sterilize, preferably by boiling. Apply a rubber constrictor not too tightly about the fleshy part of the upper arm; cleanse the skin over the antecubital fossa with alcohol (50 to 70 per cent.) and insert the needle into the most dilated vein of the fossa. With a little practice, this can be accomplished without difficulty. Withdraw the desired quantity of blood by gentle aspiration (mouth suction is necessary if a pipette be used). Before withdrawing the needle, remove constrictor and cover site of insertion with an alcohol sponge. Then pull out the needle quickly and elevate the arm for a short time to avoid the formation of a hematoma. No dressing is necessary.

To obtain the serum: (1) After removing the needle and rubber connection from the syringe, and rapidly flaming its tip, expel the blood into a sterile container. Place this on its side on ice for eight or twelve hours, after which time the serum will be found free from the clot. Or (2) expel the blood into a sterile container within which is a small coil or loop of wire. Defibrinate by means of this by simply shaking the container and centrifuge off the corpuscles, using aseptic precautions. The former method usually yields the larger quantity of serum, and is to be recommended when haste is not an object.

GRADUATE STUDY ABROAD

To the Editor:—I am seeking some information relative to a graduate course abroad. First, is a knowledge of German imperative, for instance, to pursue successfully a course of study on the eye, ear, nose and throat in Vienna or Berlin? If so, can you refer me to a suitable book from the study of which one might be able to get a fair working knowledge of the language in a few months of study at home? Can you furnish me with data relative to the courses of study—for instance, length, cost, character—whether clinical or didactic—and the best time of the year to pursue such a course.

J. B. Morton, M.D., Ridgefarm, Ill.

Answer.—Practically all of these questions were taken up in detail in The Journal, April 8, 1911, p. 1056.

TECHNIC OF WASSERMANN TEST

To the Editor:—Where can I find the necessary information to perform the Wassermann test? R. F.

Answer.—A description of the technic of the Wassermann serodiagnosis of syphilis may be found in The Journal, Oct. 15, 1910, p. 1308. Reference may also be made to the following article: Fleischmann and Butler: Serum Diagnosis of Syphilis, The Journal, Sept. 14, 1907, p. 934. The method may be found in the later text-books on clinical diagnosis; for instance, Anders and Boston, or Simon.

THE INTERNATIONAL MEDICAL CONGRESS

To the Editor:—Please be kind enough to advise if you have any information as to the postponement of the International Medical Congress, which is to hold its next session in London. I have seen somewhere a report that the session has been postponed to 1913.

Charles Wood Fassett, St. Joseph, Mo.

Answer.—The Seventeenth International Medical Congress is to be held at London, Aug. 6 to 12, 1913. The general secretary is Dr. W. P. Herringham, 40 Wimpole Street, London, W., Eng.,

The Public Service

Medical Department, U. S. Army

Changes during the week ended Sept. 30, 1911.

Wing, Franklin F., dental surgeon, ordered to proceed from Fort D. A. Russell, Wyo., to Fort Lincoln, N. D., for temporary duty.

Whaley, Arthur M., captain, detached to represent the Medical Department of the Army at the sixteenth annual session of the Seaboard Medical Association of Virginia and North Carolina, to be held at Newport News, Va., Dec. 5 to 7, 1911.

Suggs, Frank, and Hall, William E., ordered to report in person, Oct. 2, 1911, to the Army Medical School for the required course of instruction.

Stallman, George P., M.R.C., granted two months' leave of absence, to take effect about Nov. 1, 1911.

Giffin, Adolphe M., M.R.C., on arrival at San Francisco will proceed to Fort Riley, Kan., for duty.

The following named first lieutenants of the Medical Reserve Corps, recently appointed, are ordered to active duty in the service of the United States and will repair to this city and report in person on Oct. 2, 1911, to the Army Medical School for a course of instruction: Baylis, James E.; Bunker, Sidney M.; Castlen, Charles R.; Dailey, Michael A.; Hammond, Johnson F.; Meister, William B.; Tarleton, Lessen O., and Wilde, Adna G.

Medical Corps, U. S. Navy

Changes for the week ended Sept. 23, 1911.

Owens, W. D., P. A. surgeon, detached from naval hospital, Newport, R. I., and ordered to the training station at that place.

Baker, M. C., P. A. surgeon, detached from training station, Newport, R. I., and ordered to the hospital at that place.

Seaman, W., surgeon, detached from the naval station, Pensacola, Fla., and ordered to the naval disciplinary barracks, Port Royal, S. C.

Jenness, B. F., P. A. surgeon, ordered to the naval hospital, Norfolk, Va.

Kelley, H. L., P. A. surgeon, detached from the navy-yard, Mare Island, Cal., and ordered to duty at the naval hospital, Norfolk, Va.

The following assistant surgeons have been detached from respective stations and ordered to the naval medical school, Washington, D. C., for instruction: R. H. Lanning, from Mare Island hospital; P. B. Ledbetter, L. Sheldon, R. F. Jones, from naval hospital, Norfolk, Va.; J. C. Parham, from naval hospital, Philadelphia; C. M. George, from naval hospital, New York.

Schier, A. R., A. A. surgeon, ordered to marine recruiting station, Kansas City, Mo.

Changes for the week ended Sept. 30, 1911.

Wheeler, W. M., surgeon, detached from the *Kansas* and ordered to the naval hospital, Norfolk, Va., for treatment.

Whiteside, L. C., P. A. surgeon, detached from the *New Jersey* and ordered to the navy-yard, Boston.

Reeves, I. S. K., P. A. surgeon, detached from the navy-yard, Philadelphia, and ordered to the *Iowa*, *Indiana* and *Massachusetts*.

Bacon, S., P. A. surgeon, detached from command of the naval hospital, Fort Royal, S. C., and ordered to the naval disciplinary barracks and additional duty at the naval hospital, Port Royal, S. C.

Noble, D. H., P. A. surgeon, ordered to the navy-yard, Philadelphia.

Eytinge, E. O. J., P. A. surgeon, detached from the *South Dakota* and ordered to the *Cincinnati*.

Dykes, J. R., P. A. surgeon, detached from the naval hospital, Mare Island, Cal., and ordered to the *South Dakota*.

Holeman, C. J., P. A. surgeon, ordered to the navy recruiting station, Indianapolis.

Raison, T. W., P. A. surgeon, detached from the navy recruiting station, Indianapolis, and ordered to the *Florida*.

Smith, W. B., P. A. surgeon, resignation as a passed assistant surgeon in the Navy accepted, to take effect Oct. 1, 1911.

Woodland, E. E., asst.-surgeon, detached from the *Indiana*, *Iowa* and *Massachusetts* and ordered to the *New Jersey*.

Cecil, A. B., asst.-surgeon, resignation as an assistant surgeon in the Navy accepted, to take effect Oct. 1, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Sept. 27, 1911.

Cobb, J. O., surgeon, relieved from duty at Milwaukee, Wis., and directed to proceed to Chicago and assume command of the service.

Stimpson, W. G., surgeon, granted seven days' leave of absence from Sept. 20, 1911, under paragraph 189, Service Regulations.

Nydegger, J. A., surgeon, granted one month and fourteen days' leave of absence from Sept. 24, 1911.

Mathewson, H. S., P. A. surgeon, directed to proceed to Milwaukee, Wis., and assume charge of the service.

Grubbs, S. B., P. A. surgeon, granted one month and nine days' leave of absence from Oct. 31, 1911.

Robinson, D. E., P. A. surgeon, directed to proceed to Naples, Italy, for duty.

McClintic, T. B., P. A. surgeon, directed to proceed to New Berlin, N. Y., via Albany, N. Y., on special temporary duty.

McLaughlin, A. J., P. A. surgeon, directed to proceed to certain ports on the drainage basin of lakes Michigan and Superior on special temporary duty.

Guthrie, M. C., P. A. surgeon, granted one month's leave of absence from Oct. 1, 1911.

Bean, L. C., A. A. surgeon, granted thirty days' leave of absence from Sept. 22, 1911.

Cleaves, F. H., A. A. surgeon, granted twenty days' leave of absence from Oct. 4, 1911.

Gill, S. G., A. A. surgeon, granted twenty days' leave of absence from Oct. 5, 1911.

O'Neil, A. A., A. A. surgeon, granted seven days' extension of annual leave on account of sickness, from Aug. 1, 1911.

Society Proceedings

COMING MEETINGS

American Association of Railway Surgeons, Chicago, Oct. 18-20.
Delaware State Medical Society, Lewes, Oct. 10.
Idaho State Medical Association, Boise, Oct. 11-13.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Assn. of the Southwest, Oklahoma City, Okla., Oct. 10-12.
Medical Society of Virginia, Richmond, Oct. 24-27.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Nevada State Medical Association, Reno, Oct. 10-12.
Vermont State Medical Society, Burlington, Oct. 12-13.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Fourth Annual Meeting, held in Louisville, Ky., Sept. 26-28, 1911

The President, Dr. Herman E. Hayd, Buffalo, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. Xavier O. Werder, Pittsburgh; vice-presidents, Drs. Louis Frank, Louisville, and M. A. Tate, Cincinnati; secretary, Dr. E. G. Grinkle, Cincinnati; treasurer, Dr. Herman E. Hayd, Buffalo.

The next annual meeting will be held in Toledo, Ohio, September, 1912.

Another Protest Against the Routine Use of Purgatives

Dr. Edwin Walker, Evansville: Purgatives are used entirely too often by the profession and laity. This routine use is vicious and does much harm. Is it good practice to assume that every one who requires a surgical operation likewise requires a purge? If there is fecal impaction a single purge will not remove it; several days at least will be necessary. The purgative increases the amount of fluid and also stimulates germ activity, which renders the condition less favorable for an operation on the intestine or elsewhere. Careful study of each case with more accurate diagnosis will almost do away with the habitual use of laxative drugs. The purge after a surgical operation is needed in some cases to prevent accumulation in the rectum, which is not serious but causes some discomfort. Quiet and limited diet are the causes of their failure to act, and when a liberal diet can be taken, laxatives are rarely required. The purgatives cannot remove infection. For local or general peritonitis following a laparotomy it is contraindicated. For seven years I have not given a purge before a surgical operation, except in rare cases, not 1 per cent. Patients are stronger and in a better condition for the ordeal. They have done better in every way, were more comfortable, and the abdominal cases had less pain and tympany. Gas pains were much less frequent. There were no complications which could be ascribed to the omission of the purge. Routine purgation in all surgical cases is absurd, is contrary to reason, and should be abandoned.

DISCUSSION

Dr. E. Gustav Zinke, Cincinnati: It is my practice to take a daily scant teaspoonful of epsom salts. After this is taken the bowels act naturally and satisfactorily in from fifteen to twenty minutes after breakfast. This must be associated with a mixed diet, solid food and exercise to keep the tone of the muscular structure of the colon in its natural function. Diet and exercise, with a little saline every morning before breakfast, will answer in the vast majority of cases.

Dr. H. W. Longyear, Detroit: If you give cathartics in cases of enteroptosis, it is extremely harmful. If the practitioner has a colon to deal with which is angulated and dropped down into the pelvis, if he gives the patient having that trouble cathartics he is going to do him or her, as the case may be, a vast amount of harm. He is whipping the colon into an increasing action. It is like whipping a tired horse.

Dr. William H. Humiston, Cleveland: We should distinguish between a purgative and a laxative. A purgative is an irritating medicine always, while a laxative is not. I would dislike to continue the practice of my specialty unless I could avail myself of the benefits of what I call tonic laxatives. In my abdominal operations, where the patients are in the hospital, I have the bowels thoroughly cleaned out two days before operation by the administration of a dose of castor oil. A short time before the operation a high enema is given.

Dr. Joseph M. Mathews, Louisville: I believe that sixtenths of the people are constipated. If that is true, what are we going to do to unload their bowels? What harm can a purgative or laxative do if you give it two days before an operation to unload the bowel of toxins or of fecal matter? The daily administration of a laxative is a good thing. Why not? The bowel is the sewer of the body, and why not wash it out, and what harm does it do to wash it out? You cannot simply prescribe a purgative and let these patients go. You cannot relieve them by prescribing a purgative. Many of them have pathologic conditions and in many of them there is an atonic condition of the bowel. Peristalsis is impaired and you must excite it, but it will take a long time to overcome the constipation from which some of these patients suffer. For a great many years I have given purgatives to patients two or three days before operating on them to empty the bowel. In many instances the condition of some of these patients who suffer from constipation is a surgical one, and oftentimes you are warranted with Mr. Lane and Mr. Mummery in removing the colon.

Dr. Hugo O. Pantzer, Indianapolis: I would not denounce the routine use of purgatives as strongly as the essayist does. I would emphasize one point that is not usually observed, namely, to assume that a single bowel movement for each twenty-four hours is a cause of constipation in a vast majority of cases is radically wrong. There is no organ in the body that absorbs moisture with greater avidity than does the rectum, the stomach being secondary in this regard, and that means intestinal autointoxication. If there is anything I have learned before, during and after operation, it is that the specific gravity of the urine and quantity of urea and other indications of normal elimination by the kidneys are diminished, and owing largely to constipation. There is inconvenience for the human being to go to the closet whenever he or she, as the case may be, feels the desire, and hence nature's call is frequently disregarded, but we should invariably after we feel this prompting act on it to eliminate by the rectum. It is the rectal retention of feces that does great harm.

Dr. Charles L. Bonifield, Cincinnati: It is necessary for the majority of people to have at least one evacuation of the bowels every twenty-four hours, and most people would be better off if they had more frequent evacuations. The laity use laxatives for the reason that they feel better after a free bowel movement. Many patients are constipated because the movement of the bowels is attended with more or less pain, and on account of this discomfort they put off going to stool as long as possible. In inflammatory conditions of the pelvis, I know of nothing except the prolonged use of hot douches that has so much tendency to deplete the congested pelvic organs as a free calomel purge, followed by a saline cathartic.

Dr. James F. Baldwin, Columbus: When patients come to me with constipation as a marked symptom, I send them to a professional friend who makes diseases of the alimentary canal a specialty. If after a few weeks or months he finds he cannot cure these patients, I make a modification of the Lane operation; that is, switching the ileum from the beginning of the colon to the sigmoid. I have had no deaths from this operation, no morbidity, and the operation has given me in these bad cases excellent results.

Treatment of Sliding Hernia

Dr. Walter C. G. Kirchner, St. Louis: The principal steps of my operation are to convert immovable or adherent bowel into movable bowel; to make complete reduction possible; to construct the partial or incomplete sac into a normal complete sac; to permit ligation of the sac high up beyond the ring; to enable the complete repair of the hernia to be made by one of the typical and accepted operations for hernia. The sac, after it has been isolated, is incised on either side, near and parallel to the bowel, and in this way the bowel is provided with two lateral flaps of sac. The adherent bowel having been made movable beyond the ring, the sac flaps are turned back and sewed over the denuded area of bowel, and reposition of bowel into the abdominal cavity is thus made easy. The next step lies in the partial reconstruction of the sac so that ligation or suture at the neck as in normal cases is made possible. In fifteen operations by this method, there were ten for sliding hernias of the sigmoid and five for sliding hernias of the cecum. All the cases occurred in adult male patients. In one case, the sliding hernia was through the femoral ring, there being also present a right and a left inguinal hernia. In eight cases there were double inguinal hernias, and in two instances these were complicated by femoral hernias. Undescended testicle was encountered once, and hydrocele four times. In the fifteen cases twenty-five separate herniotomies were performed, all the patients making a satisfactory recovery.

Dr. John Young Brown, St. Louis: My experience has been limited to five cases; the hernia has been on the right side. In three of them the cecum and appendix were densely adherent to the sac, making it difficult to liberate the adhesions. Dr. Kirchner's method has been of the greatest possible value to me. There is one thing in dealing with these hernias that must be carefully avoided. As the essayist has shown, the sac is incomplete. In one of my cases in endeavoring to open the sac, the bowel being attached behind, I came near getting into the bowel proper. This sliding variety of hernia is attached behind by the folds of mesentery, and by opening the sac in front, lifting up the bowel in the manner in which he has described, cutting the sac at right angles, you should see to it that the bowel is returned so that there will be no constriction of it at this point.

Angioma of the Uterus, Bladder and Broad Ligaments

Dr. Hugo O. Pantzer, Indianapolis: This was a case of racemose angioma of the uterus, bladder, urethra and broad ligament. The patient was 26 years of age, married, went through three pregnancies, two of which terminated at full term by forceps delivery. The cause of the dystocia was unknown. Both of the children were born dead. The third terminated in the second month, probably owing to the angioma. This event was followed by grave hematuria, and vesical tenesmus, and excessive metrorrhagia and menorrhagia. A fatal issue was averted by celiotomy and circumambient ligation. There was no more hematuria, except transient shortly after operating, provoked by exposure to cold and subsequent acute bronchitis and coughing. This attack of hematuria lasted two weeks, then it disappeared. Vesical irritability subsided gradually and permanently. Menstruation, which at first was profuse and prolonged, gradually became normal. One year and one-half later the patient developed suppurative appendicitis. Operation revealed a recurrence of the angioma in the broad ligament external to the previous seat of the neoplasm. Ligation was again resorted to. Examination of the patient two years after the first operation revealed the non-presence of angiomatous growth. There has been no return of the hematuria. The bladder is not irritable. Menstruation is normal. The patient's general health is good.

DISCUSSION

Dr. Walter B. Dorsett, St. Louis: I have had two cases of angioma of the uterus in which I have taken out the organ. In operating in cases in which we have a suspicion of angioma, I think the ligation of the vessels is best made *en masse*, and sew in the suture after thoroughly tying it with a No. 2 catgut ligature.

Dr. Francis Reder, St. Louis: I have met with various angiomatous conditions of the uterus in connection with fibroid tumors, where it was necessary to ablate the organ. Sometimes we meet with angioma in the broad ligaments, or the pampiniform plexus. We know that in these racemose angiomas we have destruction of the anterior uterine wall, and one finds a resisting organ of considerable density.

Dr. Charles L. Bonifield, Cincinnati: I agree that it is best to ligate the ovarian arteries *en masse*, and during the report of this case it struck me that it might have been possible and would have made the operation easier, had Dr Pantzer by ligating the ovarian artery on the right side proceeded to ligate the internal iliac artery, as we do in some cases of extensive cancer. In this way he would have had thorough control of the arterial supply of the tumor.

(*To be continued*)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Twentieth Annual Meeting, held at Milwaukee, Wis. Sept. 26-29, 1911

The President, Brigadier General George H. Torney, U. S. Army, in the Chair

The officers elected were named in The Journal, September 30, page 1144.

Foreign Delegates

The following delegates were present from foreign countries: France:—Surgeon Inspector Fevrier of the War Department, Paris, and Surgeon Second Class Ruotte of St. Martin's Military hospital, Paris; Argentine Republic—Dr. Jose Garrochateugui, chief surgeon of the Argentine Naval Commission in the United States and Regimental Surgeon Captain Antonio Agudo Avila, Buenos Aires; Canada—Lieutenant-Colonel Adam T. Shillington, A. M. C., Ottawa; China—Lieutenant-Colonel Hwang-I, chief surgeon, Second Division of the regular army and Lieutenant-Colonel Lu Ch'ang-en, chief surgeon Fifth Division of the regular army; Guatemala—Dr. Don Ramon Bengoechea, Guatemala City, and Great Britain—Surgeon-General Arthur William May, Royal Navy.

Entertainments

The entertainment provided by the local committee included, on Tuesday, after the public meeting, a reception and smoker at the University Club; on Wednesday, a palm garden luncheon; on Thursday, an automobile excursion around Milwaukee, with a luncheon at Whitefish Bay, and a theater party. The courtesies of the Milwaukee, University, Deutscher and Athletic clubs were extended to members and guests.

Public Meeting

The public meeting was held at the Conservatory of Music, Tuesday evening. Lieutenant-General Arthur MacArthur, U. S. Army, retired, was in the chair; Hon. Francis E. McGovern, Governor of Wisconsin, welcomed the members on behalf of the state, and Dr. Arthur J. Patek, president of the Milwaukee Medical Society, on behalf of the medical fraternity. The president delivered his annual address and the chairman of the evening made remarks regarding the overloading of the soldiers with equipment. In many of the addresses especial and affectionate mention was made of the founder of the association, a Milwaukeean, the late Col. Nicholas Senn. The foreign delegates were presented and addressed the audience, and each was presented with the insignia of the association.

Salvarsan

Surgeon Richard B. Williams, U. S. N., in his paper on "The Treatment of Syphilis with Salvarsan," described the method of administration and the results obained on board the U. S. S. *South Carolina*. He advocated the great advantage, from the standpoint of prevention, of treating all cases of syphilis by the intravenous administration of salvarsan. The mucous patches and condylomata being the most contagious lesions, the method of treatment which will cause the prompt disappearance of these lesions will have great value in preventing the spread of the disease. This is especially true in the military service where the use of drinking-cups or other utensils in common is more or less unavoidable.

Captain Henry J. Nichols, M.C., U. S. Army, reported the immediate clinical effects of the use of salvarsan in the Army. More than 1,200 patients were treated from January to September. In 422 of these cases the method of administration and results were as follows: intramuscular—142 cases of moderate, and 61 of severe results; intravenous—125 cases of moderate, and 60 of severe results, and subcutaneous—28 cases of moderate and 6 of severe results. By lesions the results were as follows: primary lesions—30 healed, 2 not healed; secondary eruptions—92 healed, 4 not healed; mucous patches—128 healed, 4 not healed; rupia—5 healed; iritis—10 healed; alopecia—2 healed; ulcers—14 healed, 3 not healed; joint pains—11 healed, 2 not healed; psoriasis—11 healed; headache— 4 healed, 2 not healed; gummata—7 healed; paralysis—2 healed, 1 not healed. In all 94 per cent. were healed, and 6 per cent. not healed.

Captain Mathew A. Reasoner, M.C., U. S. Army, and Lieutenant Ray W. Matson, M.R.C., U. S. Army, considered some dangers of salvarsan, based on a study of three out of eighty-three cases healed by them, from which they conclude that the literature to date would lead us to believe that the untoward effects of salvarsan noted by them need be anticipated in only a comparatively small percentage of primary and secondary cases, and need not be feared in tertiary cases, or in those to whom salvarsan may be given for other purposes; that these manifestations are syphilitic and not arsenical; that it is not a safe procedure to treat primary or secondary syphilis with salvarsan alone or with salvarsan and mercury by the mouth; that mercury in such cases should be administered hypodermically or by inunction, or both, and that patients should be kept under most careful observation; that salvarsan cannot be advised as a routine measure; that no dependence can be placed on the Wassermann test as a danger signal; that proper treatment of such cases will include forced mercurialization, and at least in the ear cases, the administration of more salvarsan; that salvarsan will come into marked disfavor with many and that considerable harm will be done on account of its present haphazard administration.

New Rôle of the Bedbug

Passed Assistant Surgeon Ransom E. Riggs, U. S. Navy, as a result of observation of epidemics of typhoid fever on board ship and in homes, where the ordinary sources of infection were absent, concludes that the majority of home epidemics of typhoid fever are due to the activity of the bedbug. This conclusion is apparently borne out by both positive and negative observations which he reports.

Panama for Troops

Passed Assistant Surgeon John G. Ziegler, U. S. Navy, reported at tour of duty with a battalion of U. S. Marines on the Isthmus of Panama, and as a result of careful observations draws the following deductions: that the isthmus, as a place of continuous habitation for not more than two years, is as healthful as the average place in the United States, but after two years there is a tendency toward physical deterioration and mental unrest which renders longer residence unadvisable; that recruits or men in their first term of enlistment bear the tropics best; that to secure contentment, means of amusement and recreation must be provided; that a proper amount of work is beneficial and favors contentment; alternating drill and police periods relieves monotony and freshens the men; that the regular ration in use in the United States is best for the men; that sunstroke and heat exhaustion are rare and harm by actinic rays mostly theory; that the khaki uniform is satisfactory, and that, outside of malaria and certain skin affections, other tropical diseases are rare on the isthmus.

Gonorrheal Prophylaxis

Assistant Surgeon Reginald B. Henry, U. S. Navy, in his brief paper on "Calomel in Gonorrheal Prophylaxis," gives the result of a six-months' experience of the use of an ointment containing 50 grams of calomel, 80 c.c. of liquid petrolatum, and 70 grams of lanolin among the men of the U. S. S. *Rainbow*, on the Asiatic station. During the period named, there were 529 admitted exposures, with four cases of gonorrhea. Of these four patients, one denied exposure and did not receive the treatment; two received treatment more than twelve hours after the exposure, so that only one possible failure of treatment remained, a percentage of .189. He finds the calomel cheap, efficacious, cleanly and non-irritating. The ordinary glass penis syringe was used for the injection of the ointment.

Passed Assistant Surgeon Allan J. McLaughlin, U. S. Public Health and Marine-Hospital Service, read a paper on "Modern Methods of Quarantine against Asiatic Cholera." The presence of cholera in Europe at this time makes this account of the methods used at quarantines in this country to prevent the entrance of the disease into the United States of particular interest to the general public. Officers of the Public Health and Marine-Hospital Service are attached to the office of the consuls in foreign ports where cholera is prevailing, to hold under observation for five days persons coming from infected districts, before they are allowed to ship for the United States. These persons are also kept under observation by the ship's surgeon during the voyage, and he reports any cases of sickness that may occur among them. When the vessel arrives at a port in the United States, a bacteriologic examination is made of each passenger to see if any of them have cholera, or is a cholera "carrier." A "carrier" is a person who has the germ of the disease in the body, though he shows no symptoms of the disease. These people are liable to spread cholera because no one knew they had the germ in them. The bacteriologic examination reveals the fact if they are cholera carriers, and they are detained. Those who are free of the infection can now be released from quarantine in from twenty-four to forty-eight hours, instead of being held for five days as was formerly the case.

(To be continued)

INTERNATIONAL MUNICIPAL CONGRESS AND EXPOSITION

Held in Chicago, Sept. 18 to 30, 1911

This congress, held under the auspices of the City of Chicago, Chicago Association of Commerce, Industrial Club Citizens' Association, Civic Federation, City Club United Charities, Rotary Club and Chicago Board of Underwriters, and officially approved by the United States Government, held its sessions in Chicago from September 18 to 30, inclusive. The sessions of the last three days were especially devoted to matters of municipal health, and the discussions were noteworthy in that the authors of papers and those who discussed them embodied their experiences in the particular subject, and the speeches were not, as it is usually the case, academic.

Control of Milk-Supply

After a full discussion on the control of milk-supply, the following conclusions were drawn: Cities should have testing of cows for tuberculosis; milk should be dated; icing should be required from the farm to the consumer; the sale of old milk should be prohibited; investigation of every case of contagious disease should show the milk-supply of the family, and the health department records should show the health record of every milk dealer, as regards communicable diseases among his customers. There should be a bacteriologic standard. The number of bacteria allowed should be lowest in cities where the milk is supplied by cows in the municipality; a higher number of bacteria should be allowed where the milk is hauled in wagons, and a still higher number should be allowed in cities into which milk has to be shipped by rail. Every city should use the dirt test. The method of bacteriologic examination approved was that which had been approved by the American Association of Certified Milk Commissions and the Laboratory Section of the American Public Health Association. The method of dirt examination approved was that in use in the Chicago Health Department.

Control of Contagion

A series of questions was sent to the members of the congress regarding this subject, prior to the meeting, and this gave a much higher tone to the discussion. The conclusions arrived at were: Houses should be disinfected after scarlet fever, diphtheria, tuberculosis, small-pox and anterior poliomyelitis; disease carriers should be excluded from schools; schools should not be closed on account of epidemics of scarlet fever, diphtheria and measles; vaccination should be required for all school children, diphtheria should be diagnosed on throat cultures to end quarantine, but clinical evidence should be necessary to install a quarantine, subject to revision by culture; a laboratory is necessary in the health department; typhoid fever should be made a reportable disease, and it is feasible to charge each case of contagion against the milk dealer (a committee consisting of Dr. John H. Landis, Cincinnati, and Dr. William A. Evans, Chicago, was appointed to draw up a plan of procedure); the health department should have a list of customers of each milk dealer; cases of late tuberculosis should be universally hospitalized, all small-pox should be hospitalized, and all schools should have physical and dental examinations.

Sewage, Stables and Slaughter-Houses

Questions were similarly sent to those who participated in this discussion, and the section arrived at the following conclusions: Yard privies should be allowed only in unsewered territories; the vault system should be used where there are sewers, and Stiles' boxes in unsewered localities; removal of contents of boxes should be made during the day rather than at night; removal should be by the municipality; privies should be licensed, and the ordinances should specify the type of construction and require a permit to build; the government type of closet and the government septic barrel should be required by law; stables should be licensed; manure boxes should be covered and should be impervious; the ordinances should specify the frequency of emptying at intervals of less than ten days; cow barns should be licensed; slaughter houses should be licensed; all meat, including that of calves, should be inspected and tagged, and killing of poultry should be controlled under license and should be done only in specified places.

Water Protection and Sewage

The discussion on protection of water and disposal of sewage was carried out only in part as the section adjourned to organize the Great Lakes Basin International Pure Water Association, which is noted elsewhere in this issue. Resolutions were passed, however, that no sewage or trade waste water should be allowed in lake waters untreated or uncontrolled, and that the government should take proper action to control ship sewage and the water-supply of ships.

(To be concluded)

AMERICAN ROENTGEN RAY SOCIETY

Twelfth Annual Meeting, held in Richmond, Va., Sept. 20-23, 1911

The President, DR. PERCY BROWN, Boston, in the Chair

Officers Elected

The following officers were elected to serve for the ensuing year: president, Dr. Frederick H. Baetjer, Johns Hopkins University, Baltimore; vice-presidents, Drs. H. W. Van Allen, Springfield, Mass.; G. M. Steele, Oshkosh, Wis.; J. H. Edmondson, Birmingham, Ala.; W. H. Eagar, Halifax, N. S., and Hollis E. Potter, Chicago; secretary, Dr. Henry K. Pancoast, University of Pennsylvania, Philadelphia; treasurer, Dr. Charles F. Bowen, Columbus, O.; librarian, Dr. H. W. Dachtler, Toledo, O.; executive committee, Drs. P. M. Hickey, Detroit; Arthur Holding, Albany, N. Y., and Alfred L. Gray, Richmond, Va.

Niagara Falls, N. Y. was selected as the place for holding the next annual meeting, September, 1912.

Requirements for Admission to Membership Raised

Hereafter an applicant for membership in the society must be a graduate in medicine and have been engaged actively in roentgenology for at least two years after his graduation, and he must submit a scientific paper on roentgenology to the executive committee at least six months before the next annual meeting, besides securing the recommendation of two members of the society and of at least one practicing physician or surgeon in good standing in his immediate neighborhood. The name and address of the applicant and the names and addresses of his sponsors must be published in the *Quarterly* at least twice before the next annual meeting.

Roentgenology and Its Relation to the Law

DR. PERCY BROWN, Boston: Of cases in which legal proceedings have been instituted for the alleged misuse of the Roentgen ray, occurrences are fewer than formerly. This is no doubt due to the fact that the clinical application of the ray is being relinquished by unqualified and incompetent persons. Evidence adduced by the ray is regarded much in the same light as a solar photograph would be. It is considered documentary evidence. The qualifications of the roentgenologist as a medical expert witness should be established: his recognition in his own community and in a recognized society of his colleagues should be ascertained and certified to. In court an absolutely neutral attitude should place him beyond reproach. His evidence should be prepared carefully and with attention to detail. Except for purposes of his own identification, all records should be marked in the presence of the court at the time they are admitted as evidence. Unless his evidence can rest on the framework of his professional qualifications as an expert, it will lose weight and even be discarded.

Roentgen Ray in Hypertrophied Prostate

Dr. James W. Hunter, Norfolk, Va.: The ideal treatment in hypertrophied prostate is radical removal of the gland. In the hands of expert operators who select their cases the results are excellent: in the hands of the occasional operator or the inexpert, the mortality is high. In selected cases roentgenotherapy is of great value. When the increase in size is due largely to overgrowth of the epithelium, the Roentgen ray will quickly diminish the size of the gland, but not so if there is much increase in the amount of connective tissue. The results from the treatment depend largely on the histologic structure. Massage is indicated as an adjuvant. The mortality is *nil*.

DISCUSSION

Dr. Hollis E. Potter, Chicago: It is not easy to differentiate by digital examination between a fibrous, muscular or epithelial enlargement of the prostate: but by raying the testicles as well as the prostate, we can produce an effect analogous to that produced by raying the ovaries and uterus, reducing the size of the gland considerably. I have, however, seen few good results follow the Roentgen treatment of hypertrophied prostate.

Dr. George E. Pfahler, Philadelphia: Sufficiently good results have been obtained by careful workers to cause us to consider this treatment of hypertrophied prostate in otherwise hopeless cases, and to justify its use. It is especially indicated in the case of old or decrepit patients who cannot stand an operation, and in patients in whom the question of procreation is not to be considered.

Postoperative Roentgenization in Cancer

Dr. Clarence E. Skinner, New Haven, Conn.: The Roentgen ray has demonstrated that it exhibits a powerful curative influence on malignant degeneration, hence its routine use as a postablative measure will increase greatly the number of curative cases. It is impossible to tell beforehand which cases will need roentgenization and which will not, or which cases will respond happily and which will not respond at all, hence the only way to be sure of treating all cases that will need it and that will respond, is to treat all cancer cases. Roentgenization should be commenced as soon after operation as is consistent with the safety of the tissues involved in the operation wound and before recurrence has had an opportunity to manifest itself. The application of the ray should be entrusted only to those who are competent and experienced. These patients should not be rayed before operation because the effect of vigorous radiation of the malignant growth is to produce a certain amount of systemic toxemia, which has been known to be severe enough to kill the patient. Such radiation also often leads to an increase in fibrous tissue, leading to such confusion of tissue and obliteration of normal tissue distinctions and relations as to embarrass the operator. Furthermore, effective pre-operative radiation means delaying the operation unnecessarily.

DISCUSSION

Dr. George E. Pfahler, Philadelphia: There is no doubt of the good effect of the Roentgen ray in these cases. Unfortunately, the average surgeon will only refer those cases in which there is bound to be a recurrence and in which, therefore, little good can be effected. Ante-operative radiation is not advisable as a routine procedure, although I do not believe that it is as harmful as Dr. Skinner seems to think. I have not seen any evidence of toxemia. However, postoperative treatment is certainly advisable and effective.

Dr. J. H. Edmondson, Birmingham, Ala.: Is it not advisable to excise nodular recurrences in the scar before beginning the Roentgen treatment?

Dr. W. H. Eagar, Halifax, N. S.: We undoubtedly get a tremendous degree of toxemia from pre-operative treatment, but early and effective radiation following the operation is the proper thing. Unfortunately these patients are not referred to us until after recurrences have appeared.

Dr. J. H. Selby, Rochester, Minn.: I believe that surgeons are becoming aware of the value of immediate postoperative roentgenization in these cases, because when the treatment is carried out by an expert who cooperates with the surgeon the results are always good.

Dr. Frederick H. Baetjer, Baltimore: The pre-operative treatment of such patients is criminal. The Roentgen ray is stimulative and destructive, and any such form of treatment of a malignant process is wrong. We must not do anything to increase cell division because that increases the possibility of metastases occurring. A carcinoma that is operable is a surgical condition and not to be treated by the Roentgen ray. So far as postoperative treatment is concerned I agree with the other speakers. I believe, however, that in many cases where enlarged glands are broken down by radiation these glands are not carcinomatous but simply enlarged as the result of an inflammatory condition or reaction.

Carcinomatosis of Bones Secondary to Growth in Some Epithelial Organ

Dr. Russell H. Boggs, Pittsburgh: Carcinoma of the bone is always secondary. As a rule, it is not recognized until fracture occurs. It may be secondary to cancer situated in any part of the body, and any bone may be involved, although it is usually a long bone. It is slow-growing and gives rise to symptoms which frequently lead to a diagnosis of rheumatism.

DISCUSSION

Dr. Henry K. Pancoast, Philadelphia: In one case I had there occurred a metastasis in the femur just below the great trochanter eight years after the removal of a cancer of the breast. In another case a similar metastasis occurred following the removal of a bronchial cyst which had undergone carcinomatous degeneration. I have also seen metastases in the vertebræ.

Dr. George E. Pfahler, Philadelphia: Patients who complain of vague rheumatic pains after operations for the removal of malignant growths often are later found to be suffering from a bone metastasis, and unless fracture of the bone occurs, the condition is not detected. A patient with recurrent carcinoma and metastases in the breast fell and broke his arm. I made a roentgenogram and found metastases not only in that arm, but in the other arm, and in one femur. Another patient fell and injured her hip. The roentgenogram showed distinctly a metastatic carcinoma and on careful examination the original tumor was discovered in the breast, a small cancer, of whose existence the patient was not aware.

Dr. Frederick H. Baetjer, Baltimore: I have seen quite a number of cases of metastasis of cancer in bone. Four of these were in the femur following a primary cancer of the breast. The femora and the spine are the most frequent seats of cancerous metastases. I have had two cases of cancer of the humerus secondary to cancer of the stomach, and one case secondary to cancer of the bladder. In another case there were extensive metastases in the femur and in the scapula secondary to the breast cancer.

Dr. George H. Stover, Denver: In four cases of metastatic cancer of bones which I saw the primary tumor was situated in the breast. In one case the condition was not discovered until a fracture of the bone occurred twenty-five years after the removal of the breast cancer.

Dr. John H. Selby, Rochester, Minn.: Following the removal of a tumor of the kidney, a patient developed sciatic-like pains. I found complete destruction of the pubes extending to the acetabulum. I have seen several cases of bone metastasis following cancer in distant parts of the body.

(To be continued)

Medical Economics

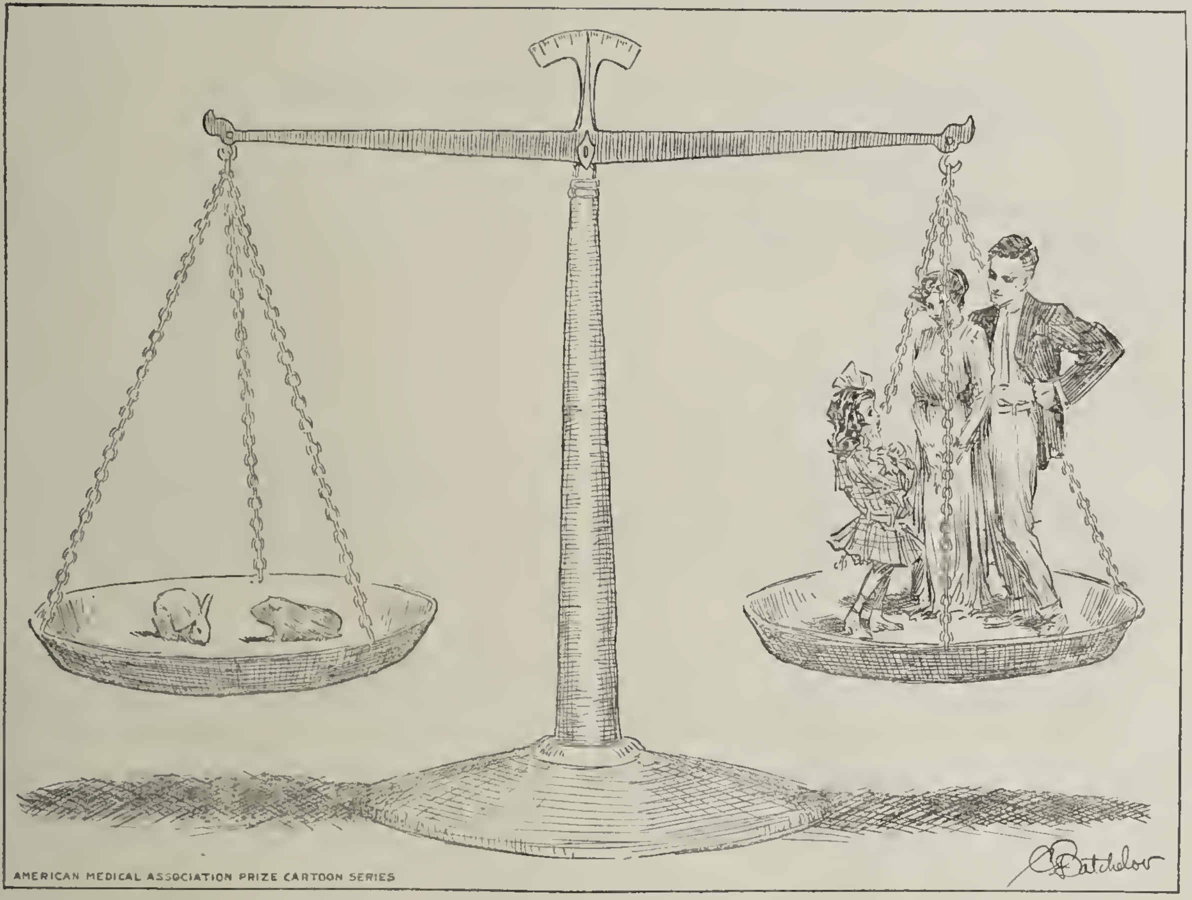
This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

MEN AND HOGS

Under this title, the Fresno (Cal.) *Republican* recently discussed health reforms, following Dr. McCormack's visit to that city. This editorial is a most rational and discriminating discussion on the unconscious attitude of the majority of people to health matters and is deserving of careful reading and consideration.

"Dr. McCormack, in his lecture last night, referred to the incongruity of the American government spending millions to eradicate the diseases of pigs and potatoes, and nothing to eradicate the diseases of men.

"The contrast is indeed somewhat startling, but the explanation is easy. For one thing, pigs and potatoes cost money, while men are cheap. Perhaps still more important, there are 'systems' or 'schools' with regard to the diseases of men, but none with regard to the diseases of animals or plants. Nobody ever offered to cure hog cholera by reading sermons to the swine, nor undertook to eradicate potato blight by spilling 1 drop of potato soup into the river from which the irrigation water came. Nobody ever tried to cure the boll weevil in cotton by untwisting some rootlets that had become entangled. Nobody ever undertook to argue the chinch bug out of existence by proving that it was inconsistent with the divine plan. And nobody would be listened to with seriousness if he proposed these things. We have passed the days of fetichism and witchcraft, in dealing with corn and cattle, and we accept scientific investigation as the way to find out scientific truth about them.


AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
Batchelor

TO THE ANTI-VIVISECTIONIST
"AT HOW MANY RABBITS OR GUINEA PIGS DO YOU VALUE YOUR WIFE, YOUR HUSBAND OR YOUR CHILD?"

"But when it comes to human diseases, exactly these things are preached by the expounders of various sects of healing, and are devoutly believed by a multitude of adherents of those sects. The pear blight or the Anaheim disease we know to be facts, and when the scientists tell us they have not yet found the cause or cure of those diseases, we supply them with the money for further investigations instead of seeking some new magician who says he can cure them by incantations. But human diseases we know are mysteries; human physicians we know are magicians; and human healing we know to be a matter of faith, expressed in various creeds, each true to those that profess it and false to all others.

"This is a government by the people, and the people, in vast multitudes, believe these things. What matters it then that the divine penalty of sanitary heresy is death? We have fought out freedom of faith in theology, where the penalty of error is hell. Shall we not protect it in pathology, where the penalty of error is merely death? Is not the liberty of people to cure small-pox by abacadabral signs more precious than the lives of the citizens? Therefore, by what right shall the government establish a department for the scientific investigation and control of public health problems, when multitudes of people prefer faith in a creed to the collected results of scientific knowledge?

"This is the argument. It is illogical and ridiculous, but millions of entirely serious people believe it, and, so long as they do the right of a free government to care for human health will be abridged. Doubtless if hogs had votes, there would be similar limits on the protection of hogs. Any pig would prefer cholera swill to a protective inoculation. We respect the liberty of humans, but not of hogs, to indulge such preferences."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

General Subject for the Month: Surgery of the Brain

Second Month—First Weekly Meeting

Anatomy of Skull: Demonstrate Specimen

Vertex of Skull: External surface—boundaries, bones included, sutures, glabella, bregma, inion.

Internal surface—shape, surface markings.

Base of Skull: Internal surface, fossæ.

Anterior Fossa: Shape, boundaries, bones, portion of brain, foramen cæcum, olfactory groove, ethmoidal foramina.

Middle Fossa: Boundaries, bones, portion of brain, optic foramen, sella turcica, cavernous groove, sphenoidal fissure, foramen ovale, foramen spinosum, foramen lacerum medium, anterior surface of petrous portion of temporal.

Posterior Fossa: Shape, boundaries, bones, portion of brain, foramen magnum, jugular foramen, internal auditory meatus, inferior occipital fossæ.

External Surface: Boundaries, occipital, temporal, sphenoid and ethmoid bones, articular surfaces, orifices of foramina mentioned above, stylo-mastoid foramen. Roof and apex of orbit.

Lateral Region: Boundaries, bones.

Temporal Fossa: Boundaries, sutures, stephanion, pterion.

Mastoid Portion: Bones, mastoid process, auditory meatus.

Zygomatic Fossa: Spheno-maxillary fossa.

Anatomy of Brain

Membranes of Brains: (1) Dura mater; (2) arachnoid; (3) pia mater.

Portions of Brain: Medulla, pons Varolii, cerebellum, midbrain, cerebrum.

Ventricles: Lateral, third, fourth, foramen of Magendie, aqueduct of Sylvius, communications, contents.

Distribution of Gray and White Matter: (1) in the bulb: (2) in the pons; (3) in the midbrain: (4) in the cerebrum: (5) in the cerebellum.

Blood-Vessels: (a) To meninges: (b) to pia and brain substance. Circle of Willis and branches. Charcot's "artery of cerebral hemorrhage." Cerebral veins and sinuses.

Physiology of the Brain

Sensori-Motor Area: Fissure of Rolando. anterior and posterior central gyri. paracentral lobule. operculum. third frontal gyrus. Leg, arm and head regions. Hemiplegia. monospasm. Jacksonian epilepsy. Muscular sense. parietal lobes. Pressure. pain. temperature. sense.

Speech Areas: Sylvian fissure. third frontal convolution. motor aphasia. First and second temporal convolutions. sensory aphasia. Visual speech area. lower parietal. Right- and left-handed persons.

Sight Area: Occipital lobes, hemianopsia. Two visual centers.

Sound Area: First and second temporal convolutions.

Psychic Centers: Frontal lobes. "Silent areas."

Functions of Cerebellum: Coordination, psychical functions, location of function.

Functions of Medulla: Respiratory and circulatory centers.

Cerebral Topography: Fissure of Rolando. fissure of Sylvius. Horsley's method, Krönlein's method, Chiene's method.

REFERENCE BOOKS FOR THE SECOND MONTH

Keen's Surgery. vols. ii and iii.
Bryant and Buck: Surgery.
Ballance: Surgery of the Brain.
Horsley: Brain and Spinal Cord.
Krause: Surgery of the Brain.
Phelps: Injuries of the Brain and Its Membranes.
Starr: Brain Surgery.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Georgia: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan. Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

Illinois: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

Kansas: National Hotel, Topeka, October 10-12. Sec., Dr. H. A. Dykes, Lebanon.

Louisiana: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

Michigan: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Mississippi: State Capitol, Jackson, October 10-11. Sec., Dr. S. H. McLean.

New Jersey: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

New Mexico: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

Oklahoma: Muskogee, October 10. Sec., Dr. John W. Duke, Guthrie.

Wyoming: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Maryland June Report

Dr. J. McPherson Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, June 20, 1911. The number of subjects examined in was 9; total number of questions asked, 90: percentage required to pass, 75. The total number of candidates examined was 152, of whom 130 passed and 22 failed. Sixteen candidates were licensed through reciprocity, 1 by special examination, and 1 under the exemption clause. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Yale University	(1908)	86
George Washington University	(1911)	75, 81, 84
Howard University	(1910) 82; (1911)	90
Johns Hopkins University	(1901) 87; (1910) 81; (1911)	76, 78, 78, 78, 80, 80, 80, 81, 82, 83, 83, 83, 83, 83, 84, 84, 85, 85, 85, 85, 86, 87, 87, 87, 87, 88, 88, 88, 89, 91, 91, 91, 91, 91.
University of Maryland	(1904) 75; (1909) 76, 76, 78, 82, 83; (1910) 83; (1911)	75, 76, 76, 77, 77, 77, 79, 80, 80, 81, 81, 82, 83, 84, 84, 85, 85, 85, 86, 86, 86, 87, 87, 88, 89, 90, 91.
Baltimore Medical College	(1910) 81; (1911)	77, 83, 83, 85, 85, 86, 86, 86, 87, 87, 89, 89, 91.
Maryland Medical College	(1909) 75; (1911)	80, 81, 83, 84, 86
College of Physicians and Surgeons, Baltimore	(1911)	81, 81, 83, 83, 84, 85, 85, 86, 86.
Jefferson Medical College	(1906) 82; (1910) 91; (1911)	78, 82, 84, 85, 87, 89.
University of Pennsylvania	(1910) 80, 87; (1911)	80, 83
Woman's Medical College of Pennsylvania	(1911)	78, 79, 79, 82, 83, 84, 86, 87, 90, 91.
Medico-Chirurgical College, Philadelphia	(1911)	75
Temple University, Philadelphia	(1911)	81, 88
FAILED		
Medical College of Georgia	(1909)*	
Coll. of Phys. and Surgs., Baltimore	(1910) 73; (1911)	73
University of Maryland	(1905) 69; (1910)* (1911)	72, 73
Johns Hopkins University	(1911)	71, 72
Maryland Medical College	(1907)* (1910)* (1910) 35, 41, 57; (1911)	52, 65, 70, 73, 74
Woman's Medical College of Baltimore	(1904)	69
Medico-Chirurgical College, Philadelphia	(1905)	73
University of Pennsylvania	(1910)	72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Kentucky School of Med., (1893) Dist. Colum.;	(1894)	Kentucky
Johns Hopkins University	(1910)	N. Carolina
Maryland Med. Coll., (1902) (1903) (1905) (1908)	(1909)	W. Virginia
University of Maryland (1905) Delaware;	(1907)	W. Virginia
College of Physicians and Surgeons, Baltimore	(1907)	W. Virginia
Baltimore Medical College	(1897)	Vermont
University of Michigan, Dept. of Med. and Surg.	(1886)	Michigan
Leonard Medical School	(1908)	Georgia
University of Pennsylvania	(1910)	Maine
University of Zurich, Switzerland	(1892)	Illinois

LICENSED BY SPECIAL EXAMINATION AND UNDER EXEMPTION CLAUSE

College	Year of Grad.
College of Physicians and Surgeons, Baltimore	(1886)
University of Palermo, Italy	(1909)

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* Reexamined.

The questions asked were as follows:

ANATOMY

1. Name varieties of cartilage. 2. Describe briefly two varieties named. 3. Describe the clavicle. 4. Describe the hip joint. 5. What arteries supply the heart with blood and where do they originate? 6. Give general description of testicles. 7. Describe the pericardium. 8. What are the parathyroid bodies? 9. Name the twelve pairs of cranial nerves. 10. Name principal muscles of the back.

PATHOLOGY

1. Mention a cause for each of the following conditions: edema of one leg, edema of both legs, edema of one arm, ascites, edema of the lungs, hydrothorax. 2. What is meant by the term compensation as used in heart diseases? By broken compensation? Trace the course of events depending on the latter condition. 3. Mention at least five diseases that are transmitted by insects. Name the carriers and the method by which the infection is introduced. 4. What is a cyst? Mention two forms of cyst that are commonly met with, and explain their causation. What is meant by the term encysted? 5. Describe briefly the gross and microscopic appearances of an atrophic cirrhotic liver. Mention the pathologic changes inherent to this condition. 6. Describe the formation of scar tissue and mention its principal characteristics. 7. What is the Widal reaction? 8. What is an aneurysm? Describe the formation of an aneurysm of the aorta. 9. How would you demonstrate the presence of bacteria in milk? How would you estimate the number in a cubic centimeter of milk? 10. What are the essential lesions of scarlet fever? What means would you use to prevent the spreading of the contagion in this disease?

CHEMISTRY

1. Explain the following terms: (a) Molecular weight, (b) precipitate, (c) valence, (d) oxidation, (e) efflorescence. 2. Give the general characteristics of acids. Define monobasic, dibasic and tribasic acid, and give an example of each. 3. Give the chemical names and composition of "calomel" and "corrosive sublimate." How may one be distinguished from the other? 4. Give one chemical antidote for each of the following: (a) Nitric acid, (b) oxalic acid, (c) arsenic trioxid, (d) morphine sulphate. 5. Give (a) one chemical test for albumin in urine, and (b) one test for sugar in urine. 6. What is the normal reaction to litmus paper of (a) blood, (b) saliva, (c) succus gastricus, (d) succus entericus, and (e) feces. 7. Give the chemical formula of each of the following: (a) Sulphuric acid, (b) hydrochloric acid, (c) potassium permanganate, (d) epsom salt, (e) ammonia water. 8. Define (a) amphoteric reaction, (b) calorie, (c) indicanuria, (d) hypoacidity, (e) hyperacidity. 9. Give the chemical formula and properties of hydrogen peroxid. 10. Complete the following equations: $Na_2CO_3 + HCl =$
$K + H_2O =$ $CO_2 + Ca(OH)_2 =$ $Mg + H_2SO_4 =$
$CuO + 2HNO_3 =$

PHYSIOLOGY

1. Name and locate the glands of the small intestines. 2. (a) Describe the normal pulse, its variations in infancy, youth and old age; (b) How does the pulse rate compare with respiration? 3. Where in the body is each of the following found and what the function of each: pepsin, trypsin, glycogen, ptyalin and synovia? 4. What is meant by the vasomotor nervous system? 5. What is meant by blood-pressure and how estimated? (b) What are some

of the causes altering blood-pressure? (c) How does the weight of the entire amount of blood in the body compare with the weight of the body? 6. Give functions of spinal cord. 7. What is accomplished physiologically by the portal circulation? 8. Describe briefly the functions of the pneumogastric nerve. 9. Through what three main channels is water lost from the body? 10. Describe the effect of strychnin on the central nervous system.

THERAPEUTICS

1. Define chemical incompatibility. Give three illustrations and write a prescription showing it. 2. Define pharmaceutical incompatibility. Give three illustrations and write a prescription showing it. 3. Give physiologic action of glonoinum and indications for its use. 4. Describe the indications for use of carbohydrates. Illustrate their use and name six. 5. Give the therapeutics of arsenous acid; symptoms of arsenical poisoning and antidote. 6. Give the therapeutics of acid hydrocyanic; manifestation of poisoning and antidote. 7. Write a prescription in Latin, without abbreviations, containing four liquid ingredients; state conditions for which it is intended and give directions for its use. 8. Write a prescription in Latin, without abbreviations, containing three ingredients in powder; state conditions for which it is intended and give directions for its use. 9. State briefly the therapeutics of nux vomica. 10. State briefly the therapentics of thyroid extract and adrenal extract.

MATERIA MEDICA

1. (a) Plumbum—give five preparations. (b) The treatment in case of poisoning. 2. (a) Codein, heroin, dionin, and peronin - from what prepared? Dose of each. (b) To what class of drugs do chloral hydrate, sulphonal, trional, veronal and the bromids belong? Average dose of each. 3. (a) Define tinctures and extracts. (b) What is meant by incompatibility in medicines? Name some incompatibles. 4. Write a prescription containing in pill form iron, quinin, arsenic and strychnin, using the official terms in full. 5. To what class of drugs do camphor, asafetida, valerian, compound spirits of ether, musk and viburnum prunifolium belong? Give the average dose of each. 6. To what class of drugs do acetanilid, antipyrin, phenacetin, quinin, aconite, guaiacol belong. The average dose of each. 7. (a) Name five vegetable astringents. (b) Name five mineral astringents. (c) Name three diuretics. (d) What are expectorants and into what two classes are they divided. Name some of each. 8. Give the composition of black wash, brown mixture and compound cathartic pill. 9. Write a prescription for a child five years old, containing paregoric, subnitrate of bismuth, prepared chalk, using in full the official names. 10. Define materia medica. What is meant by U. S. Pharmacopeia?

PRACTICE

1. Define (a) Kernig's sign, (b) tachycardia, (c) cholecystitis, (d) myxedema, (e) urticaria. 2. Define (a) Grocco's sign, (b) tabes dorsalis, (c) herpes zoster, (d) rubella, (e) hydronephrosis. 3. Differentiate variola and varicella. 4. Cancer and ulcer of the stomach. 5. Spasmodic and membranous croup. 6. Coma of alcohol, uremia and cerebral hemorrhage. 7. Give treatment of acute chorea. 8. Give treatment of chronic nephritis. 9. Give treatment of ulcerative stomatitis. 10. Give diagnosis and treatment of intestinal perforation in typhoid fever.

SURGERY

1. What is trachoma? Give signs and symptoms. 2. Give the definitions of toxemia, septicemia, pyemia. 3. Give strength and dose of solution of cocain for local anesthesia, its indications and dangers. 4. Name the general anesthetics employed in surgical cases. 5. Surgical shock: Give physiology, etiology, symptoms, diagnosis and treatment. 6. Describe a simple manner of testing the hearing and its expression by fractional formula. 7. Give the differential diagnosis between chronic appendicitis and gall-stones. 8. Name some causes, symptoms and treatment of caries. 9. Give the secondary symptoms of acquired syphilis. 10. Describe the operation of thoracotomy (resection of ribs) and give the indications for the same.

OBSTETRICS

1. Describe the pelvis joints and their relation to labor and delivery. 3. What is a corpus luteum? 3. What is the cause of hyperemesis gravidarum and the clinical features and the treatment of the condition? 4. Describe in detail the symptoms of extra-uterine pregnancy. 5. Give the diagnosis and management of a breech presentation. What are the dangers to the child? 6. Describe the application of forceps to the fetal head. 7. How would you manage a case of primary post-partum hemorrhage? 8. How would you treat a case of complete prolapsus uteri? 9. Give the treatment of mastitis. 10. Ophthalmia neonatorum. Give prophylaxis and treatment.

Georgia May Report

Dr. C. T. Nolan, secretary of the Regular Board of Medical Examiners of Georgia, reports the written examinations held at Atlanta and Augusta, May 2-5, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 80. At the examination held at Atlanta, the total number of candidates examined was 109, of whom 99 passed and 10 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Birmingham Medical College	(1909)	91
University of Alabama	(1910)	94
Atlanta College of Physicians and Surgeons	(1909)	85.5
	(1911)	80, 80, 80, 81.5, 82, 83, 83, 83, 83, 83, 83, 83.5, 83.5, 83.5, 84, 84, 84.5, 84.5, 84.5, 84.5, 85, 85, 85, 85.5, 86, 86, 86, 86, 86.5, 86.5, 86.5, 87, 87, 87, 88, 88, 89, 89, 89, 91, 92, 92.5
Atlanta School of Medicine	(1911)	80, 80, 80, 80, 80, 81, 81, 81, 82, 82, 82.5, 83, 84.5, 85, 85, 85, 85, 85, 85, 85, 85, 85.5, 86, 86, 86, 86, 86, 86.5, 86.5, 86.5, 87, 87, 87, 87, 87.5, 88, 88, 89, 89.5, 91
Kentucky School of Medicine	(1908)	83
Johns Hopkins University	(1907)	87.5, 95.5
Baltimore Medical College	(1905)	84.5
University of Maryland	(1910)	88.5
College of Physicians and Surgeons, Boston	(1910)	88.5
Barnes Medical College	(1900)	80
Medical College of South Carolina	(1906)	85
University of Nashville	(1911)	91
Meharry Medical College	(1911)	80, 81, 86
Chattanooga Medical College	(1905)	80
Non-graduate*		91
FAILED		
Hospital Medical College, Atlanta	(1911)**	
Atlanta School of Medicine	(1911)	76, 76, 77.5, 78.5
Atlanta College of Physicians and Surgeons	(1911)	78.5
Leonard School of Medicine	(1905)	71.5
Meharry Medical College	(1911)	78
Knoxville Medical College	(1908)	66.5
Non-graduate†		68.5

At the examination held at Augusta the total number of candidates examined was 27, of whom 23 passed and 4 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical College of Georgia	(1909)	83
	(1911)	81.5, 82, 83, 83.5, 83.5, 84.5, 84.5, 85, 85, 85.5, 85.5, 86.5, 87.5, 89, 89, 89.5, 90.5, 92, 92.5, 93.5, 94
Harvard Medical School	(1878)	83.5
FAILED		
Medical College of Georgia	(1911)	75.5, 76, 76, 77

* This applicant will not obtain his license until he receives a diploma from the Atlanta School of Medicine in 1912, for which he has already qualified. He was admitted to the examination by special vote of the Board.

** Expelled from examination for cheating.

† This candidate's application indicated graduation from Meharry Medical College. Word from this school, however, states positively that he was not a graduate.

New Hampshire July Report

Mr. H. C. Morrison, regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, July 6-7, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 15, of whom 13 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine	(1910)	81
Baltimore Medical College	(1911)	81
Boston University	(1911)	84, 87
Tufts College Medical School	(1907)	80
	(1910)	80
	(1911)	80
Harvard Medical School	(1902)	80
	(1911)	80
Dartmouth Medical School	(1910)	78
	(1911)	81, 83
University of Vermont	(1911)	76
FAILED		
Medical School of Maine	(1877)	64
Laval University, Canada	(1911)	71

New Mexico July Report

Dr. J. A. Massie, secretary of the New Mexico State Board of Health and Medical Examiners, reports that at the meeting held by that board, July 10-11, 1911, 23 candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

College	Year of Grad.
Denver and Gross College of Medicine	(2, 1909)
Northwestern University Medical School	(1904)
University of Louisville	(1911)
University of Louisiana	(1871)
Tulane University of Louisiana	(1892) (1909)
Baltimore University	(1897) (1903)
University of Maryland	(1909)
University Medical College, Kansas City	(1906)
Missouri Medical College	(1898)
St. Louis College of Physicians and Surgeons	(1897) (2, 1911)
Jefferson Medical College	(1898)
University of Pennsylvania	(1879) (1892) (1895)
Medico-Chirurgical College, Philadelphia	(1901)
Temple University	(1910)
University of Nashville	(1902)
University of the South	(1899)

South Dakota July Report

Dr. L. G. Hill, secretary of the South Dakota Board of Medical Examiners, reports the written examination held at Mitchell, July 12-13, 1911. The number of subjects examined in was 13; total number of question asked, 100; percentage required to pass, 75. The total number of candidates examined was 26, of whom 24 passed and 2 failed. The following colleges were represented:

College		Year Grad.	Total No. Examined.
	PASSED		
Rush Medical College		(1910)	3
Hahnemann Medical Coll. and Hospital, Chicago		(1909)	1
Northwestern University Med. School		(1905) (1909)	2
Coll. of P. and S., Chicago		(1909) (1910) (2, 1911)	4
Chicago Homeopathic College		(1904)	1
University of Iowa College of Medicine		(1911)	1
Drake University		(1902)	1
Univ. of Mich., Dept. of Med. and Surg		(1910)	1
Grand Rapids Medical College		(1906)	1
University of Minnesota, College of Medicine		(1909)	2
Creighton Medical College		(1907) (2, 1910) (2, 1911)	5
University of Nebraska		(1911)	1
University of Toronto, Ontario		(1908)	1
	FAILED		
Bennett Medical College		(1911)	1
Bellevue Hospital Medical College		(1892)	1

Rhode Island July Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, July 6-7, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 12, of whom 8 passed and 4 failed. The following colleges were represented:

College		Year Grad.	Per Cent.
	PASSED		
Medical School of Maine		(1911)	93
College of Physicians and Surgeons, Baltimore		(1911)	88.1
Baltimore Medical College		(1909)	83.4
Harvard Medical School		(1910) 89.9; (1911)	81.1, 87.4, 92.4
Long Island College Hospital		(1911)	84.2
	FAILED		
University of Maryland		(1911)	75.7
Tufts College Medical School		(1911)	77.4
University of Vermont		(1910)	75.6
Laval University, Quebec		(1911)	68.6

Vermont July Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Examiners, reports the written examination held at Burlington, July 11-13, 1911. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 41, all of whom passed. The following colleges were represented:

College		Year Grad.	Per Cent.
	PASSED		
Gross Medical College		(1902)	77.9
Harvard Medical School		(1898)	76.3
Tufts College Medical School		(1910)	79.1
Eclectic Medical College of New York		(1911)	78.6, 82.6
Columbia University, Coll. of P. and S.		(1911)	85
University of Pennsylvania		(1910)	83.8
University of Vermont		(1900) 55.5* (1908) 81.8; (1909) 77.1, 78.5; (1910) 78.6, 83.8, 86.5, 92.6; (1911) 76.9, 78.4, 77.6, 78.7, 80.3, 81.8, 82.1, 82.2, 82.6, 83.1, 83.1, 83.2, 83.4, 83.8, 83.9, 84.7, 85.2, 86.1, 87.6, 87.8, 88.2, 88.3, 88.5, 88.7, 92.3.	
University of Rome, Italy		(1898)	79.4

* By vote of board, a certificate was issued to this candidate for reasons satisfactory to the board.

Corrections in State Board Reports

Dr. G. M. Williamson, secretary of the North Dakota State Board of Medical Examiners, informs us that the graduate of the Keokuk Medical College, College of Physicians and Surgeons, 1906, examined July 5-7, 1911, received an average of 84.2 per cent. instead of 80 per cent. as was previously reported.

Correspondence from Dr. G. H. Sumner, secretary of the Iowa State Board of Medical Examiners, indicates that one of the candidates who failed at the examination held by that board, June 5-7, 1911, was a graduate of the Maryland Medical College, 1908, instead of the Baltimore Medical College as was previously reported.

The two reports referred to were published in The Journal, Sept. 16, 1911, on pages 1001 and 1002.

Book Notices

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Volume VIII, Diseases of the Brain and Mental Diseases. Pp. 1070, with illustrations. Volume IX. Diseases of the Skin With General Index. Pp. 869, with 170 illustrations. Cloth. Price, $6 net per volume. New York: Macmillan & Co., 1911.

In preparing the various volumes in this system, it has been the aim of the authors to publish one volume each year. In the main, this scheme has been carried out as planned, although on two occasions, two volumes have appeared in the same year. Volume I appeared in 1905 and the succeeding volumes have been published at intervals since, and were reviewed in The Journal. While this method of publishing may not appeal to some readers, it nevertheless possesses some advantages in that it is primarily historical. Each volume is complete up to the time of publication. It is not necessary at this time to mention the good features of the previous volumes of this work, but it may not be amiss to emphasize the value of the many references to current literature appended to each article. American works on medicine are woefully deficient in this respect.

Volume VIII, now before us, is devoted to the diseases of the brain and mental diseases. In the first edition the eighth volume also contained a discussion of the diseases of the skin, which are considered in Volume IX of the new edition. The most notable change in this portion of the work has been made in the chapter on meningitis, to which 66 pages are devoted. The author has not failed to include every known type, even that accompanying rheumatism and mumps. The same author contributes a very excellent article on acute polio-encephalitis, in which he subscribes to the current views held as to the etiology of the disease. Other new chapters are those on "Recurrent Paralysis," by J. Mitchell Clarke, and "Apraxia and Agnosia," by J. Collier. Naturally, many chapters have been revised or rewritten to keep pace with the great progress which has been made in neuriatry. Neither Freud nor psycho-analysis is mentioned. Mackenzie in his article on "Migraine" does not agree with Gould in his refraction error theory. He regards the disease as hereditary. A most commendable chapter is the one by Nicolson on "Criminal Lunacy." It bristles with valuable and instructive statistics and from every point of view is one of the best contributions on this subject. A short chapter on insanity and surgical operations by Dent presents this topic well.

Volume IX, the concluding volume, contains 750 pages on the "Diseases of the Skin" and the general index. The text is further elucidated by 170 illustrations and 2 plates, but unfortunately black-and-white pictures are of little value to depict skin lesions. Among the contributors to this volume are H. G. Adamson, H. R. Crocker, T. C. Fox, J. Galloway, J. Hutchinson, J. M. H. MacLeod and J. H. Sequeira. A very comprehensive chapter on the bacteriology of the skin introduces the subject of dermatology, which is presented clearly, fully and instructively. Each chapter is essentially a review of what is known to-day and the references cited at the end of each part are exceedingly valuable, giving the reader an opportunity to search further, if he so desires. Many chapters have been entirely rewritten, as for instance, the chapters on eczema, tumors, tuberculosis and pruritus. New ones have been added on such subjects as blastomycosis, sporotrichosis and calcareous deposits. On cursory examination, a most favorable impression is conveyed as to the scope and thoroughness of the work. Differences of opinion are not subject to review.

Tuberculosis Hospital and Sanatorium Construction. Written for the National Association for the Study and Prevention of Tuberculosis. By Thomas Spees Carrington, M.D., Assistant Secretary. Paper. Pp. 164. New York: 105 East 22d Street, 1911.

This book should be of assistance to those building sanatoriums, or to those adapting cottages for the use of the tuberculous. Excellent illustrations are given and detailed plans with measurements and descriptions, taking up various styles of architecture from simple to complex. Many of the well-known institutions of the country are here diagrammed.

Medicolegal

Liability of Company for Medical Services Rendered to Injured Employee on President's Promise of Payment

(Scott vs. Monte Cristo Oil & Development Co. (Cal.), 115 Pac. R. 64)

The Court of Appeal, Second District, California, affirms a judgment in favor of a physician for professional services rendered and medicines furnished to an employee of the defendant company, who had been seriously injured, his skull being fractured, necessitating an operation of trephining. The plaintiff had been called by telephone and later told by the president of the company, in the presence of the superintendent, that the company would pay the bills; but the company contended that the evidence failed to show any authority, either express or implied, on the part of the president or superintendent of the corporation to act for it in making such agreement or incuring such liability.

No question of *ultra vires* or the corporation's having exceeded its charter powers, the court says, was involved. The superintendent received his orders and instructions on behalf of the corporation from its president, who instructed him to do all that he could for the boy. There was also evidence to the effect that the plaintiff, after dressing the employee's wounds at the bunkhouse, asked whether they would send him to the hospital as a county charge, or to the private sanatorium, where the hospital charges would be $25 per week.

If the injury to the employee was due to the negligence of the corporation, then, in the absence of contributory negligence on his part, the corporation would be liable to him for these claims and he might recover therefor. Such circumstances would constitute a sufficient consideration for the making of the agreement and raise a presumption that it was in the interest of the corporation to do what it could to reduce its liability for damages on account of such injury.

It could not be said that an agreement of this character, made under such conditions, would not be within the scope of authority vested in one charged with the general power shown to have been exercised by the president of the corporation. The directors did not meet in that county, all of its business there was transacted through its president, and, since he was held out by the corporation as possessing full power to act in its behalf in all matters arising and transacted in that vicinity, then, in the absence of anything to the contrary, the evidence was sufficient to raise a presumption that he was vested with the authority which he purported to exercise in making the agreement. Under the circumstances disclosed by the record, the court deems it but a reasonable inference to conclude that the making of this agreement by the president as such was within the scope of the powers vested in him by the corporation.

Moreover, conceding that the company was not responsible for the injuries received by the employee, and might have refused to assist or care for him in any way, nevertheless it recognized an obligation to do something toward relieving his suffering and assisting him, and did send him to the sanatorium and paid for the services rendered in such transportation, which, however small, constituted some ratification of the acts of its president.

The case was not unlike that of Fraser vs. San Francisco Bridge Company, 103 Cal. 79, where it was held under the circumstances of that case that the moral obligation resting on the defendant to furnish assistance and care to an injured employee, for which the corporation was in no wise responsible, constituted a sufficient consideration for the agreement made by the president of the company to pay a physician for professional services rendered such employee.

The finding in this case to the effect that the injury was received by the employee while performing the duties of his employment found no support in the evidence; but, under the court's view of the case, the error was not prejudicial and should be disregarded as immaterial.

Admissibility of Testimony in Case of Examination of Patient Through Interpreter

(Salminen vs. Ross (U. S.), 185 Fed. R. 997)

A United States Circuit Court, in Massachusetts, holds that in a personal injury case the testimony of a physician who examined the plaintiff through a companion who acted as an interpreter for the physician was not objectionable as mere hearsay, where, so far as the testimony of the physician included subjective symptoms and a history of the case communicated to him through the interpreter, that was merely testimony given by the physician as the reason for his conclusion, and the testimony was not admitted to prove the truth of the statement, but only to form the basis for an expert opinion. Whether the statements were derived directly from the patient or indirectly through an interpreter, they were insufficient to show the plaintiff's condition as a matter of fact

Liability for Death Made Possible by Prior Surgical Operation

(Louisville & Nashville Railroad Co. vs. Chamblee (Ala.), 54 So. R. 681.)

The Supreme Court of Alabama, in affirming a judgment against the railroad company for damages for the death of a man from strangulation of the bowels, says that there was evidence tending to show that the handling of the man by the company's watchman caused the parting of the casing of the bowels at a place or places where previously a surgical operation had been performed. If the violent treatment alleged to have been received by the man had the effect to cause his death, or accelerate his dissolution as a consequence of the earlier surgical operation, the company, if shown otherwise to be liable, could not claim exemption from the result of its employee's (watchman's) acts in the course of his service to it.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

September

1 *Is There Specific Treatment for Diabetes Mellitus? H. Sewall, Denver.
2 *Passing Leakage of Pulmonary Valve. R. D. Rudolf, Toronto, Canada.
3 *Auscultatory Method of Determining Blood-Pressure. E. H. Goodman and A. A. Howell, Philadelphia.
4 *Diffuse Selective Sclerosis of Superficial Veins. H. Brooks, New York.
5 Retrobulbar Neuritis as Exact Diagnostic Sign of Certain Tumors and Abscesses in Frontal Lobes. F. Kennedy, New York.
6 Surgical Treatment of Nephritis. M. B. Miller, Philadelphia
7 *Quantitative Determination of Functional Renal Sufficiency by Duboscq Colorimeter; Indigocarmin vs. Phenol-Sulphonephthalein. B. A. Thomas, Philadelphia.
8 *Actinomycosis in Norway: Etiology, Modes of Infection and Treatment. F. Harbitz and N. B. Grondahl.
9 *Embryos of Trichinella Spiralis in Blood of Patients Suffering from Trichiniasis. A. R. Lamb, New York.
10 *Bacterin Treatment of Septic Rhinitis of Scarlet Fever; Report of One Hundred Cases. J. A. Kolmer, Philadelphia, and P. G. Weston, Warren, Pa.
11 *Chronic Pneumonia (Including Two Cases of Syphilis of the Lung). L. S. Milne, New York.

1. Abstracted in THE JOURNAL, June 17, 1911, p. 1849.

2. **Passing Leakage of Pulmonary Valve.**—Three cases are reported by Rudolf in which an evident mitral lesion so raised the pulmonary artery blood-pressure that that vessel and along with it the pulmonary orifice dilated and a murmur occurred, which came and went in two of them over a period of years. These three cases are examples of the so-called Graham Steell murmur. In two other cases cited no such cause seemed to exist, and probably the leakage was more due to relaxed tissues about the pulmonary orifice than to any marked increase in the blood-pressure of the pulmonary artery. A pulmonary systolic murmur, the commonest of all functional bruits, probably depends on a dilatation of the pulmonary artery, and in most cases tends to disappear. When, however, the dilatation involves the pul-

monary orifice so that a diastolic leakage occurs the condition is of more import, although even yet it may completely clear up. From the dilatable character of the pulmonary orifice, and on the other hand the resistant nature of the aortic one, Rudolf regards it as probable that most of the diastolic murmurs which come and go, and which are usually reported to be aortic in origin, are due to passing leakage at the pulmonary valve.

3. **Determining Blood-Pressure.**—Special attention was given by Goodman and Howell to sequence readings and to their interpretation, and it is to this aspect alone that the present paper is dedicated. They interpret variations in sequence readings by assuming that each phase has a physiologic factor in its production in addition to the anatomic unit, and though these hypotheses have not the firm basis of an experimental control, yet clinical experience has lent some weight to their probable correctness. The first phase, or tone phase, serves principally as an index as to how far the pressure must fall before the blood-current can be sustained past the obstruction in the vessel caused by the cuff, at a sufficient velocity and for a sufficient duration to produce the murmur. Hence the information it affords is of negative rather than of positive value. In other words, its normal duration is of no value, but an increase or decrease in length is of importance. The second, or the murmur phase, seems to be especially dependent on cardiac effectiveness, for it is in this phase alone that the individual sounds possess a distinct element of duration, and this protracted energy, for so it must be regarded, must evidently come from the heart. The third phase, or second tone phase, depends not alone on cardiac efficiency, but also on the character of the vessel wall. The more sclerotic the vessel and the greater the cardiac hypertrophy, the more favorable are the conditions for the production of a clear tone. As the fourth phase, or dull tone, may be produced by a resilient vessel receiving a normal pulse shock, or by a rigid vessel receiving a weakened shock, its interpretation is more difficult, but its study quite as interesting.

If these assumptions are correct, it is quite evident that increases in the second and third phases are dependent on cardiac strength and circulatory efficiency, while the first and the fourth phases suffer increase when there is cardiac weakness. Furthermore, in dealing with increases or decreases in any particular phase, it is important to know at the expense of what adjacent phase this has occurred. It is apparent that an increase in the third phase, for example, at the expense of the second, has not the same significance as an increase of this phase at the expense of the fourth. In the first instance the unit of cardiac strength, obtained by adding the lengths of the second and third phases, has not been materially changed, while in the latter it has been increased. For this reason the authors recommend that the sum of the second and third phases be compared with the sum of the first and fourth phases, in order to determine whether the elements of force or those of weakness are predominating.

4. **Sclerosis of Superficial Veins.**—The chief features presented by Brooks' case were, a diffuse, isolated sclerosis of the superficial veins of the inner side of the thigh with phlebitis and thrombosis of one. This condition is remarkable in that the sclerosis was apparently limited to the superficial veins, and was relatively much more marked in them than in the other veins or arteries. Although the coagulation time of the blood was considerably reduced the chief factor back of it was the markedly altered, and in this instance clearly sclerotic alteration in the walls of the veins. With no other evidence at hand, and the case was most carefully studied in all its aspects, Brooks believes that this selective venous sclerosis was induced by syphilitic infection either congenital or early contracted.

7. **Functional Renal Sufficiency.**—Quantitative colorimetric determinations of indigocarmin and phenolsulphonephthalein Thomas believes are of very great value in the estimation of the total renal function, particularly in such conditions as nephritis and damaged kidneys, incident to prostatic enlargement, etc., causing poor drainage and resulting in vis a tergo pressure. These substances routinely employed by the surgeon as indicators for or against surgical intervention, particularly in contemplated prostatectomies, but likewise in other fields of surgery, will aid materially in the reduction of operative mortality. Although, he says, each substance has its particular advantages and indications as a test, indigocarmin, at least for the purposes of the surgeon, especially in the diagnosis and prognosis of unilateral renal disease, seems just as useful and possibly more practical than the new drug phenolsulphonephthalein. Phenolsulphonephthalein in many respects is an ideal substance for employment in studying the pathology and physiology of the kidney. It may possibly be more sensitive than indigocarmin, in fact, may prove to be too delicate. On the other hand, the technic of the test is extremely simple and may be employed painlessly; Preference should be extended to this drug over indigocarmin whenever it is desirable to learn the total or combined efficiency of both kidneys.

8. **Actinomycosis in Norway.**—The authors' series includes 87 cases, and the lesions were distributed as follows: 45 per cent. of the cases occurred on the neck and face (all cured); 23 per cent. in the thorax (all dead); 30 per cent. in the abdomen (19 dead, 5 cured); 2 per cent. on the skin (1 dead, 1 cured). Fifty-six cases occurred in men, 27 in women, and in 7 the sex was not given. Two occurred in the first decade (boys); 12 occurred in the second decade (10 men, 2 women); 26 occurred in the third decade (17 men, 9 women); 16 occurred in the fourth decade (10 men, 6 women); 13 occurred in the fifth decade (8 men, 5 women); 7 occurred in the sixth decade (4 men, 3 women); 3 occurred in the eighth decade (3 men). Among the 39 cervicofacial cases, in 15 the lesions were located on the cheek, especially on the maxilla, the forehead and the parotid region; in 20 they were on the mandibular or on the submental region and in 3 they were located farther down the neck, and 1 tumor was on the tongue. The infection atrium was in every instance the mucous membrane of the oral cavity, and often the part covering the gums. There was no evidence of the fungi having entered by carious teeth. All the 39 patients recovered.

In the thoracic group the primary lesion was always in the lungs, and, as a rule, in the lower lobes. The disease simulated an atypical bronchopneumonia or pulmonary tuberculosis, with fever, dyspnea, cough and a rusty, tenacious sputum, which, as a rule, contained the characteristic sulphur granules. Everyone of these cases terminated fatally. The average duration was one to one and one-half years. One patient lived on for eight years. The primary lesion of the abdominal cases was some part of the alimentary tract, most often the vermiform appendix. There were no primary lesions in the rectum, bladder or genital organs, although gravitation abscesses did extend into these organs. The disease occurred as localized abscesses most often in the ileo-cecal region. These spread both extra- and intra-peritoneally. Liver abscesses were frequently found. The average duration of the fatal cases was one to two years. In the 2 patients where the disease was primary in the skin, 1 had a localized abscess on the arm which soon healed. The other had a phlegmonous infection of the leg, that originated from an ulcer that started during the harvest. This man's leg was amputated, but he died.

9. **Embryos of Trichinella Spiralis in Blood.**—The examination of the blood sediment for the embryos of *Trichinella spiralis* suggesting trichiniasis. The earliest time at which the Lamb believes to be a valuable means of diagnosis in cases embryos may be found in the blood is on the sixth or seventh day after infection. The latest date is not so accurately fixed. While the parasites have not been found later than the twenty-seventh day after infection in guinea-pigs, or later than the twenty-second day after the onset of symptoms in man, there is some ground for the belief that they may occasionally be recovered in the fifth or possibly the sixth week after injection. Lamb has found this method of greatest value in those cases where the diagnosis is doubtful and especially where the patient refuses permission to excise a piece of muscle or where the muscle findings are negative.

10. **Septic Rhinitis of Scarlet Fever.**—Kolmer and Weston regard the nasal discharges as of primary importance in the etiology of the return case of scarlet fever, because the true rhinitis of scarlet fever is septic in character, distinctly infectious in itself, and probably harbors the contagium of scarlet fever. They found the bacterin treatment of cases of septic rhinitis to be more satisfactory than the usual treatment. It shortens materially the time required for cure and decidedly aids in decreasing the number of return cases.

11. **Chronic Pneumonia.**—A very exhaustive study of ten cases of chronic pneumonia leads Milne to conclude, (1) that they are a possible sequence of acute pneumonia; (2) that they are particularly found in subjects debilitated by some intercurrent condition, but that no single factor such as cardiac conditions, nephritis, arteriosclerosis, alcoholism, tuberculosis or syphilis is responsible for its production. The onset is extremely irregular in type, and may be acutely febrile, simulating the usual commencement of a croupous pneumonia in subjects of the same age or typical signs of pneumonic consolidation may be evident without there having been any especial initial pneumonic symptoms or there may even be no increase in temperature or abnormality of the pulse and respiration rates. The prognosis in such conditions is bad, as not only is death very frequent from cardiac insufficiency, but complications, such as empyema, pericarditis, peritonitis, meningitis, etc., are extremely frequent, and what is very important that any of these conditions may supervene even after long periods of apparent quiescence of the pneumonia—seven out of the ten cases were complicated in this way, an infinitely higher proportion than occurred in the rest of the pneumonia series: forty-one out of ninety-five cases of lobar pneumonia, including nine which had become organized, and ten out of sixty-four cases of bronchopneumonia, including one which was organized, were complicated. Such conditions, Milne believes, may undoubtedly be recovered from as far as symptoms are concerned, yet maintaining physical signs of pneumonic consolidation. It is just such cases which are apt to be mistaken for tuberculosis or possibly syphilitic fibrosis. In this connection it is also possible that the development of bronchiectasis or subsequent tuberculous infection may further complicate the case. Collapse, tubercle, infarction and syphilis of the lung, etc., are distinguishable from chronic pneumonia. Once organization processes in the lung have advanced to any marked extent one cannot imagine any complete restoration, as some cicatrization must be permanent.

Louisville Monthly Journal of Medicine and Surgery

September

12 Head Injuries: Report of Cases. A. M. Vance, Louisville.
13 Physician Twenty-Five Years Ago and Now. C. W. Kavanaugh, Lawrenceburg, Ky.
14 Arsenic in Malaria. R. Powell, St. Louis, Mo.
15 European Travel Notes. A. Schachner, Louisville, Ky.
16 Postoperative Hernia with Resection of Intestine. L. Frank, Louisville.
17 Cesarean Section by High Incision. Pylorectomy: Report of Cases. L. Frank, Louisville.
18 Gunshot Wound of Arm. Sarcoma of Kidney: Report of Cases. W. O. Roberts, Louisville.
19 Tuberculosis of Kidney. B. C. Frazier, Louisville.
20 Importance of Certified or Pasteurized Butter. A. F. Hess, New York.

Virginia Medical Semi-Monthly, Richmond

September

21 Visceroptosis. J. N. Baker, Montgomery, Ala.
22 Rôle of Tonsils in Systemic Disease. H. T. Aynesworth, Waco, Texas.
23 Diagnosis of Incipient Tuberculosis. J. J. Lloyd, Lynchburg, Va
24 Local Treatment of Gonorrheic Infections. M. C. Sycle, Richmond.
25 Indications for Gastro-Enterostomy. D. W. Prentiss, Washington, D. C.
26 Some Common Errors in Operative Technic. R. P. Bell, Staunton, Va.
27 *Stab Wound of Heart, Drainage of Pericardium, Recovery. H. S. Lott, Winston-Salem, N. C.

27. **Stab Wound of Heart.**—In the case cited by Lott the wound was found to be about midway on a line drawn just a little upward from the left nipple to the sternum. A free incision was made, exposing the fourth costal cartilage, which had been cut through transversely, the knife having entered the structures beyond, and in such direction as to indicate some injury to the heart. On the removal of this cartilage in two sections and the introduction of the fingers into the wound, blood-clots were found, as also a ragged puncture through pleura, lung structure, pericardium and into the heart muscle, for a depth quite sufficient to be easily perceptible to the touch, although not penetrating into its cavity, and situated at a point in the upper third of the ventricle quite near to the line of division between this and the auricular cavity. The wound in the muscular wall of the heart was not of such depth as to justify closure with stitches; nor did Lott feel inclined to close the pericardium and other supervening structures, thus making a sealed wound. But considering the infected weapon, the deep puncture and the unavoidable trauma from blood-clots and manipulation, he determined to drain both pericardial and pleural cavities. In order to accomplish this, two pieces of rubber tubing were used, each one of them split open on one side for its entire length, and its lumen filled with a soft gauze wick. One of these tubes, the longer one, was passed through the rent in the pericardium and well down to the limit of the apex of the heart; and the other one, not quite so long, through the rent in the pleura and lung tissue and well down into the pleural cavity, posteriorly. These were fixed in the usual manner with safety pins, and an ample gauze and cotton dressing made secure with a many-tailed bandage. Hypodermics of morphia were given to relieve pain and secure quiet, and during this first forty-eight hours the clinical picture was a most interesting one. The heart was very erratic, the pulse going all gaits, ranging from 100 to 140. After forty-eight hours the tubes were drawn up for about 1 inch and cut off, and this was continued each day until they were out of the cavities. Drainage during this time was very free. The dressings were not disturbed. This drainage lessened each day, and by the time that the tube was withdrawn from the pericardial cavity, had practically ceased, and from that source there was no further trouble. The heart's action became more regular, but its rate was accelerated, ranging throughout this time from 100 to 112; and finally, when he left the hospital about five weeks from the time of his entrance, the range of the pulse was from 80 to 90 in the twenty-four hours.

Buffalo Medical Journal

September

28 Conservative Ophthalmology. , F. P. Lewis, Buffalo.
29 Three Years with Army of Potomac. W. W. Potter, Buffalo.
30 Heterophoria Superstition. G. M. Gould, Ithaca, N. Y.

Journal of Cutaneous Diseases, New York

September

31 *Dermatitis Vegetans in Infants. G. W. Wende and H. K De Groat, Buffalo.
32 Differential Study of Multiple Benign Cystic Epithelioma and Adenoma Sebaceum in the Negro. R. L. Sutton, Kansas City.

31. **Dermatitis Vegetans in Infants.**—The authors emphasize the occurrence in infancy of a clinically well-defined and charactersitic group of cases of dermatitis vegetans. They report four cases and review six others. All occurred in healthy infants under 1 year of age. Six developed in the course of eczema and four independently of any other dermatosis. In six patients the lesions were limited to the face with the exception of a few scattered lesions on the scalp: in the other four, the wrists, arms and legs were involved. The initial lesion was a papulo-pustule. The pustule soon dried up or ruptured and discharged its contents, and on the reddened base there developed the characteristic secondary lesion of the disease. This consisted of vegetating masses varying from split-pea to walnut size or larger, and elevated from ¼ to 1 inch above the skin surface. Some of the lesions developed from the base of a single pustule, others by the coalescence of several. The individual lesions often contained miliary pustules, especially near their borders, exuded a purulent fluid on pressure, and when the crusts or scales covering them were removed presented a warty appearance. There was no constitutional reaction and disturbance of sensation was apparently very slight. A gratifying feature was the benign course of the disease, all cases yielding to antiseptic treatment in from two to eight weeks.

Medical Fortnightly, St. Louis

September 11

33 Emergency Surgery. G. W. Broome, St. Louis.
34 In the Twilight. C. E. Warren, North Easton, Mass.
35 Intestinal Lesions Caused by Abdominal Contusions. Enderlen, Wurzburg, Germany.

New Orleans Medical and Surgical Journal

September

36 *Etiology of Pellagra. C. Thorington, Montgomery, Ala.
37 Three Cases of Animal Parasites in Urine. W. Kranss, Memphis, Tenn.
38 Salvarsan and Syphilis. G. J. Winthrop and H. P. Cole, Mobile, Ala.
39 *Lingual Tonsil. H. Dupuy, New Orleans.
40 Large Submucous Fibromyoma Complicating Pregnancy: Report of Case. C. W. Groetsch, New Orleans.
41 Complete Prolapse of Funis, Treatment. A. C. King, New Orleans.
42 Relative Immunity of Negro to Alcoholism. G. F. Patton, New Orleans.

36. **Etiology of Pellagra.**—Thorington suggests the mosquito as a probable factor in the conveyance of pellagra and points to the similarity in symptoms between pellagra and malaria.

39. **Lingual Tonsil.**—Dupuy emphasizes that there is such a structure as the lingual tonsil, which, while a diminutive lymphoid deposit, is quite frequently the source of considerable distress, and that proper remedial measures afford the most gratifying relief. The enlargement of the lingual tonsil is seldom of sufficient dimensions to make it feasible for excision, and the profuse, and perhaps dangerous, bleeding renders it inadvisable to resort to a cutting operation as a routine measure. The galvano-cautery, properly applied, will reduce the ordinary hypertrophies, and is equally effective in destroying the lingual varix. In the acute and subacute inflammations, the silver salts, iodized phenol and menthol, in spray form, are of undoubted efficiency.

Denver Medical Times and Utah Medical Journal

September

43 Pleurisy and Tuberculosis. W. F. Waugh, Chicago.
44 Cancer of Penis. Schools of Instruction for Sanitarians. W. P. Munn.
45 *Aseptic Hospital Floor. C. J. Fox, Washington, D. C.
46 Utah's Water-Supply. F. E. Clark, Logan, Utah.
47 The Crime of Love. G. H. Bogart, Terre Haute, Ind.

45. **Aseptic Hospital Floor.**—Fox says that, perhaps, hospital architects have not attached enough importance to the subject of hospital floors. In spite of the present-day system of ventilation, the isolation of kitchens, laundries and closets, the removal of all dirt of every character, the frequent use of disinfectants and the sterilizing of all instruments, the hospital cannot be sanitary unless it is provided with an aseptic floor. The wooden floor so common in many of our finest hospitals is not only quite out of keeping with the sanitary arrangements of the rest of the building, but it is a positive danger, from the fact that it becomes a harbor for microorganisms and infectious growths of all kinds. Wood, terrazzo, lead, tile, marble, glass, rubber and monolithic materials have been used, but none of these has proven entirely satisfactory. After examining all of the proposed floor materials, it must be admitted that the best so far discovered is the floor of baked clay tile, which consists principally of silicate of alumina, and is an inorganic substance which attains a greater hardness than almost any natural stone. It is so hard that a sharp steel point cannot scratch it, but merely makes a mark on it like a lead pencil. As a silicate of aluminum, it cannot be attacked by any acid, with the exception of hydrofluoric, which there is no occasion to use. As vegetable growths require nothing in the way of clay for their development, the clay is absolutely sterile as far as they are concerned. There has been much said about the cracks, or joints between the tile, but these are completely filled with pure cement grouted in hard so that the joint is but a joint in appearance and not in the sense of the open or unfilled joints of the wooden or rubber tile floor. Baked clay tiles, even in the joints between them, are nonabsorbent, germ-proof, fire-proof, impossible to stain, easy to keep clean, pleasing to the eye and very durable. While the "perfect hospital floor" may still be a thing of the future, the nearest approach to this goal of perfection has been reached by the clay tile, the sanitary and durable qualities of which are as yet unsurpassed by any flooring material.

Journal of Ophthalmology and Oto-Laryngology, Chicago

September

48 Improved Method for Extraction of Immature Cataractous Lens. H. E. Smith, Norwich, N. Y.
49 Hypertrophic Rhinitis in Southwestern States. W. B. Newton, Muskogee, Okla.

Cleveland Medical Journal

August

50 *Four Cases of Von Recklinghausen's Disease. H. N. Cole and H. K. Shawan, Cleveland.
51 Appendicitis During Pregnancy and Labor. A. H. Bill, Cleveland.
52 Activity of City of Charlottenburg, Germany, in Reduction of Infant Mortality. H. J. Gerstenberger, Cleveland.
53 Case of Vaginal Hemorrhage in New-Born. L. A. Pomeroy, Cleveland.
54 Some Indications for Surgical Treatment of Chronic Gastric Ulcer. F. C. Herrick, Cleveland.

50. **Von Recklinghausen's Disease.**—In four cases of von Recklinghausen's disease, occurring at the Lakeside Hospital in the past ten years, three patients had multiple cutaneous tumors and pigmentations; while in three of them large Ranken-neuromata, two of the face and one of the back, were found. In one patient an immense neuroma lymphangiectatica of the sternum was present. No especial functional disturbances were noted except pain in the cutaneous nodules in one of the cases and severe frontal headaches in another. In two of the cases the tumors were congenital, in another the growths were present for years; while in another trauma at the age of 2 years was given as the cause of the growth. Heredity was present in but one case, the patient's mother and three sisters being affected to his knowledge. Recurrence of a Ranken-neurom of the face, following operation was found in one case, but there was no sarcomatous change as is found in 12 per cent. of such cases. In three of the cases histologic examination revealed fibromata with enclosed nerves; while in the other patient the tumors were cut from nerves at the time of examination, though nothing was said of nerve tissue in the histologic description of the sections. It was impossible to corroborate Verocay's findings that the tumors arise from the sheath of Schwann or its precursor neurons and therefore should be called neurinoma. However, in one case the nerves were not well defined from the surrounding fibrous tissue and there was a marked increase in the nuclei of the sheath of Schwann.

Journal of Maine Medical Association, Portland

September

55 State and Condition of Medical Profession of Maine. E. H. Bennett, Lubec.
56 Acute Abdomen. J. B. Deaver, Philadelphia.
57 Tuberculosis of Lungs in Infants and Children. T. J. Burrage, Portland.
58 Cooperation in Medicine. B. F. Barker, Bath.
59 Medical Inspection of Public Schools. D. E. Dolloff, Biddeford.

Bulletin of Manila Medical Society

July

60 Postoperative Care of Surgical Patient. J. R. McDill.
61 *Urinary Pigment as Diagnostic Sign in Malaria. F. B. Bowman.
62 *Some Observations on Rupture of Uterus. F. Calderon.
63 Municipal Milk Supply and Suggestions for Its Betterment. J. H. Fitzbutler.
64 Progress of Medical Research in Philippine Islands. W. E. Musgrave.

61. **Urinary Pigment as Diagnostic Sign in Malaria.**—The urine from fifteen cases of malaria was examined by Bowman following the technic described by Uriolla for finding pigment elements and in fourteen of these specimens pigment granules were found. Then twenty-four specimens from cases with no symptoms of malaria and no previous history of "chills and fever" were examined and in twenty of these pigment granules were found similar to those seen in urine from the malaria cases. Bowman says that although pigment may be present in the urine in cases of malaria, as a method of diagnosing the disease it would seem to require a great deal of experience to distinguish the different kinds of pigment, definitely enough to make the examination of any practical value.

62. **Rupture of Uterus.**—Obstetric curettages (not gynecologic) are held to be very dangerous by Calderon and, he

says, should be done by the fingers whenever possible. In transverse presentations of dead or moribund fetuses, with the os dilated, the membranes broken, and the uterus in a state of tetanic contraction Calderon would not do a podalic version. Embryotomy should be performed to save the life of the mother. In cases with rigid, undilatable os where a rapid evacuation is necessary, as in cases of eclampsia and placenta prævia, Calderon says, it is better to extract the fetus by the abdominal route, otherwise the mother is exposed to the danger of cervical uterine tears.

Annals of Surgery, Philadelphia

September

65 Treatment of Fractures of Long Bones. R. H. Harte, Philadelphia.
66 Treatment of Far-Advanced Malignant Disease. J. H. Gibbon, Philadelphia.
67 *Extirpation of Tumors of Vomer Through Roof of Mouth. C. H. Mayo, Rochester, Minn.
68 *Pyloroptosis; Gastric Atony as Original Cause of Neurasthenia, Its Cure. A. Maclaren and L. E. Daugherty, St. Paul.
69 *Ulcer of Stomach and Duodenum with Special Reference to End Results. W. J. Mayo, Rochester, Minn.
70 Obstruction of Ileum by Large Gall-Stone; Enterostomy; Subsequent Cholecystectomy and Suture of Duodenum. F. B. Lund, Boston.
71 Chronic Colitis and Pericolitis. A. G. Gerster, New York.
72 Two Cases of Intussusception Caused by Lipoma of Descending Colon. H. R. Wharton, Philadelphia.
73 *Suppuration in Half of Horseshoe Kidney. J. E. Thompson, Galveston, Texas.
74 *Surgical Treatment of Fistula in Ano Without Mutilation of Sphincter. K. A. J. Mackenzie, Portland, Ore.
75 Case of Everted Dorsal Dislocations of Hip. O. H. Allis and J. B. Roberts, Philadelphia.
76 *Treatment of Oblique Fractures of Tibia and Other Bones by Means of External Clamps Inserted Through Small Openings in Skin. L. Freeman, Denver.
77 Acute Pneumococcus Infections of Extremities. C. A. Powers, Denver.
78 Dislocation of Hip Complicated with Fracture of Femur. G. H. Monks, Boston.

67. **Extirpation of Tumors of Vomer Through Roof of Mouth.**—In two cases of malignant disease of the vomer, each with a pear-shaped enlargement of the septum which completely closed the posterior nares, Mayo was able to remove the growth through the roof of the mouth by the removal of a section of the bone 1 inch long and ¾ of an inch wide. In neither of these cases was it necessary to sever the soft palate as advised by Nélaton—a procedure which, he says, complicates the technic of the operation and the after-care of the patient.

68, 69, 73 and 74.—Abstracted in The Journal, Aug. 5, 1911, pp. 505 and 506.

76. Abstracted in The Journal, July 29, 1911, p. 411.

Journal of Biological Chemistry, Baltimore

September

79 Further Experiments on Determination of Iodin in Thyroid. A. Seidell, Washington, D. C.
80 Erepsins of Glomerella Rufomaculans and Sphaeropsis Malorum. H. S. Reed and H. S. Stahl.
81 Studies on Melanin; III. Inhibitory Action of Certain Phenolic Substances on Tyrosinase. R. A. Gortner, Washington, D. C.
82 *Mucic Acid and Intermediary Carbohydrate Metabolism. W. C. Rose, New Haven, Conn.
83 Hydantoins: 1-Phenyl-2-Thiohydantoins from Some Amino-Acids. C. A. Brautlecht, New Haven, Conn.
84 Hydantoins: Synthesis of 3,5-Dichlortyrosine. H. L. Wheeler, C. Hoffman and T. B. Johnson, New Haven, Conn.
85 Studies in Carbohydrate Metabolism. F. P. Underhill, New Haven, Conn.

82. **Metabolism of Mucic Acid.**—Rose found that mucic acid, in doses of 10 to 20 grams, was not completely oxidized by rabbits, but was in part excreted unchanged in the urine. When given in doses of 20 grams to a medium-sized dog, mucic acid was excreted unchanged in the urine in amounts large enough to identify. The greater portion of the acid was not recovered. After large doses of mucic acid, only a very small increase in oxalic acid elimination occurs in rabbits and dogs. This increase is by no means as large as would be expected if mucic acid were one of the precursors of oxalic acid. Rabbits and dogs receiving the amounts of gallactose and lactose stoichiometrically equivalent to 20 grams of mucic acid, excrete no mucic acid in the urine. Obviously, therefore, mucic acid is not an intermediary product in the metabolism of galactose-yielding sugars.

Journal of American Public Health Association, Columbus, O.

August

86 Bacteriologic Examination of Feces for Vibrio Cholera. A. M. Stimson, Washington, D. C.
87 *Bacteriologic Investigation of Commercial Ice Cream in Boston. E. A. Beckler and D. J. Dusossolt, Boston.
88 Relation of Universities to Public Health Work. H. W. Hill, Minnetonka, Minn.
89 Advantages of Cooperation Between State Boards of Health and State Universities. E. H. S. Bailey, Lawrence.
90 Relation of State University of North Dakota to State Board of Health. G. F. Ruediger, Grand Forks, N. Dak.
91 Relation of State Universities to Public Health Work. E. Barton, Urbana, Ill.
92 Purification of Water-Supply of Richmond, Va., by Sedimentation and Coagulation, Without Filtration. E. N. Ezekiel, Richmond.
93 Hypochlorite Treatment of Public Water Supplies: Its Adaptability and Limitations. G. A. Johnson, New York.
94 Practical Tests of Certain Factors in State Work Affecting Accuracy of Diphtheria Culture Diagnosis. A. J. Chesley, Minnesota.

87. **Commercial Ice Cream.**—The bacteriologic examination of ice cream in the city of Boston made by the authors showed that much of it contains more than 500,000 bacteria per cubic centimeter, the legal maximum. This is due partly to the large bacterial flora of the cream used, to long storage of the product, and in some cases to unsanitary methods of manufacture. Their analysis of samples of cream indicate that even the careful manufacturer, unless he has an exceptionally good cream-supply or depends on pasteurization, cannot expect to produce ice cream with a bacterial content within the legal limit.

Northwest Medicine, Seattle

September

95 Surgical Operations on Obese and Advantage of Preparatory Fasting. A. E. Rockey, Portland, Ore.
96 Arteriosclerosis with Special Reference to Heart and Kidneys. C. Neu, Seattle, Wash.
97 Some Recent Forms of Treatment of Arteriosclerosis. W. C. Heussy, Seattle.
98 Fundus of Eye in Arteriosclerosis. G. W. Swift, Seattle.
99 Health Inspection as Applied to Individual. E. V. Silver, Salt Lake City, Utah.
100 *Specialist and General Practitioner, Their Work and Professional Relations. H. Weir, Portland, Ore.
101 Some Clinical Facts About Ulcer of Stomach. G. F. Koehler, Portland, Ore.
102 Cerebral Palsies of Childhood, Importance of Early Diagnosis. R. P. Smith, Seattle, Wash.

100. **Specialist and Practitioner.**—Weir pleads for closer association of practitioner and specialist, for more frequent consultation, for increased confidence and exchange of professional courtesies, for more consideration of the rights and limitations of each, for full written reports and greater attention to the diagnosis, the value and necessity of such reports, for especial consideration of the rights of the practitioner who refers his patient to the specialist, but does not release or discharge him by so doing, for more specific information from the practitioner regarding the man as well as regarding the medical aspects of the patient he refers, for unity in treatment as well as generosity of service, and, last, but not least, combined effort to protect each from the man who will not pay his bills.

Archives of Internal Medicine, Chicago

September 15

103 *Pathologic Anatomy of Exophthlamic Goiter. D. Marine and C. H. Lenhart, Cleveland.
104 Symptomatology of Temporosphenoidal Tumors. F. Kennedy, New York.
105 Further Experience in Preventive Treatment of Rabies with Unchanged Virus Fixe. F. Proescher, Pittsburgh.
106 Some Chemical Transformations of Proteins and Their Possible Bearing on Problems in Pathology. F. P. Underhill, New Haven, Conn.
107 *Studies on Water-Drinking. P. B. Hawk, Urbana, Ill.
108 Immediate Effect on Complement Fixation Test for Lues of Treatment with Salvarsan. C. F. Craig, Washington, D. C.

103. **Exophthalmic Goiter.**—The thyroids of sixty-nine cases were studied by Marine and Lenhart. They found that the anatomic changes in the several body tissues in exophthalmic goiter are variable and manifold. The most prominent and most constant change is active hyperplasia of the thyroid and lymphoid tissues. These changes are not constant, since the exophthalmic goiter syndrome, as at present recognized, may coexist with a normal thyroid, with a colloid goiter, with an actively hyperplastic thyroid, with an atrophic thyroid or with a tumor of the thyroid. The great majority of individuals presenting this syndrome in recognizable form have some degree of thyroid and lymphoid hyperplasia, and

all true cases have had, during the developmental stage, active thyroid and lymphoid hyperplasia. Active thyroid and lymphoid hyperplasia are not specific for this syndrome, since similar anatomic changes are present in a variety of other abnormal body states.

The series of anatomic changes which occur in a thyroid as it passes from its normal or its colloid state through active hyperplasia and on to atrophy or to colloid goiter represents this tissue's biologic reaction whenever those biochemical disturbances in the organism's nutrition occur which excite its compensatory activity. Active thyroid hyperplasia means thyroid insufficiency, and although the causes which excite this activity are unknown and, therefore, may or may not be multiple, still, the basic anatomic reaction of the thyroid tissue seems to be the same in all the several clinical varieties of goiter and, indeed, seems to be the only one with which the thyroid tissue is endowed. The only defined physiologic activity of the thyroid secretion is that determined by its iodin content. Iodin is related to the exophthalmic goiter thyroid in the same way that iodin is related to the thyroid of other clinical associations and of other animals as well, viz., that iodin varies inversely with the degree of active hyperplasia. The ability of the exophthalmic goiter thyroid to take up iodin varies with the degree of active hyperplasia (hence inversely with the amount of iodin present) and is similar to that of other active thyroid hyperplasias in man and the lower animals. Iodin induces the same series of anatomic changes in exophthalmic thyroid goiter as in the other varieties of thyroid hyperplasias in man and animals.

The temperature and pulse reactions both before and after operation tend to vary with the degree of thyroid and lymphoid hyperplasia. The differences between the reactions in cases with normal or with colloid glands and the reactions in cases with marked hyperplasias are too slight for a suggestion of any cause and effect relation. The pulse and temperature reactions and the thyroid hyperplasia are parallel and resultant phenomena dependent on more general and more remote causes. An incomplete exophthalmic goiter syndrome may exist with the thyroid normal, or, the thyroid may be markedly hyperplastic with the syndrome absent, or, finally, the histologic structure and iodin content of the thyroid in a given case of exophthalmic goiter may be reversed without necessarily modifying the symptom-complex. Myxedema does not precede; it occasionally accompanies, but usually supervenes late in the course of exophthalmic goiter and is to be looked on as the end stage of thyroid insufficiency. The immediate postoperative mortality with its associated high temperature and pulse-rate in uncomplicated cases, varies with the degree of active lymphoid and thyroid hyperplasias and is most probably the result of the organism's profound general weakness and exhaustion. The degree of active lymphoid and thyroid hyperplasia is therefore the best index of the severity of the disease. The authors emphasize that the essential physiologic disturbance of the thyroid in exophthalmic goiter is insufficiency, its reaction compensatory and its significance symptomatic.

107. **Water-Drinking.**—The problem studied by Hawk was the activity of the pancreatic function under the influence of water-drinking at meal time. Normal men were used as subjects and were required to ingest a diet uniform in all respects from day to day. Three experiments were made, each experiment being divided into three periods; a fore period in which the subject was brought into nitrogen equilibrium through the ingestion of the uniform diet supplemented by a minimal water ingestion; a water period during which the water ingestion at meal time was increased from 1,500 to 4,000 c.c. per day; and an after period in which the dietary conditions of the fore period prevailed. Two of the experiments were on the influence of moderate water-drinking and in these the volume of the extra water ingested during water period was 1,500 c.c. per day or 500 c.c. per meal. In the third experiment the influence of copious water-drinking was studied and in this instance the subject was required to ingest on each day of the water period 4,000 c.c. above that ingested in the fore and after periods. On the basis of the data gathered in this and in associated investigations Hawk is prepared to draw the general conclusion that the ingestion of quantities of water at meal-time ranging in volume from ½ to 1⅓ liters stimulate the pancreatic function in two ways: first, a direct stimulation of the nervous mechanism of the pancreas brought about while the water is still in the stomach and, second, an indirect stimulation brought about on the entrance of the increased volume of acid chyme into the duodenum. The drinking of water with meals ought therefore to bring about a more rapid and complete digestion and absorption of the fat and carbohydrate constituents of the diet, two observations verified by experimentation in the laboratory.

Southern Medical Journal, Nashville

September

109 Tuberculosis. R. Matas, New Orleans, La.
110 Arterial Changes Associated with Cardiac and Renal Disease. W. H. Witt, Nashville, Tenn.
111 Pellagra-Symptoms, Diagnosis and Treatment. J. G. Wilkinson, Ragland, Ala.
112 Importance of Pure Food. L. W. Johnston, Tuskegee, Ala.
113 Visceroptosis. J. N. Baker, Montgomery, Ala.
114 Conservation of Health. T. D. Coleman, Augusta, Ga
115 Complications and Sequelæ of Measles, Based on Study of Four Hundred and Seventy Cases. T. Weaver, Nashville, Tenn.
116 *Case of Coxa Vara. W. C. Campbell, Memphis, Tenn.

116. Abstracted in The Journal, Dec. 3, 1910, p. 2006.

Medical Record, New York

September 23

117 *Value of Radium Treatment in Cancer of Digestive Tract. M. Einhorn, New York.
118 Two Cases of Little's Disease. M. Neustaedter, New York.
119 Chorioepithelioma Malignum. W. H. Dukeman, Los Angeles, Cal.
120 Skin Grafting. A. E. Isaacs, New York.
121 Clinical Study of Forty-Four Cases of Pneumothorax Occurring in Pulmonary Tuberculosis. J. M. Cruice, Philadelphia.
122 Neuropathic Joint Disease. L. S. Manson, New York.
123 Arteriosclerosis. W. F. Waugh, Chicago.
124 Soy Bean Cookery. J. Ruhrah, Baltimore.

117. **Radium Treatment in Cancer of Digestive Tract.**—Einhorn believes that benefit is obtained in inoperable cancer of the stomach from the application of radium directly by an apparatus introduced into the stomach by way of the esophagus. By this means, he says pain is diminished, hemorrhage is controlled, and life is prolonged, and if the treatment is begun early enough absolute cure may be obtained. The author presents the histories of seven cases of disease of different parts of the stomach.

New York Medical Journal

September 23

125 *Experimental Poliomyelitis. M. Neustaedter and W. C. Thro, New York.
126 Fifty Cases of Syphilis Treated with Salvarsan, with Special Reference to Clinical Result and Wassermann Reaction. A. L. Wolbarst, New York.
127 Three Cases of Supravaginal Hysterectomy for Fibromyomata Uteri.* I. Collica, New York.
128 Law, Medicine and the State; Some Points of Contact. F. K. Hallock, Cromwell, Conn.
129 Railway Sanitation. C. P. Wertenbaker, Norfolk, Va.
130 Résumé of One Hundred Wassermann Tests. J. A. Roddy, Philadelphia.
131 Sarcoma Arising from Thymus Gland in Adult; An Associated Endothoracic Goiter. J. Funke, Atlanta, Ga.
132 Nasal Obstructions as Causative Factors in Bronchial Asthma Cases. J. Solow, New York.
133 Occipital Atlas and Atloaxis Dislocation. L. L. Thompson, Gridley, Cal.

125. **Experimental Poliomyelitis.**—On the basis that the virus of anterior poliomyelitis lurks in the dust and that the nasopharynx must be the point of entry, the authors collected the dust of rooms wherein cases of poliomyelitis occurred and prepared extracts from these sweepings, which they injected into monkeys (of the species Rhesus) subcutaneously, intraspinally and intracerebrally. Until now they have used six monkeys for their experiments. The sweepings were obtained from cases of from six months' to three days' duration after the onset of the paralysis. The following is a report of one of these experiments: August 29, they obtained the sweepings of a room wherein a 4-year-old child was stricken with poliomyelitis and was then two days paralyzed. In this room the child passed most of its time and also was there confined to bed. The dust, about 50

grams, was macerated overnight with 30 cubic centimeters of sterile water and then shaken for one hour. The mixture was filtered through a paper filter and 15 cubic centimeters of this filtrate were passed through a special Bongé filter under high pressure within an hour.

Within eighteen hours after the collection of this dust 5 cubic centimeters of the filtrate were injected into a monkey through the spinal canal after having first withdrawn 5 cubic centimeters of a clear spinal fluid and 8 cubic centimeters were injected subcutaneously. After the injection the animal was depressed and sullen and inattentive to its surroundings. On the following day the monkey was perfectly well and remained so until September 4, six days after the injection, when it was very ill and paralyzed. The animal presented the following symptoms: Flaccid paralysis in the right foreleg, which was hanging down from his side; he was unable to move it. There was a marked paresis of both hind legs, most pronounced in the left. He was able only with great difficulty to move about in his cage and this he accomplished by holding on to the bars with the left foreleg and hopping about. The patellar and plantar reflexes were absent. On extending the hind legs he shrieked, evidently from pain. He was chewing his food at times, but was rather sullen and depressed, keeping continually to a corner of his cage, holding on with his left forepaw, and lying down when unobserved. The muscles of his neck were not rigid, the pupils were normal and reacted to light promptly. A lumbar puncture was made repeatedly, but without success. Two drops of a gelatinous material were obtained from the needle, after withdrawing it from the spinal canal.

September 6, two days later, he still showed all the symptoms mentioned, but more marked, and still chewed his carrot. A spinal puncture was made and 2 drops of a gelatinous material obtained.

The animal was then killed and the following are the results of the autopsy: There was a marked hyperemia of the meninges in the lumbar region and a lesser one in the cervical region; the vessels of the brain cortex and cord were markedly congested. This hyperemia was evident at all the levels of the cord, in the medulla, the pons, the ventricles and basal ganglia. The cord and brain presented an edematous condition. On section, one could note hemorrhages in the gray substance of the cord, especially in the lumbar and cervical regions. There were also some hemorrhagic foci in the medulla, while the white and gray substance of the brain presented microscopically a normal appearance. The viscera presented the following changes: Areas of congestion in the middle and lower lobes of the left lung; the spleen was firm and congested, but not enlarged; the omentum was adherent to the cecum and all the visceral vessels were very much congested. All other organs and glands were, to all appearance, normal.

Sections of the spinal cord, cerebellum, pons, medulla, brain, spinal and basal ganglia were now emulsified in 50 cubic centimeters of normal salt solution and preserved for injections. The authors believe that they have thus proved that: Acute poliomyelitis is both infectious and contagious; that it is propagated by the dust, and that the nasopharynx must be the port of entry.

Illinois Medical Journal, Springfield

September

134 *Liberal Diet in Typhoid. J. L. Miller, Chicago.
135 *Clinical Determination and Significance of Some of Peripheral Signs of Aortic Insufficiency. F. Tice, Chicago.
136 Arteriosclerosis. M. S. Marcy, Peoria, Ill.
137 Prevention of Blindness. T. A. Woodruff, Chicago.
138 Health-Conscience and Drink Problem. C. B. Johnson, Champaign, Ill.
139 Intestinal Toxemia. M. H. Mack, Chicago.
140 General Anesthesia: Some Methods Now in Use. G. C. Kasdorf, Robinson, Ill.
141 Modern Indications in Treatment of Heart Disease. A. E. Taussig, St. Louis.
142 Outlook for Medical Profession from Legislation and Economic Viewpoints. C. J. Whalen, Chicago.
143 Infantile Paralysis. V. A. McClanahan, Viola, Ill.
144 Case of Bence-Jones Albumosuria. C. A. W. Zimmerman, East St. Louis, Ill.

134 and 135. Abstracted in THE JOURNAL, June 17, 1911, p. 1843.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Journal of Children's Diseases, London

August

1 *Keratomalacia. S. Stephenson.
2 *Surgical Aspects of Acute Abdominal Disease in Childhood. H. S. Clogg.
3 Tuberculosis of Brain with Involvement of Both Optic Thalami. R. B. Ness and W. M. Elliott.

1. **Keratomalacia.**—Keratomalacia is essentially a disease of early infancy. The average age of Stephenson's thirty-one cases was four and one-half months. He has never seen the disease except in the children of the poor. The disease hardly ever occurs in breast-fed babies. Two alone of Stephenson's patients, or 6.46 per cent., were entirely breast fed. Syphilis was diagnosed clinically in seven, or in 22.58 per cent. Tuberculosis is an important cause of keratomalacia in infants. It existed in six, or 19.36 per cent. of the cases, the diagnosis being made during life in three and after death in three of the children. Of the twelve fatal cases tuberculosis was present in three. The disease was of the generalized type, as is usual in children so young with pulmonary or meningeal manifestations. Marasmus, pure and simple, accounted for seven, or 22.58 per cent. of the thirty-one cases. In two of the cases, or 6.45 per cent., the cause of the corneal mischief remained altogether obscure.

2. **Acute Abdominal Disease in Childhood.**—Clogg's own experience of ninety-eight cases of the "acute abdomen" in children under 12 years of age shows the diseases represented as follows: Appendicitis, fifty-four cases, pneumococcal peritonitis, six cases, inflammation of the diverticulum of Meckel, two cases, intussusception, twenty-eight cases, intestinal obstruction by a band, three cases, intestinal obstruction from adhesions, four cases, intestinal obstruction from pressure of mesenteric glands, one case. No case of gastric or duodenal ulcer came under his observation.

Journal of Laryngology, Rhinology and Otology, London

September

4 Carcinoma of the Nasopharynx in Girl of 17. T. Guthrie.
5 Evisceration of Tonsils. C. G. R. Wood.
6 Treatment of Pulmonary Tuberculosis, Diseased Lacrimal Ducts, Catarrhal Otitis Media, Hay-Fever and Chronic Asthma Not Complicating Heart Disease. C. A. Bucklin.
7 Intracranial Dehiscences of Cavities of Ear and Dehiscences of Aqueduct of Fallopius. J. Mouret.

Medical Press and Circular, London

August 23

8 Diagnosis of Pyelonephritis. Tuffier.
9 Congenital Dislocation of Hip, Its Treatment. R. L. Swan and W. C. Stevenson.
10 Similarity Between Signs of Hematocele and Early Malignant Disease of Testicle. H. F. Woolfenden.

August 30

11 *Mayor's Scarf; How to Make It, How to Use and Apply It, and What to Apply It For. C. Marton.
12 Necessity for State Support of Hospitals. J. C. McWalter.
13 Fatal Result from Salvarsan. F. P. Weber.
14 Roentgenotherapy of Ringworm. J. Hall-Edwards.
15 Clinical Diagnosis of Early Tabes Dorsalis with Negative Wassermann Reactions. T. A. Williams.
16 Diagnosis and Treatment of Simple Glaucoma. A. A. Bradburne.

September 6

17 Recalcification (Ferrier) in Treatment of Tuberculosis. P. Rostaine.
18 Physiologic Measures in Therapeutics of Nervous Disease. T. A. Williams.
19 *Hereditary Protection Against Toxemia of Measles. T. J. O'Meara.
20 Prevention of Dental Caries from Public Health Standpoint. J. Wheatley.
21 Extra-Uterine Pregnancy: Its Pathology and Treatment. W. Krupp.
22 School Hygiene. J. O. Symes.

11. **Mayor's Scarf.**—Mayor's scarf consists of a square of stout material measuring 40 inches across, folded obliquely; 40 inches of an ordinary 3-inch bandage; a plug of carded cotton about 6 inches long and 3 or 4 inches thick; a dozen stout safety-pins. Place the plug of cotton in the arm-pit, bring the bent elbow close to the trunk and apply the base of the triangle formed by the scarf above the elbow, the apex being below. Draw it tight round the trunk and fix the ends of the scarf firmly at the back with safety-pins. The middle of the base of the triangle must not be opposite the arm, but nearer the middle line of the body, and the edge of the

scarf should cross the arm at the junction of the lower third with the upper two-thirds. If placed higher up it would press on the radial nerve and cause pain. The next step is to pass the two pendant corners of the folded scarf upwards beneath the elbow and forearm, placing one of them on each shoulder. Attach to these corners the ends of the bandage which, passing over the corresponding shoulders, is to be fixed to the scarf behind the trunk. Fix the layer of the scarf in front of the elbow to the layer behind it by means of a safety-pin placed in the angle formed by the forearm flexed on the arm. The hand can be placed in the gutter formed by the folded scarf or left outside as the patient may prefer. The latter is, on the whole, to be preferred, because it leaves the patient free to move the wrist and fingers. Mayor's scarf, as this apparatus is called, is said by Martin to be of the greatest service in quite a number of different conditions; for instance: (1) To immobilize the upper limb which is the seat of injuries to be attended to later on. It allows of the patient's being transported without undue pain. (2) In fractures of the clavicle, in which three indications are to be met: (a) The shoulder must be thrown outwards, for which purpose a cotton plug is placed in the axilla so as to serve as a fulcrum when the arm is brought close to the body. (b) External fragment is raised by raising the upper limb as a whole. (c) The internal fragment is lowered which can be done by applying a cotton or horse-hair cushion over this fragment; this is kept in position by placing it underneath the scarf bandage that runs over the shoulder and is fixed to the back part of the scarf, to which it is further secured by pinning it to the bandage. The apparatus must be frequently inspected in order to reduce the resulting deformity to a minimum. (3) In injuries to the shoulder in which the primary indication is to relieve the pain (fracture of the acromion or scapula). (4) To immobilize the shoulder when this joint is the seat of arthritis. (5) To fix the shoulder after reduction of dislocation. (6) In fractures of the upper end of the humerus: anatomic neck, head, fracture of the tuberosities in which early massage has to be employed, beginning on the sixth or seventh day. Pending recourse to massage and between the sittings the arm is maintained in position by the application of the scarf. Also in fractures of the humerus where there is no tendency to displacement. (7) For fixation of the elbow after reduction of dislocation of this joint; traumatism of the elbow without displacement of the fragments: fractures of the external or internal condyle of the humerus.

19. **Hereditary Protection Against Toxemia of Measles.**—The history of measles on Cape Clear Island for sixty-seven years is cited by O'Meara to show that immunity against the toxemia of measles is gradually acquired in insular communities where isolation is practiced. The first and subsequent epidemics in such communities can only be protective against future attacks of malignant measles in proportion to the numbers affected. This is what has occurred in Cape Clear, as the inhabitants during each epidemic isolated the cases as early as possible, and by this means always succeeded in preventing the outbreaks from becoming pandemic. Furthermore, the course of the disease during the past thirty years shows that this immunity is hereditarily acquired, the death-rate having fallen practically in proportion to the percentage of parents who had measles before marriage.

Clinical Journal, London

August 23

23 Diagnosis of Causes of Chronic Muscular Insufficiency of Stomach. C. Bolton.
24 Influence of Diabetes and Gout on Tuberculous Infections of Human Body. N. Raw.

August 30

25 Physician's Experience of Salvarsan. O. F. F. Grunbaum.
26 Acute, Simple and Tuberculous Enlargement of Glands. D. C. L. Fitzwilliams.
27 *Influence of Syphilis on Tuberculous Infections of Human Body. D. Power.

September 6

28 *Some Abdominal Emergencies from Standpoint of Physician. F. J. Poynton.
29 Abdominal Emergencies, Their Treatment and Prevention. J. Sherren.
30 *Investigation Into Effect of Pituitary Extract on Bowels After Abdominal Operations. L. A. Bidwell.

27. **Influence of Syphilis on Tuberculous Infections.**—According to Power children with heredo-syphilis often show signs of tuberculous disease of the joints in the form of a "gummatous" synovitis which does not improve beyond a certain point under treatment by antisyphilitic remedies. In young adults born of syphilitic parents an attack of pneumonia or other infective disease may be followed by signs of syphilitic inflammation (syphilis hereditaria tarda). The syphilitic lesions thus manifested may become tuberculous and the patient may die of tuberculosis. Adults who acquire syphilis while they are suffering from active tubercle are liable to have any preexisting tuberculous inflammations rendered much more active. It is to these persons that the generalization applies, "The tuberculous bear syphilis badly." Old persons who acquired syphilis many years previously may be attacked by senile tuberculosis. In such persons the disease runs a more chronic course than usual and there is less tendency to suppuration.

28. **Abdominal Emergencies.**—In his discussion of gastric ulcer Poynton says he is certain that early feeding on the lines of Lenhartz' method is practically and scientifically wrong. Post-mortems on six cases that he has had under his care have shown in each essentially the same feature, an open vessel in an ulcer which, acute or subacute, may or may not be in a healing stage. He sees no hope for success unless absolute rest is given to the stomach and allow the vessel to become sealed by clot. He allows nothing at all by the mouth, uses strict rectal feeding and water enemata, and limits abdominal movement with a binder.

30. **Pituitary Extract After Abdominal Operations.**—To discover how far pituitary extract, unaided by aperients, is able to restore peristaltic contractions after abdominal operations Bidwell tried its effect on twenty-one unselected laparotomies. In the first two cases the dose given was .5 c.c. This was commenced twelve hours after the operation, and given every four hours for three days. In the latter cases the dose was increased to 1 c.c. for adults; it was commenced about six hours after operation, and repeated every four hours until eighteen doses had been given. From the result of the injections in these cases it is evident that pituitary extract has a very marked effect on the muscular coats of the bowel, and that it is able to overcome the temporary paralysis due to exposure. This is shown by the early passage of flatus and by the absence of abdominal discomfort. In only three cases did the bowels act without the assistance of an enema, but in every case, except two, a satisfactory action of the bowels was obtained after a simple enema, and it was unnecessary to give any aperient by the mouth. All the patients passed flatus freely within a few hours of the first injection, and were free from any abdominal pain or distention; no patient complained of flatulence. The flatus was often passed freely without the introduction of a flatus tube. The pulse-rate remained much lower than usual, and after some of the severest operations it did not exceed 80 per minute. Except in the last two cases no patient suffered from postoperative retention of urine, and so catheterization was unnecessary. Bidwell says that the patients treated with injections of pituitary extract after abdominal operations are certainly more generally comfortable than those who do not receive them. He does not, however, consider that the drug can be relied on completely to empty the bowels without the assistance of enemata, and so he does not think that it need be employed after the first twenty-four hours. He would recommend three injections of 1 c.c. each during the first twenty-four hours as a routine practice after laparotomies; this will enable the patient to pass flatus freely, will prevent any flatulent distention, and will lessen the amount of aperient necessary for a thorough clear-out of the bowels. The injections must be made into a muscle, and should never be given subcutaneously, as the latter method causes considerable pain. The first injection should be given six hours after the operation, and the other two at intervals of six hours. No further injection need be given unless the patient complains of flatulent distention. He has never seen any unpleasant general symptoms follow these injections.

Glasgow Medical Journal

September

31 Carcinoma of Male Mammary Gland; Report of a Case. G. T. Beatson.
32 Abdominal Emergencies. D. Macartney.
33 Inflammatory Affections of Fallopian Tubes and Ovaries. W. D. MacFarlane.

Annals of Tropical Medicine and Parasitology, Liverpool

August

34 Tropical Diseases in Southern Italy. U. Gabbi.
35 Papataci Flies (Phlebotomus) of Maltese Islands. R. Newstead.
36 *Experimental Transmission of Goiter from Man to Animals. R. McCarrison.
37 *Reducing Action of Trypanosomes on Hemoglobin. R. W. Nauss and W. Yorke.
38 Antimalarial Operations at Ismailia. J. W. W. Stephens.
39 Some New Species of African Mosquitoes (Culicidæ). R. Newstead and H. F. Carter.
40 Diagnosis and Distribution of Human Trypanosomiasis in Colony and Protectorate of Gambia. J. L. Todd and S. B. Wolbach.
41 *Mechanism of Production of Suppression of Urine in Blackwater Fever. W. Yorke and R. W. Nauss.
42 *Relation of Organic Phosphorus Content of Various Diets to Diseases of Nutrition, Particularly Beriberi. G. C. E. Simpson and E. S. Edie.

36. **Experimental Transmission of Goiter.**—McCarrison records his experiments made to test the assumption that goiter could be transmitted from man to animals by infected feces and at the same time determine the influence, if any, which earthworms might possess in spreading the disease. Sixteen goats were used in these experiments. The results in McCarrison's opinion prove that a hypertrophy of the thyroid gland of goats can be induced by infecting the water-supply with the feces of sufferers from goiter. It is, at present, impossible to state whether this hypertrophy is due to the action of the infecting agent of goiter, or only to the organic impurity of the water thus contaminated. Earthworms do not appear to be concerned in the spread of goiter. Goiter is essentially a disease of country localities, that is, of localities of unprotected water-supplies. In India McCarrison has found, from a study of the topography of a very large number of villages, that the freedom, or the reverse, of any particular village from this disease depends very largely on the extent to which the drinking water is contaminated by irrigating fields, which are fertilized with human and animal excreta. The source of the water-supply and the geological formations from which it is derived are, in comparison, of minor importance. Further experiments on goats are at present in progress, with a view to confirming the results detailed above. These experiments have not long been in progress, but already five out of twelve goats which are drinking fecally contaminated water show signs of enlargement of the thyroid, while no changes have occurred in the thyroids of twelve control animals. The final results of these experiments and the microscopic appearance of the glands will be detailed in a subsequent report.

37. **Reducing Action of Trypanosomes.**—The blood of certain animals in the later stages of trypansomal infections is frequently of a dark purple color. This appearance the authors claim results from deficient oxygenation of the hemoglobin. Living trypanosomes cause marked reduction of solutions of methylene blue and also of those of oxyhemoglobin. The incubation, in the absence of air, of living trypanosomes in defibrinated blood of a normal animal causes considerable reduction or, if the parasites be numerous, total disappearance of the oxygen combined with the hemoglobin. A correspondent increase in the amount of carbon dioxid has not yet been found. The mere presence of numerous parasites in the peripheral circulation is not, however, sufficient to account for the purple color of the blood, since the blood of rats and guinea-pigs swarming with parasites is usually of normal bright-red appearance. The purple color is most marked in the blood of rabbits in the later stages of the disease. Although the peripheral blood of these animals does not contain large numbers of parasites, yet the respiratory passages are found to be considerably involved. The nasal mucous membrane and that of the trachea and bronchial tubes is often extremely edematous and infiltrated, and the respiration of the animal is stertorous and labored. On microscopic examinations of sections of these tissues trypanosomes were often found in large numbers in the edematous mucous and submucous tissue.

41. **Suppression of Urine in Blackwater Fever.**—It is evident from the author's experiments that, under certain conditions, the mere passage of hemoglobin through the kidneys of a healthy animal is sufficient to cause suppression of urine owing to occlusion of the lumen of the renal tubules by plugs of granular material derived from the hemoglobin. The process is considerably facilitated by any factor which tends to lower the blood-pressure of the animal, and as a result the secretion of water by the Malphigian capsules. On the other hand, when the blood-volume of the animal is kept up by the injection of saline solution and by feeding the animal on moist food, a large amount of hemoglobin (38 gm.) may be injected without any tendency to suppression of urine.

42. **Organic Phosphorus Content of Various Diets and Diseases of Nutrition.**—The lack or deficiency of organic phosphorus in the diet is held by the authors to be the exciting cause of beriberi in the majority of cases. In other cases the differences may be individual in the patient, since some individuals require much larger amounts than others, and others may be unable to absorb and assimilate the compounds, though present in the diet. Occasionally, epidemics of beriberi appear to be due to a bacterial infection of the gastro-intestinal tract, either through the catarrh interfering with absorption or to the bacteria (or their products) absorbing or splitting the organic phosphates before they could be absorbed. Tropical beriberi is a disease of metabolism due to the amount of organic phosphorus compounds assimilated being below that essential for the human organism. This is in the majority of cases due to deficiency of organic phosphates in the diet, but may in occasional cases be due (a) to deficient absorption of organic phosphates by the alimentary tract, or (b) to bacterial infection possibly splitting the phosphates before absorption or interfering with the absorptive power of the intestine.

Annales des Maladies des Org. Génito-Urinaires, Paris

July 1, XXIX, No. 13, pp. 1153-1248

43 Improved Technic for Catheterization of the Ureter. M. Heitz-Boyer.

July 15, No. 14, pp. 1249-1344

44 *Endovesical Operations for Tumors of the Bladder. J. Doré and J. Mock. Concluded.

August 1, No. 15, pp. 1345-1440 and Supplement

45 *Sexual Functioning After Freyer's Operation for Hypertrophied Prostate. (Les canaux éjaculateurs dans l'hypertrophie prostatique et les fonctions sexuelles après la prostatectomie de Freyer.) F. Legueu and E. Papin. Commenced in No. 13.
46 Temporary Ureterostomy for Diagnosis of Kidney Functioning. G. Key.
47 Six Cases of Cystitis with Partial Retention of Urine. M. Cealic and L. Strominger.
48 *Refractometric Estimation of Hydremia in Kidney and Heart Disease. (L'hydrémie des brightiques et des cardiaques oedémateux.) F. Widal, R. Benard and E. Vaucher.
49 Functional Exploration of the Kidneys; the Secretion of Urea. M. Heitz-Boyer.
50 Resistance to Traumatism After Nephrectomy. A. Ponsson.
51 Kidney Cysts. F. Legueu and H. Verliac.
52 Successful Partial Resection of Tuberculous Horseshoe Kidney. V. Carlier.
53 Kidney Calculi. M. Rafin.
54 Prolapse of the Ureter into the Bladder. P. Bazy.
55 Cystoscopic Diagnosis of Bladder Tumors. G. Marion.
56 Early Prostatectomy in Cancer of the Prostate. E. Desnos.
57 Tertiary Syphilis in the Urethra and Urethral Fistulas. E. Michon.
58 The Gonococcus. (On connait mal le gonocoque.) J. Janet.
59 Novocain in Spinal Anesthesia in Urology. E. Jeanbrau.

44. **Endovesical Operations for Bladder Tumors.**—Doré and Mock describe the technic preferable under various conditions, comparing the methods of different operators, and reporting in detail seventy-six cases which they have compiled, including a large number previously unpublished. There was never any serious hemorrhage and the lesion soon healed. A point to be borne in mind is that as long as any clots remain in the bladder the organ contracts on them and this may keep up a tendency to hemorrhage. The patient should be reexamined every month the first year and after this at longer intervals. There was no recurrence of the tumor in 75 per cent. of the forty patients kept under supervision for two years.

45. **The Sexual Functions with Hypertrophy of the Prostate and After Freyer's Prostatectomy.**—Legueu and Papin report extensive clinical and experimental experiences, with numerous illustrations, and review eighteen cases in which the Freyer operation was done with necropsy later. They then review sixteen others on record in which the Freyer operation was done and sexual functioning thereafter recorded, with an additional group of nine cases from their own experience. In their nine cases the sexual functioning was unimpaired in all but two cases, and one of these was a man of 64. The anatomic and clinical data thus reviewed sustain the assumption that the Freyer technic does not interfere in the least with the genital functions, leaving this apparatus intact, ejaculation occurring exteriorly. By the relief from compression the operation may even rejuvenate the sexual functioning.

48. **Refractometric Estimation of Hydremia.**—This article is in the supplement of 186 pages which is issued in honor of the fact that the *Annales* is just entering its thirtieth year and of the Second International Congress of Urology held the same year. Widal opens the list of articles with a recommendation of the use of the refractometer as a means of estimating the dilution of the blood in chronic kidney and heart disease, supplementary to estimation of the degree of infiltration of the tissues by weighing the patient. By this means the action of drugs can be instructively studied, especially after the patient has been on a salt-poor diet for a time.

Annales de Médecine et Chirurgie Infantiles, Paris

July 15, XV, No. 14, pp. 433-464

60 Bromoform Poisoning in Child with Whooping-Cough. E. Merot.
61 *The Heart in Rheumatism Involving the Viscera in Children. E. Weill and G. Mouriquand.

August 15, No. 16, pp. 497-528

62 Tracheobronchial Glandular Disease in Children. H. Grenet and M. Maillet.

61. **The Heart in Rheumatism in Children.**—Weill and Mouriquand say that even the apparently mildest rheumatism in a child, not causing the slightest appreciable symptoms, may yet entail heart trouble, possibly fatal. This is accepted as a matter of course in acute articular rheumatism, in which the heart behaves like a joint, but it is not generally known that a slight attack of rheumatism, with merely vague pains or none at all, may be followed after a few weeks or months or years by a little pain in the precordial region and dyspnea. The heart beat is found 120 or 140, but regular, and there may be evidences of old mitral insufficiency and recent pericardial friction sounds. The liver is slightly enlarged, the base of the lungs congested and the child is pale and languid, without appetite. Under rest in bed, ice to the heart, digitalis and the salicylates the symptoms subside and all seems well after four or five days. If the temperature is taken, however, it will be found a little above normal and after a few days the syndrome recurs, to subside and return again. This alternation of symptoms is characteristic of the affection in question. No one imagines anything is seriously wrong until the terminal phase develops with aggravation of all the symptoms, vomiting and hemoptysis and the child dies in collapse, without signs at any time of true asystolia, dropsy or edema. They have encountered ten cases of this malignant rheumatic heart disease in children and discuss its various features. Their experience teaches the importance of vigorous salicylic medication in every case of rheumatism in a child, no matter how apparently mild, and the physician should watch over the heart afterward. Every tachycardia, every pain in the heart region with or without fever, should be regarded as signs of serious trouble, especially when there is accentuation of the second pulmonary sound. This latter indicates not only the participation of the pericardium but also the possibility of deeper lesions so often associated with the pericarditis. Weill advocates subcutaneous injections of sodium salicylate dissolved in twice the amount of water. From 2 to 4 gm. of this solution can be injected at one point without inducing a local reaction. Digitalis also relieves; the children with the affection seem to display a special tolerance for digitalis and the symptoms improve under it.

Archives Internationales de Chirurgie, Ghent

V, No. 2, pp. 125-244. Last indexed January 21, p. 227

63 *Exclusion of Urine from the Bladder in Treatment of Tuberculosis of the Bladder. (De la dérivation urinaire ou exclusion vésicale dans la tuberculose de la vessie.) C. Willems.
64 Osteomas in Muscles. (Contributo alla conoscenza dei cosl detti osteomi muscolari.) G. Marchetti.
65 Division of Muscles for Transplantation. (Divisione muscolare a scopo di trapianto.) A. Guaccero.
66 Experimental Research on Healing After Suture of the Kidney. (Nefrorrafia.) G. Palazzo.
67 *Conservative Treatment of Surgical Tuberculosis. G. Bolognesi.

63. **Exclusion of Urine from the Bladder in Treatment of Local Bladder Tuberculosis.**—Willems gives an illustrated description of severe tuberculosis of the bladder persisting after nephrectomy. He made an opening into the remaining kidney in the lumbar region and diverted the urine by a rubber funnel and tube into a long, narrow rubber bag strapped to the inner side of the leg. The patient was a man of 30, whose vesical tuberculosis had persisted for five years and had confined him to bed for the last nine months with incessant tenesmus, so intense that he was unable to sleep. He was restored to comparative health at once and wore the urinal for ten months, enchanted with it. As soon as the course of the urine was diverted, the bladder began at once to heal and all trouble from this source was at an end, but a tuberculous process in the wrist continued to develop, as he refused to allow it to be treated properly. Fifteen months after the exclusion of the bladder the young man had a drinking bout and caught cold, a cough and fever developed with dyspnea and the amount collecting in the receptacle grew less and less and he soon succumbed in coma, the remaining kidney having become tuberculous, or it may have been already infected at the time of the operation. Necropsy showed that the severe bladder lesions had completely healed. Legueu reported a somewhat similar case last year in which he diverted the urine from the bladder by implanting the ureter of the remaining kidney in the intestine. All bladder trouble subsided at once and the intestine seems to bear without harm this new task to date, eight months after the operation.

67. **Conservative Treatment of Surgical Tuberculosis.**—Bolognesi has applied immobilization with local iodoform injections in forty-two cases of various surgical tuberculous processes and in twenty-one cases the lesions have entirely healed and in twelve there has been great improvement, but no benefit was realized in four and an operation became necessary in five. About twenty-five pages are devoted to tabulation of the details. The large joints, especially the knee, were the hardest to cure but seven were cured and four improved of the seventeen knee lesions and both of the elbow lesions.

Archives des Maladies de l'App. Digestif, Paris

July, V, No. 7, pp. 349-408

68 Anatomy of Gastric Ulcerations. G. Hayem.
69 Pathogenesis of Catarrhal Jaundice. L. Lagane and M. P. Weil.
70 Dosage of Soaps in the Stool. (Dosage des savons dans les fèces.) M. Fabre.
71 Mechanical Treatment of Tendency to Swallow Air: Nose Clamp. (Traitement mécanique de l'aerophagie par la "pince nasale.") J. A. Sicard.

Archives de Médecine des Enfants, Paris

July, XIV, No. 7, pp. 481-560

72 High Shoulder with Multiple Malformations. (Elévation congénitale de l'omoplate chez un enfant atteint de malformations multiples. Hydrocephalie avec vestiges d'hémiplégie.) M. Nageotte-Wilbouchéwitch.
73 Causes and Remedies for Crime in Children. (Essai médico-psychologique sur les causes et les remèdes de la criminalité.) H. Dauchez.

August, No. 8, pp. 561-640

74 *Flabby Big Belly in Infants. (Le gros ventre flasque des nourrissons.) A. B. Marfan.
75 Study by Centrifugation of Butter in Breast Milk. (Etude du beurre dans le lait de femme.) E. Planchu and R. Rendu.

74. **Flabby, Big Abdomen in Infants.**—Marfan refers to the enlargement of the abdomen from stretching of the atonic bowels plus a special flabbiness of the abdominal wall. Both these factors, the relaxation of the musculature of the digestive tract and of the walls enclosing it, are secondary to the

same cause which is producing the rachitis, as in nearly every case the pendulous belly is accompanied by signs of rachitic changes in the bones, and it forms part of what he calls the rachitic syndrome. Florid rachitis is often accompanied by atony of muscles. He believes that any infection or chronic intoxication occurring at a certain period of the development, this period extending from the latest months of intra-uterine existence to the end of the second year, is liable to entail rachitis; the most frequent of these causes are syphilis, tuberculosis and chronic digestive intoxication, but there are others. The infant reacts to these influences by changes in the cartilages and bone marrow, which interfere with normal ossification, and by changes in the blood and lymph-producing organs and in the glands, the latter possibly including changes in the parathyroids which may in turn induce tetany. The weakness of the muscles is another manifestation of the constitutional disturbance.

Bulletins de la Société de Pédiatrie, Paris

June, XIII, No. 6, pp. 253-331

76 The Abdomino-Costal Index in Children. P. Merklen.
77 Variations at Different Hours of Mineral Salt Content of Breast Milk. M. H. Barbier and Mascré.
78 *Treatment of Club-Foot in Infants by Subcutaneous Partial Scooping Out of the Tarsus. (Traitement du pied-bot chez le nourrisson par évidement sous-cutané du tarse.) M. Savariaud.
79 Intestinal Invagination. H. Triboulet and M. Savariaud.
80 *Spasm of the Glottis as Sole Manifestation of Tetany. H. Triboulet and Harvier.
81 *Esophagoscopy in Diagnosis and Treatment of Cicatricial Stenosis. G. Guisez.
82 *Anasarca in Two-Months' Babe Without Kidney Lesions. P. Nobécourt and Paisseau.
83 Meningitis with Mixed Infection. L. Guinon and H. Grenet.
84 *Clinical and Roentographic Diagnosis of Hypertrophy of the Thymus and Lymph-Nodes in the Anterior Mediastinum. d'Œlsnitz.
85 *Tuberculous Rheumatism. S. Veras.

78. **Club-Foot in Infants.**—Savariaud advocates a subcutaneous orthopedic operation for club-foot even in infants when it resists manipulations and the anterior portion of the calcaneus prevents even forcible correction. The ossification center must not be interfered with, so he aims to curet away mostly cartilage and encroach but very little on the bone. The bistoury is pushed down directly on and to the center of the head of the astragalus; then with a curet he scoops out chips from the cartilage and bone of the head of the astragalus and the greater process of the calcaneus. He sutures the skin or not after removing enough cartilage and bone tissue to permit ample and easy hypercorrection. A plaster cast is worn for several months, renewed every month or two. The feet thus operated on are remarkably supple and no recurrence is possible if the patient is supervised for a time. In three recent cases the infants were only 6, 12 and 15 months old, and the foot had been manipulated into a better position, much facilitating the operative correction for the deformity still left. The subcutaneous scooping out was preceded in each case by tenotomy and the end results are perfect in all, the children now wearing ordinary shoes. At first Savariaud hesitated to operate on the bone in such young children, but the excellent outcome and the harmlessness and simplicity of this subcutaneous technic have converted him to its advocacy. Broca endorses it only for cases in which there is reason to doubt the perseverance of the family in bringing the child regularly two or three times a week to the physician for proper orthopedic manipulations; they are liable alone to accomplish wonders in this line if systematically kept up. Jalagnier has been applying this subcutaneous scooping-out method for some time, and now has a record of ten cases, the ultimate outcome excellent in all. The children were a little older than in Savariaud's cases.

80. **Spasm of the Glottis as Only Sign of Tetany.**—Triboulet and Harvier state that even the Chvostek sign was absent in the case reported and there was nothing to indicate excessive nervous excitability except the spasm of the glottis. The child, an infant 13 months old, died from intercurrent measles pneumonia and the parathyroids were found extremely atrophied on one side while none could be found on the other. Triboulet suggests that spasm of the glottis occurring in this isolated form may have been responsible for the sudden death of certain children recorded as "thymus deaths." The assumption of an isolated spasm of the glottis throws light also on the persistence of symptoms after thymectomy for an unduly enlarged thymus. Electric tests of the excitability of the muscles will prove a valuable aid in differentiating the cause for a tendency to suffocation in children.

81. **Esophagoscopy in Children.**—Guisez reports a number of instructive cases to show the value of the esophagoscope in locating lesions, in facilitating the passage of sounds in cicatricial stenosis and permitting local treatment. Esophagoscopy is comparatively easy in children as the mouth of the esophagus is not closed, as in adults, but gapes rhythmically with inspiration. For a cicatricial stenosis he introduces a narrow bougie with the aid of the esophagoscope and leaves this bougie in place for a few hours. This prepares the way for sounds of a larger caliber and it is thus possible to stretch the lumen to normal size in time in most cases. If not, circular electrolysis through the esophagoscope renders invaluable service. He has had fifty-four patients with cicatricial stenosis resisting all ordinary measures. Only ten required gastrostomy; all the others were cured by the above measures through the natural passages. Twenty-one of the patients were children and all but two have been restored to a clinically normal condition.

82. **Anasarca with Intact Kidneys.**—The 2-months' infant began to lose weight and dropsy developed, the child dying in less than a month. There was nothing to explain the tendency to edema as the child was of healthy parentage and breast fed, and all the organs seemed sound. Necropsy revealed fatty degeneration of the liver while all the other organs were apparently sound and the kidneys intact.

84. **Diagnosis of Enlarged Thymus in Young Children.**—D'Oelsnitz analyzes the symptoms and signs suggesting hypertrophy of the thymus, his conclusions being that it is sometimes extremely difficult to distinguish between an unduly enlarged thymus and enlarged tracheobronchial glands as the cause of the dyspnea. He gives the details of twenty-one cases to illustrate the various points involved, including two in which he was certain that the thymus was hypertrophied, but an operation revealed atrophy of this gland, the enlarged tracheobronchial glands being responsible for the trouble. The special features of enlargement of the tracheobronchial glands are a history of measles, bronchitis or bronchopneumonia, the general lack of dulness over the manubrium, and difficulty in breathing which is experienced mostly during expiration, while the chest is retracted during inspiration, mainly in the lower portion, the depression occurring, if it occurs at all, simultaneously in the epigastrium, the lower sternum region and the hypochondrium on each side. The part of the chest above seems to protrude above the transverse groove resulting from this form of retraction. Sometimes the groove curves up on each side, so the chest above bulges spherically while the retracted portion below flattens out, spreading out on the sides. Roentography shows the normal chest with a shadow like a long-necked bottle, while with enlarged thymus the shadow is irregular, with a protrusion just below the neck of the bottle on one or both sides, but the outline is smooth and the shadow even. With swollen lymph-nodes in the anterior mediastinum, the upper part of the shadow is as normal but below it spreads out irregularly, generally on the right side of the shadow of the heart, the protrusions small and round or finger-shaped, sloping down and outward, sometimes showing several shadows with a circular outline while the depth of the shadow may vary from that of the heart, being either lighter or darker. He gives twenty typical radiographs to show the various features in these different conditions, regarding radiography as indispensable. The dulness with enlarged thymus usually encroaches on the left side.

85. **Tuberculous Rheumatism.**—Veras reports from Smyrna three cases of rheumatic pains in one or more joints in children giving positive tuberculin reactions. The pains dragged along for years without ever reaching the intensity of acute rheumatism, and the arthritis apparently healed, too soon

to accept an ordinary tuberculous process, while the conception of a simple inflammatory process amply explains the facts observed.

Journal de Chirurgie, Paris

July, VII, No. 1, pp. 1-128

86 Technic and Results of Cholecystectomy in Cholelithiasis; 36 Cases. A. Gosset.

August, No. 2, pp. 129-236

87 The Postoperative Gastro-Intestinal Hemorrhages on Record. L. Sauvé.

Lyon Chirurgical, Lyons

September, VI, No. 3, pp. 249-376

88 *Painful Chronic Nephritis and Its Operative Treatment. V. Rochet.
89 *The Normal Consequences of Fracture of the Leg. L. Imbert.
90 Primary Multiple Tumors in Bones. E. Pallasse, C. Roubier and A. Goyet.
91 *Operations on Cervical Sympathetic for Exophthalmic Goiter. A. Chalier. Continued.

88. **Painful Nephritis.**—Rochet reports ten cases in which he operated on the kidney to relieve intense pain in the course of nephritis, with or without pus. He reviews the pathologic findings when the kidney was exposed and the technic appropriate for each nephrolysis, decapsulation, nephrotomy or nephrectomy. The operation put an end to the pain permanently in all the cases, although the later after-history is not known in one instance.

89. **Fracture of the Leg from the Standpoint of Industrial Insurance.**—Imbert expatiates on the revolution in regard to fractures of the leg that has followed the legislation on compensation to working-men for accidents while at work. The aspect of the leg afterward is not considered now, the main point being to restore normal functioning, the legs being extremely important not only for walking but in bearing burdens while the workman has to keep his balance on ladders and scaffolds—function for a day laborer requiring an elasticity and strength not needed by persons of more sedentary occupations. Imbert discusses the various points to be borne in mind and how to prevent persisting pain, shortening, muscular atrophy and stiffness. These various elements of persisting incapacity deserve more careful study, and he warns that the physician should beware of asserting that the patient is quite cured; he must not forget that various lesions engendered by a fracture are durable and sometimes persist indefinitely.

91. **Operations on Sympathetic Nerve for Exophthalmic Goiter.**—Chalier here continues his review of the operations performed by Jaboulay for this purpose and of the end-results. Of the total thirty-one operations, twenty-four of the patients have been reexamined from eight months to fourteen years after the operation and three were found completely cured, nine very much improved, and six may be classed as semisuccessful operations, of the eighteen whose complete history is known. These experiences show that an operation on the cervical sympathetic not only arrests the disease but is liable to be followed by retrogression of the affection amounting to a complete cure. In every patient the most distressing symptoms were mitigated or entirely cured; even those least improved were no longer sick but merely delicate. With a few simple precautions they were able to avoid all functional disturbances, such as palpitation and dyspnea, without need for medication. Even in the least favorable cases, there was manifest improvement sooner or later even after a number of months. The operation has a constant action on the ocular and nervous disturbances; the heart disturbances and the goiter are frequently modified but less regularly and in a less pronounced manner. One interesting effect is a rapid improvement in vision when there had been preceding myopia.

Only eight of the thirty-one patients were men; the age ranged from 17 to 66. Six of the patients died soon after the operation, but in the last ten years there has been no fatality from these operations on the sympathetic. In four of the six deaths, complications on the part of the lungs were responsible for them; another patient succumbed to erysipelas of the face, its fourth recurrence, and the sixth patient died with signs of sudden suffocation, not explained until necropsy revealed a very large and adherent thymus. Ten patients have died during the years since, one from chronic diarrhea, one from heart disease, five from tuberculosis—all intercurrent diseases, occurring while the patients were rejoicing at being freed from their exophthalmic goiter. The three other fatalities followed an operation on the thyroid intended to supplement the operation on the cervical sympathetic and complete a radical cure. These cases confirm anew the danger of operations on the thyroid in exophthalmic goiter even for patients immeasurably improved by sympatheticectomy.

Lyon Médical, Lyons

July 16, CXVII, No. 3, pp. 105-148

92 Cure of Exophthalmic Goiter by Ligation of Four Principal Arteries of the Thyroid. X. Delore and H. Alamartine.

July 23, No. 4, pp. 149-208

93 Nodular Rheumatismal Myocarditis with Epithelioid and Giant Cells. L. Gallavardin.

July 30, No. 5, pp. 209-256

94 Old Age and Senility. (Vieillesse et sénilité.) A. Pic.

August 6, No. 6, pp. 257-312

95 The Painful Symptoms in Polycythemia. (Des symptomes douloureux de l'érythrémie.) H. Vaquez and C. Laubry.
96 Tuberculosis of the Larynx and of the Esophagus. F. J. Collet.

August 13, No. 7, pp. 313-360

97 Occlusion of the Nostrils in Treatment of Spasm of the Lids, etc. (Traitement du reniflement et du blepharospasme par l'occlusion des narines.) J. Jaboulay.
98 Hernia of the Diaphragm. (Hernie intra-thoracique. Pyo-pneumothorax putride par perforation de l'estomac dans le thorax.) P. Courmont and E. Barjon.

August 20, No. 8, pp. 361-424

99 Radiotherapy of Uterine Fibromyomas. E. Barjon.

August 27, No. 9, pp. 425-468

100 Intratracheal Insufflation for Revival of the Asphyxiated New-Born. (Nouvelle méthode d'insufflation dans la mort apparente du nouveau-né.) Plauchu.

Presse Médicale, Paris

August 30, XIX, No. 69, pp. 697-704

101 *Hysteric Coxalgia. A. Broca.

September 2, No. 70, pp. 705-712

102 Antityphoid Vaccination in the Army. (Sur l'emploi facultatif de la vaccination antityphique.) L. Landouzy.

101. **Hysteric Hip Disease.**—Broca analyzes the features of four typical cases of pain and lameness in the hip joint of hysteric origin, emphasizing the special differential points. Among these is the lack of any difference between the aspect of the two hips and lack of the compensating processes in the pelvis and spine when the limb is flexed. Also the possibility of flexing the limb when the patient's attention is diverted and the physician gently and very gradually flexes the knee on the abdomen. The patient seems to feel a pinching of the skin as painful as forcible pressure on the head of the femur. In one of these cases, the patient, a 10-year-old girl, had pronounced adduction and flexion of the left leg. Seated on the edge of the table, there was no trace of scoliosis. She was unable to walk, but the physician told her that this was because her knee had lost its strength and bends, and that she could walk if her knee was held stiff. Holding the knee stiff he encouraged her to take a few steps which she found she could do without pain as long as the knee was held quite stiff, and she was kept walking while he gradually ceased to hold the knee without her perceiving this. When she found that she was walking without aid the cure was complete. Inquiry in the environment of such cases always revealed some one with a hip affection causing lameness and pain, and there was generally a history of some old slight affection involving the hip or leg. In the above case there was a trace of atrophy of the muscles, possibly relics of some torpid paralysis in early life, and subconsciously calling attention to that limb. Another differential point in hysteric coxalgia is the instability of the tender points and the inconsistency between the intensity of the pain on slight contact while forcible deep pressure may be unnoticed. The tranquil expression in comparison with the intensity of the pain, the peaceful sleep at night with none of the paroxysmal cries during slumber of organic disease, and the fact that when the lame child is told to stop she rests on whichever leg she happens to be standing on at the time—all these suggest hysteria. Another sign is that the child keeps the affected knee stiff when asked to pick up something from the floor, while the hip is bent without effort. The little patients do not know that this

is the reverse of what occurs with organic disease. In one of the cases described true organic disease was accompanied by hysteric lameness and pain but radiography and examination under chloroform gave negative organic findings until the head of the femur broke through. In treatment of hysteric coxalgia, Broca warns against any suggestion that treatment will have to be long continued, and he warns especially against immobilization. When the confidence of the patient is gained, the cure predicted by some slight brief treatment is soon realized, and the hospitals witness many cases of such instantaneous cures of both hip and pelvis trouble.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XVI, No. 3, pp. 373-560. Last indexed April 15, p. 1152

103 Ovarian Crises in Course of Tabes Dorsalis. (Zur Kenntnis der genitalen Krisen tabischer Frauen.) H. Offergeld.
104 Primary End-Results of Operative Treatment of Myomas: One Hundred and Fifty Cases. J. Cemach.
105 Right Congenital Hydronephrosis as Cause of Deformity of Internal Female Genitalia. R. Keller.
106 *Tumor in Placenta. A. Kummer.
107 Dwarf Growth. (Zweigwuchs.) F. A. Kehrer.
108 *Encapsulated Tumor in Placenta. (Ein kapseltragendes Chorioangiom.) H. Hauser.
109 Metastasic Malignant Tumor in Ovary. (Zur Kenntnis der Krukenbergschen Ovarialtumoren.) P. Hussy.
110 *Vaginal Tuberculosis: Four Cases. R. Mauler.
111 *Management of Pelvic Presentation and Its Consequences. (Behandlung der Beckenendlagen und ihrer Folgen.) H. Bayer.
112 Relations Between Proliferation of Fetal Cells and Puerperal Involution of the Uterus. (Beziehungen der fötalen Zellwucherungen zur puerperalen Rückbildung des Uterus.) G. Schickele.

106 and 108. **Tumor in Placenta.**—Kummer has found records of seventy-eight cases of a tumor in the placenta and reports another. Pregnancy and delivery had been apparently normal and the child was healthy except that it looked unusually yellow at first. A large fibroma-angioma was found in the placenta. In sixteen of the forty-six cases on record in which the pregnancy progressed nearly to term, there was spontaneous premature delivery. Kraus found mention of hydramnion in nine of his fourteen cases. Asphyxia was common among the children and cardiac defects and kidney trouble in the women.

Hauser has encountered two cases of a benign tumor in the placenta in a comparatively short time. In the present case the tumor had a capsule and the patient was a syphilitic young woman. Delivery was apparently normal at term but the child died within a month.

110. **Vaginal Tuberculosis.**—In Mauler's four cases the vagina had evidently become infected from tuberculous lesions in the genitals above. All four cases were encountered within six months although for years he had been seeking in vain for an instance of vaginal tuberculosis.

111. **Pelvic Presentation.**—In the course of this dissertation on a number of minor points useful to bear in mind, Bayer remarks that he seldom makes use of the Schultze swinging method now; his experiences with it have been discouraging as, for instance, in a case in which a child born with great difficulty in pelvic presentation had been revived after long and tedious blowing air into its lungs. It was breathing spontaneously and whimpering when he thought he would complete matters by swinging it twice, but the child died at once.

Berliner klinische Wochenschrift

September 4, XLVIII, No. 36, pp. 1625-1668

113 *Glycosuria After Pancreatectomy. H. Eppinger and F. Falk.
114 Pathologic Urine Pigment. (Ueber einen neuen pathologischen Harnfarbstoff.) F. Lehmann and W. Zinn.
115 Clinical Determination of Lipoids in the Blood. A. Döblin and L. R. Grote.
116 Clinical Diagnosis of Inversion of Viscera. H. Voit.
117 Cirrhosis of the Liver. IV. (Die Banti'sche Krankheit.) F. Klopstock.
118 *Influenza in Infants. (Klinische und bakteriologische Beobachtungen bei Säuglingsgrippe.) E. Müller and E. Seligmann.
119 *Operative Treatment of Dysphagia with Laryngeal Tuberculosis. A. Blumenthal.
120 Cystic Tumor in Horseshoe Kidney Successfully Removed. (Cystischer Tumor bei Hufeisenniere, durch Operation entfernt; Heilung.) P. Bockenheimer.
121 Differential Diagnosis of Perforating Ulcer. (Ulcus penetrans im Röntgenbilde.) E. Schlesinger.
122 Possibility of Collateral Arterial Circulation for the Kidney. (Ausbildung eines arteriellen Collateralkreislaufes der Niere.) M. Katzenstein.

113. **Glycosuria After Removal of the Pancreas.**—Eppinger and Falk report extensive experimental research with animals fed monoacetyl glucose and other ester compounds of grape sugar with acetic acid or saccharids before and after removal of the pancreas. They show that the assimilation of grape sugar may be profoundly modified while the assimilating power for some of these saccharids may be unimpaired, even after removal of the pancreas. The research suggests that it may be possible to find useful articles of food among these substances, especially for diabetics.

118. **Influenza in Infants.**—Müller refers in particular to influenza assuming the form of sepsis or effusion in the serous cavities of the body. In the septic form the fever sets in high but alternates with subnormal temperature; no disturbance in any organ can be discovered and the general health does not seem to be much disturbed in the majority of cases. In a few cases in his experience, however, the sepsis proved rapidly fatal or the whole syndrome recurred again and again with free intervals of weeks and months. He gives the curves of three such cases. In three others the influenza developed as a pleural empyema; the only infant less than six months old who survived was the only one merely punctured. No attempt at tamponing was made until the symptoms were much mitigated; the suppuration persisted for weeks but the child finally recovered. In three other cases the effusion occurred in the peritoneum and the children succumbed with signs of septic peritonitis. In some cases the symptoms indicated a serous meningitis.

119. **Operative Treatment of Laryngeal Tuberculosis.**—Blumenthal comments on the serious outlook when swallowing becomes so painful that the patients with laryngeal tuberculosis do not get enough nourishment and become intensely depressed. He has succeeded in putting an end to the dysphagia in two cases by resecting the superior laryngeal nerve. He describes the comparatively simple technic, applied to a woman of 33 and a man of 36 as a last resort. The by-effects were slight and transient.

Deutsche medizinische Wochenschrift, Berlin

August 31, XXXVII, No. 35, pp. 1585-1632

123 History of Bronchoscopy and Esophagoscopy. G. Killian.
124 Indications for Endonasal Operations on the Ethmoid Bone. (Indikation der endonasalen operativen Eröffnung und Ausräumung des Siebbeins.) P. Stenger.
125 Difficulty in Removing the Tube After Diphtheria. (Erschwertes Dekanulement und Larynxatresie nach Diphtherie.) M. A. H. Martens.
126 Conservative Radical Operations on the Middle Ear. (Ueber konservative Radikaloperationen des Mittelohres.) L. Stacke.
127 *Improved Technic of Illumination of the Nasal Sinuses, Orbit and Middle Ear. (Neue Methode und neues Instrument für die Durchleuchtung des Siebbeinlabyrinths, der Kieferhöhle, des Mittelohres und der Augenhöhle.) A. v. Gyergyai.
128 *Relations Between Mouth Breathing and Pulmonary Tuberculosis. (Beziehungen der chronischen Nasenstenose zur Lungentuberkulose.) M. Rosenberg.
129 *Diagnosis and Treatment of Peritonsillitis. M. Levy.
130 Radiotherapy in Experimental Tuberculosis of the Eye. (Zur Einwirkung "strahlender Energie" auf die experimentelle Tuberkulose des Auges.) F. J. Flemming and F. Krusius.
131 Changes in the Blood with Simple Gastric Achylia. I. A. Waledinsky.
132 Roentgen Rays in Estimation of Gastric Acidity. (Zur Aziditätsbestimmung des Mageninhalts mittels des Röntgenverfahrens.) G. Schwarz.

127. **Technic for Illumination of the Nasal Sinuses, Orbit and Middle Ear.**—Gyergyai uses an electric lamp, the holder bent sideways at a right angle, this branch being long enough to be introduced to the depths of the maxillary sinus, close to the ear. He has applied it in thirty-eight cases and has been amazed at the instructive oversight thus permitted.

128. **Relations Between Mouth-Breathing and Pulmonary Tuberculosis.**—Rosenberg states that, besides its more familiar evils, chronic obstruction of the nose modifies the respiration in a way that materially favors bacterial invasion. The bacilli not only get into the lower air passages more readily but they find more favorable conditions for colonization, especially in the non-tuberculous shriveling of the right apex which is so common in mouth-breathers, called by Krönig "collapse induration." Rosenberg found this induration at the apex in eighteen of fifty cases of chronic obstruction of the nose, although there was nothing to suggest tuberculosis. Such persons are predisposed to tuberculosis on account

of this local change at the apex. If it is diagnosed as a mild tuberculous process and the patient is sent to a sanatorium for tuberculosis, he is almost certain to contract the disease which otherwise he might have escaped. Such cases explain the negative tuberculin reaction in some of the supposed tuberculous inmates of sanatoriums and the change to a positive reaction later. The obstruction in the nose may be the result of adenoids but deformity of the septum and hypertrophy of the turbinate bones may sometimes be incriminated. Rosenberg cites in conclusion Blümel's experience at the Görbersdorf sanatorium with seventy-five non-tuberculous inmates among the total 1,700 supposedly tuberculous; he discovered twenty-eight cases of this collapse induration in this group of seventy-five. From the Belzig sanatorium it has been reported that nasal affections were found in 84 per cent. and throat affections in 76 per cent. of 120 patients examined. Rivers in England in examining 500 persons found twice as many mouth-breathers among the consumptives as among the non-tuberculous. Rosenberg pleads in conclusion for prompt measures to relieve nasal stenosis and thus ward off these perils.

129. **Peritonsillitis.**—Levy remarks that with this affection the objective signs may be insignificant, especially when it is a recurrence. The first sign is usually slight protrusion of one tonsil. Palpation from without is often instructive; the glands may be swollen on both sides, even when the peritonsillitis involves but one side, and the glands may be very tender. The radiating of the pain to the ear is a constant and early symptom. The general symptoms are by no means so pronounced as with follicular tonsillitis, although there may be chill and some fever; the disturbance in swallowing is generally all the patients complain of. This with the limitation to one side generally differentiate the trouble. His experience with sixty cases showed that early incision had no effect in 33 per cent. of the cases, and he now waits for demarcation as a rule unless the pain is severe. In recurring peritonsillitis the supratonsillar fossa is generally the source of the trouble, and excision of the upper lobe of the tonsil puts an end to all disturbances. It is not necessary to remove the whole tonsil, he says.

Medizinische Klinik, Berlin

August 27, VII, No. 35, pp. 1337-1372 and Supplement

133 Simulation of Insanity. (Simulation von Geisteskrankheit.) J. Peretti.
134 *Dilatation of the Esophagus. (Zur Lehre von der Erweiterung der Speiseröhre.) W. Jüngerich.
135 Prophylaxis of Tabes Dorsalis. J. Lowinsky.
136 The "Nerve Point Theory" in Relation to Balneology. A. Cornelius.
137 *Fleas and Flea Traps. (Zur Naturgeschichte der Flöhe.) B. Harms.
138 Digestive Diseases. (Pathologie und Therapie der Verdauungskrankheiten.) H. Citron.

September 3, No. 36, pp. 1373-1408

139 *Internal Treatment of Gastric Ulcer. (Neuere Gesichtspunkte der internen Behandlung des Magengeschwürs.) K. Glaessner.
140 Nervous Diarrhea. T. G. Janowski.
141 Vaccine Therapy of Gonorrheal Prostatitis and Arthritis. J. Sellei.
142 Water Jet Vacuum Massage in Internal Medicine. (Verwendung der Wasserdruckmassage in der inneren Medizin.) W. H. Dreuw.
143 *Actinomycosis of the Bronchi. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose. XII.) A. Posselt. Commenced in No. 35.
144 Changes Undergone by Iodin Preparations in the Stomach and Upper Duodenum. L. Metzger.
145 Keratoma Palmare and Vitiligo. W. Friedländer.

134. **Dilatation of the Esophagus.**—Jüngerich thinks that greater attention should be paid to the neurasthenia underlying the dilatation of the esophagus in most cases. He relates his experiences with six patients, all but one being men between 24 and 56. Symptomatic treatment is necessary, repeated on recurrence of trouble. It is thus possible to keep the patients free from disturbances for many months at a time, even when a complete cure is not possible. The spasm of the cardia responsible for the trouble generally comes on suddenly; the frequent remissions of longer or shorter duration are characteristic, as also the alternation with spastic phenomena elsewhere and the impossibility of introducing the sound beyond the cardia at times, while at other times it slips smoothly in.

137. **Fleas and Flea Traps.**—Harms discusses the biology and natural history of the flea family and illustrates a little flea trap in common use in the Orient. It consists of a small stick smeared with a sticky substance, the stick inserted in a strip of bamboo, the sides cut out to leave only seven narrow strips. It acts on the principle of sticky fly paper, the bamboo shell keeping the sticky tube from contact with the clothing. The Chinese are said to strew a number of these tiny traps around the bed and wear them in their clothes.

139. **Medical Treatment of Gastric Ulcer.**—Glaessner estimates that only about 25 per cent. of patients with gastric ulcer are ever permanently cured by internal measures alone. He also calls attention to the fact that any gastric juice with an actual digestive action can maintain ulceration in the stomach; hyperacidity is not encountered oftener than in 43 per cent. of the cases with gastric ulcer. Study of the end-results after gastro-enterostomy has convinced the investigators that the benefit from this operation is due exclusively to the reflux of bile and pancreatic secretion into the stomach, thus washing the ulcer with bowel content. This, in connection with the regurgitation of intestinal juice into the stomach after pouring in oil and the benefit therefrom in gastric ulcer, suggests that internal administration of an artificially prepared intestinal juice might have a powerful curative action on gastric ulcer. Glaessner reports experimental research which confirms these views, even a 0.2 per cent. concentration of bile inhibiting digestion *in vitro,* notwithstanding the presence of large amounts of hydrochloric acid. He thinks these facts open new horizons for internal treatment of gastric ulcer.

143. **Actinomycosis of the Bronchi.**—Posselt expatiates on the extreme importance of an early diagnosis as in few affections is treatment so effectual. He reviews extensive experiences of his own and others; they show among other things that the apex of the lungs is occasionally the primary seat but that the bronchi are more often involved. The affection may attack children or adults and there is a comparatively harmless pseudoactinomycosis sometimes observed in the tonsil. Repeated examination of the nasopharynx and of the sputum may be necessary before the true origin of the bronchial affection is discovered, and he is convinced that systematic microscopic examination of the sputum in rural districts would show the disease to be far more frequent than is generally supposed; serologic methods may also aid in the differentiation. Once diagnosed, he gives potassium iodid and calls the surgeon at once, radiography pointing the way to effectual measures. Karewski insists that actinomycosis should be suspected in all cases of slowly developing swellings in the chest, especially in the rear and when preceded by signs of bronchitis, and a tuberculous process can presumably be excluded. He advises operative removal as bound to be successful in the early stages without metastasis.

Münchener medizinische Wochenschrift

August 29, LVIII, No. 35, pp. 1849-1896

146 *Polycythemia. (Ueber Hyperglobulie.) G. v. Bergmann and J. Plesch.
147 Bacterial Origin of Thrombosis and Encephalitis. (Ueber Venenthrombose und hämorrhagische Enzephalitis im Anschluss an bakteriologisch-anatomische Untersuchungen bei Sinusthrombosen—Komplikation mit Chlorose, Eklampsie.) J. Katzenstein.
148 *Hydrocephalus from Obstetric Standpoint. (Bedeutung des Hydrozephalus in der Geburt.) A. Rieländer.
149 Paralysis of the Stomach by General Anesthesia. (Lähmung des Magens durch die Inhalationsnarkose.) E. Mangold.
150 Properties of Coffee and Thum's Coffee-Bean-Cleansing Process. (Die besonderen Eigenarten des Kaffeegetränkes und das Thumsche Verfahren zur Kaffeereinigung und -verbesserung.) E. Harnack.
151 *Technic for Complete Evacuation of Pleural Effusions. H. C. Jacobaeus.
152 Influence of Deficient Oxygen on Blood Production. (Blutvermehrung durch Sauerstoffmangel.) E. Kuhn.
153 Anilin Poisoning. (Beitrag zur Anilinvergiftung.) W. Friedländer.

146. **Polycythemia.**—Bergmann and Plesch give the tabulated findings in three cases of polycythemia examined with the same detail as Senator's patient. They are inclined to regard the polycythemia as a compensating process in some cases.

148. **Hydrocephalus in Obstetrics.**—Rieländer discusses the various modes in which hydrocephalus may interfere with delivery, and the diagnosis of this anomaly in time at the birth. The main point in diagnosis is for the accoucheur to bear the possibility of hydrocephalus in mind. It is so rare an occurrence that it is seldom thought of as the explanation of the dragging of the birth, but it should be suggested when the head at the pelvic inlet is unusually broad with wide fontanelles and sutures which have a cystic feel. Or when the head shows no tendency to enter the pelvis even with vigorous contractions of the uterus. But one or the other of these three signs and all others mentioned in the textbooks may be lacking, as he shows by three typical cases described in detail. Only careful examination, eventually under general anesthesia, and careful weighing of the different symptoms will permit a true diagnosis. Treatment is very simple, merely to allow escape of the fluid by puncturing the fetal brain. Hammerschlag in his manual published last year stated that 20 per cent. of the mothers succumb—13 per cent. from rupture of the uterus and 7 per cent. from infection. The diagnosis is most difficult when the head presents first; the ineffectual labor keeps up for days, the accoucheur waiting while the impatient midwife keeps repeating her local examination. The uterus then ruptures or the woman's temperature rises. A history of hydrocephalus at a previous birth may be instructive.

151. **Evacuation of Pleural Effusion.**—Jacobaeus thinks that it is extremely important to remove the last traces of a pleural effusion, especially if it is purulent, and he has accomplished this in ten cases by the simple technic described. He introduces a trocar wide enough to permit the passage of a cystoscope through it. The trocar is inserted above the ninth interspace and most of the effusion is evacuated through it, air entering as the patient breathes, replacing the effusion. He then introduces through the trocar a small, soft ureter catheter, the tip weighted with lead. The air escapes readily between the walls of the catheter and the trocar, while the weighted tip drops to the lowest portion of the chest, and the last traces of the effusion can thus be aspirated. If there is thick pus, he pours in salt solution through the catheter and has found it useful to rinse out the cavity in this way in conclusion.

Wiener klinische Wochenschrift, Vienna

August 31, XXIV, No. 35, pp. 1235-1266

154 Neutral Sulphur in Urine as Test for Cancer. (Vorkommen des Neutralschwefels im Harn und seine Verwendung zur Karzinomdiagnose.) E. E. Pribram.
155 Serotherapy in Dentistry. (Ueber Anwendung des Deutschmann-Serums bei schweren dentalen Phlegmonen.) B. Mayrhofer.
156 Hernia in Abdominal Wall. (Kasuistischer Beitrag zur Kenntnis des subkutanen Intestinalprolapses.) E. L. Fieber.
157 Atypical Forms of Psoriasis. R. Volk. Commenced in No. 34.

Zentralblatt für Chirurgie, Leipsic

September 2, XXXVIII, No. 35, pp. 1177-1208

158 *Tube Speculum for Inspecting Peritoneum. (Das röhrenformige Spekulum bei der Bauchfellentzündung.) F. Kuhn.
159 *Technic for Closing the Intestine. (Zur Technik des operativen Darmverschlusses.) T. Voeckler.
160 Roentotherapy of Rhinoscleroma. A. R. v. R. Rydygier.

158. **Speculum for the Peritoneum.**—Kuhn has been using for some years a small tube speculum on the principle of those used for the vagina and rectum, and here expatiates on the instructive oversight thus obtainable. He introduces the speculum with an obturator, repeatedly withdrawing the latter and replacing it before proceding farther, or introducing a rectoscope lamp into the speculum. It is thus possible to inspect the small pelvis and the region behind the stomach, etc., as well as the different parts of the inflamed peritoneum. He always proceeds on the principle that the speculum must enter from a non-infected region, using a separate speculum at each point. A drain can be introduced through the speculum and left as the latter is withdrawn. To prevent inclusion of omentum, he sometimes covers the top of the drain with a layer of gauze. The small incisions, each containing its speculum, permit irrigation without pressure and prevent distention of the abdominal walls. He sometimes uses a more flaring speculum, open along one side, which permits introduction of an instrument.

159. **Operative Closure of the Intestine.**—The stump is tied with a single knot, like a rowboat hitch, untied by pulling on the longer end. The tied stump is then pushed in and the intestine drawn together over it with an ordinary purse-string suture. The first knot is then untied, leaving the invaginated stump free, without any dead space or burying of a foreign body or injury from the necrotic circle where the gut had been tied.

Zentralblatt für Gynäkologie, Leipsic

September 2, XXXV, No. 35, pp. 1233-1264

161 Benefit from Hypophysis Treatment in Case of Osteomalacia M. Neu.
162 Functioning Ovary Without Menstruation. M. Ogorek.
163 *Acetone in Treatment of Inoperable Uterine Carcinoma. G. Gellhorn.

163. **Treatment of Inoperable Cancer with Acetone.**—Gellhorn says that he has not modified his technic described in The Journal, April 27, 1907, page 1400, and his experience since has amply confirmed the value of this means of influencing the local symptoms, improving the general health and prolonging life, while the technic of the procedure is extremely simple and the method is painless.

Zentralblatt für innere Medizin, Leipsic

September 2, XXXII, No. 35, pp. 857-880

164 Iodin Test, Based on Mohr's Reaction, for Gastric Acidity. (Ueber eine prinzipiell neue Methode zur Bestimmung der Säure des Magensaftes und ihre klinischen Vorteile.) E. Herzfeld.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 27, XXXII, No. 103, pp. 1083-1098

165 Unreliability for Diagnosis of Butenko's Urine Test with Liquor Bellostii. C. Farmachidis.

August 29, No. 104, pp. 1099-1106

166 "Three-Day Fever" in Catania. G. De G. Giunta.

Policlinico, Rome

August 27, XVIII, No. 35, pp. 1097-1128

167 *Influenza in Pregnancy and the Puerperium. U. Rosi.

September 3, No. 36, pp. 1129-1160

168 *Hypophysis Treatment of Exophthalmic Goiter. (La cura ipofisaria del morbo di Basedow.) A. Salmon.

167. **Influenza in Pregnancy and Puerperium.**—Rosi has encountered fourteen cases of influenza in pregnant women and seven parturients with influenza. The fetus may be injuriously affected and the pregnancy may terminate prematurely or persist unduly long. Differentiation is important, especially in the puerperium, to avoid errors in treatment.

168. **Hypophysis Treatment in Exophthalmic Goiter.**—Salmon reports two cases, the patients women about 45; systematic hypophysis treatment induced such marked improvement that he regards this method of treatment as based on a sound basis, similar to the efficacy of thyroid treatment in deficient thyroid functioning.

Riforma Medica, Naples

August 28, XXVII, No. 35, pp. 953-980

169 Hypertoxicity of the Stool in Pneumonia. G. Breccia.
170 *Picric Acid for Sterilization of the Skin. (Dei recenti metodi di disinfezione della cute e di un nuovo metodo con soluzione alcoolica di acido picrico.) A. Fontana.

170. **Sterilization of the Skin with Picric Acid.**—Fontana uses a 1 per cent. alcoholic solution of picric acid for sterilization of the field of operation, and extols its advantages over other methods. It is as effectual, his tests seem to show, as the tincture of iodin method while it is much more convenient for sterilization of the hands. Both of these methods do away with the long scrubbing indispensable with other technics and which is so liable to chill the patient.

Hospitalstidende, Copenhagen

July 26, LIV, No. 30, pp. 825-856

171 *Gangrene in Infectious Diseases. K. M. Andersen.

171. **Gangrene with Infectious Diseases.**—Andersen's patient was a little girl who had gangrene of the leg about six weeks after the onset of an apparently mild scarlet fever. The progress of the gangrene compelled amputation while a

superficial patch of gangrene on the thigh above healed. He has been able to find only five cases on record of gangrene complicating scarlet fever, but ninety-eight cases in which gangrene developed with other infectious diseases or lesions. Emboli were found only in eleven cases, autochthonous thrombi being responsible for the balance. He discusses the mechanism of the gangrene and in conclusion reports a case of gangrene in the course of osteomyelitis of the femur but the lesion healed in the course of a month. The trouble in both his cases was evidently the result of toxic changes or inflammation in the afferent vessels.

Norsk Magazin for Lægevidenskaben, Christiania

September, LXXII, No. 9, pp. 937-1000

172 Two Cases of Infantile Scorbutus. C. Looft.
173 *Test for Bile in the Blood. (Galdereaktion i blodserum til klinisk bruk.) A. Sunde.
174 Chromocystoscopy. N. Friis.

173. **Simple Test for Bile in the Blood.**—Sunde has found that it is possible to estimate the intensity of the admixture of bile with the blood with sufficient accuracy for all practical purposes by the length of time necessary for the color reaction to occur when the serum is treated with nitric acid. He has been thus testing the serum from seventy patients and comparing the findings with those from other tests. He used Scheel's modification of Gilbert's test, adding to 20 or 30 drops of the blood-serum, in a test-tube not over 10 mm. in diameter, a little of the reagent made by combining 300 parts nitric acid with 0.06 parts sodium nitrite. The reagent is allowed to flow down the side of the tube and a bluish ring forms at the junction of the two fluids. The interval before the bluish ring becomes evident varies from half a minute to thirty minutes when there is considerable bile in the blood, while with only small proportions the interval ranges from forty-five to sixty-five minutes or longer. It is possible thus to distinguish the pathologic from the non-pathologic cases; the shorter the interval the greater the probability of some local affection in the liver or bile passages interfering with the normal evacuation of the bile. In one case with colic suggesting gall-stones and a slight tendency to jaundice, the reaction occurred in ten minutes and a biliary lesion was assumed; but the urine findings pointed to pyelitis and radiography revealed large calculi in both kidneys. The enlarged right kidney in this case may be compressing the bile passages and thus inducing the cholemia indirectly, with intact biliary apparatus, but, more probably, the tendency to lithiasis involves both the bile and the urine systems.

Ugeskrift for Læger, Copenhagen

August 24, LXXIII, No. 34, pp. 1239-1274

175 Typhoid Epidemic in Danish Province. 1909. A. E. Kæmpegaard.

August 31, No. 35, pp. 1275-1308

176 Wright's Vaccine Therapy. K. Petersen.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Volume VI, The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series, 1911. Cloth. Price, $1.50. Pp. 342, with 15 illustrations. Chicago: Year-Book Publishers, 1911.

American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A.M., M.D., Member of Committee on Nomenclature and Classification of Diseases of American Medical Association. Containing the Pronunciation and Definition of All the Principal Terms Used in Medicine and the Kindred Sciences, Including Dentistry, Veterinary Medicine, Nursing, etc., with Over 60 Extensive Tables. Seventh Edition. Leather. Price, $1 net. Pp. 643. Philadelphia: W. B. Saunders Co., 1911.

Dysentery and Liver Abscess in Bombay. Being the Report of an Enquiry Carried Out by Major E. D. W. Greig, M.D., D.Sc., I.M.S., and Captain R. T. Wells, M.A., M.B., I.M.S., Under the Direction of the Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 47. Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 3 shillings. Pp. 78, with illustrations. Calcutta: Superintendent Government Printing, India, 1911.

Malaria in the Punjab. By Major S. R. Christophers, M.B., I.M.S., Assistant to the Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 46. Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 3 shillings. Pp. 125. Calcutta: Superintendent Government Printing, India, 1911.

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge, and Humphry David Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Volume VIII. Diseases of the Brain and Mental Diseases. Cloth. Price, $6 net. Pp. 1070, with illustrations. New York: The Macmillan Co., 1911.

Sewage Pollution of Interstate and International Waters. With Special Reference to the Spread of Typhoid Fever. 1. Lake Erie and the Niagara River. By Allan J. McLaughlin. Bull. 77, Hygienic Laboratory. P. H. and M.-H. S. of the United States. Paper. Pp. 169. Washington: Government Printing Office, 1911.

A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, A.M., M.D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Third Edition. Cloth. Price, $3 net. Pp. 655, with 112 illustrations. Philadelphia: W. B. Saunders Co., 1911.

A Text-Book of Physiology. For Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Sc.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Fourth Edition. Cloth. Price, $4 net. Pp. 1018, with 360 illustrations. Philadelphia: W. B. Saunders Co., 1911.

A Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Tenth Edition. Cloth. Price, $5.50 net. Pp. 1328, with 81 illustrations. Philadelphia: W. B. Saunders Co., 1911.

A Manual of the Practice of Medicine. Prepared Especially for Students. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. Ninth Edition. Leather. Pp. 553. Philadelphia: W. B. Saunders Co., 1911.

The Treatment of Fractures. With Notes on a Few Common Dislocations. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital. Seventh Edition. Cloth. Price, $6 net. Pp. 708, with 990 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Rudiments of Refraction. A Reprint of a Series of Papers on Refraction Originally Printed in Physician's Drug News and Office Practitioner. By C. A. Button, M.D. Cloth. Price, $1. Pp. 131, with 11 illustrations. Newark, N. J.: Physicians' Drug News Co. (1911).

A Reference Handbook of Obstetric Nursing. By W. Reynolds Wilson, M.D., Visiting Physician to the Philadelphia Lying-In Charity. Second Edition. Leather. Price, $1.25 net. Pp. 256, with 61 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The Physiological Standardization of Ergot. By Charles Wallis Edmunds and Worth Hale. Bull. 76, Hygienic Laboratory. P. H. and M.-H. S. of the United States. Paper. Pp. 58. Washington: Government Printing Office, 1911.

Educational Opportunities in Chicago. A Summary Prepared by the Council for Library and Museum Extension. [A. G. S. Josephson, Secretary, John Crerar Library.] Chicago, June, 1911. Paper. Pp. 80, with illustrations.

Transactions of the American Association of Obstetricians and Gynecologists. For the Year 1910. Vol. XXIII. Cloth. Pp. 583, with illustrations. William Warren Potter, Secretary, 238 Delaware Avenue, Buffalo, N. Y., 1911.

Rural Hygiene. By Henry N. Ogden, C.E., Professor of Sanitary Engineering in College of Civil Engineering, Cornell University. Cloth. Price, $1.50 net. Pp. 434, with 78 illustrations. New York: The Macmillan Co., 1911.

Nursing in the Acute Infectious Fevers. By George P. Paul, M.D., Town Health Officer, Round Lake, N. Y. Second Edition. Cloth. Price, $1 net. Pp. 246, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Collected Papers by the Staff of St. Mary's Hospital Mayo Clinic, Rochester, Minn., 1910. [Second volume.] Cloth. Price, $5.50 net. Pp. 633, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Forty-First Annual Report of St. Luke's Home and Hospital in the City of Utica [New York]. October, 1910. With the Names of Officers for the Ensuing Year. Paper. Pp. 56, with illustrations.

A Statistical Survey of Infant Mortality's Urgent Call for Action. By Edward Bunnell Phelps, M.A., F.S.S., 141 Broadway, New York. Editor The American Underwriter, New York. Cloth. Pp. 27.

The Twenty-Ninth Annual Report of the Sheltering Arms of the Protestant Episcopal Church in the City of Philadelphia, 717 Franklin Street. Jan. 1, 1911. Paper. Pp. 23.

The Battle Creek Sanitarium System. History, Organization, Methods. By J. H. Kellogg, M.D., Superintendent, Battle Creek, Mich., 1909. Paper. Pp. 215, with illustrations.

Observations on the Natural History of Epidemic Diarrhea. By O. H. Peters, M.D., D.P.H. Cloth. Price, $2.25 net. Pp. 177. New York: G. P. Putnam's Sons, 1911.

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AN EXTRA-ABDOMINAL MULTILOCULAR OVARIAN CYST *

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BALTIMORE

Several months ago, Dr. Frank R. Smith asked me to see a woman who had a kidney-shaped tumor slightly below and to the right of the umbilicus. The patient had noticed a small lump in this situation several years before, which for a long while had remained quiescent but during the last year had gradually increased in size. At operation it was found to be a partly solid, partly cystic tumor of the ovary lying external to the abdominal muscles, the tumor and its surrounding sac being covered over with a small amount of adipose tissue and the skin. The pedicle of the tumor passed through a hernial ring to the outer side of the right rectus and obliquely across the lower abdominal cavity to what corresponded to the normal insertion of the right utero-ovarian ligament.

I have been unable to find any reference to a similar case in the literature.

History.—Mrs. M. W., aged 56, was a short, well developed woman, and, apart from a tumor mass in the lower abdomen, was in excellent health. She had had eleven children. Her periods had ceased at 50. She had felt some pain in the right ovarian region for fifteen years, and for about ten years she had noticed a little tumor situated in the right lateral abdominal wall slightly above a line drawn between the umbilicus and the anterior superior spine. This, from her description, seemed to have been about the size of an ovary. During the last ten months this small lump had increased in size until it formed a lobulated mass, elongate in form, about 10 by 8 cm. It seemed to be but a short distance beneath the skin and could be lifted up to some extent in the hand, but its absolute relationship could not be determined on account of the presence of a considerable amount of adipose tissue.

Operation.—Nov. 1, 1910, on making a pelvic examination, under anesthesia I found that the uterus was normal and that there was no thickening laterally. Not being sure of the exact condition, I made a median incision. The uterus was normal, the left tube and ovary presented the usual appearance. The right tube showed no change, but the right utero-ovarian ligament was markedly drawn out into a band about 1 cm. broad. This led to a hernial opening with smooth margins in the right lateral abdominal wall below and to the right of the umbilicus, but at least 12 cm. from the inguinal region (Fig. 1). After obtaining good exposure I found that this flattened band of the utero-ovarian ligament passed directly into a hernial opening about 2.5 cm. in diameter, and into this opening a finger could readily be introduced. The intra-abdominal portion of the pedicle was clamped off and sutured. An incision was then made over the prominent part of the abdominal tumor, which proved to be extra-abdominal. The more prominent part of this tumor lay directly beneath the skin in the adipose tissue, and was very easily freed by blunt dissection to the point where the hernial ring entered the abdomen. I then cut the peritoneum around the hernial ring and delivered the tumor, with its peritoneal covering intact. The space where the tumor had existed having been obliterated and the inner incision having been sutured, the outer wound was also closed. The ovarian tumor was multilocular.

There had evidently been a hernial protrusion through the right lateral abdominal wall, into which the ovary had dropped and remained for several years. During the last year it had increased in size and given rise to a multilocular ovarian cyst. Naturally with the increase in size, the escape of the ovary from the sac was impossible.

Macroscopic Examination of Hardened Specimen (Path. No. 15,723).—The hernial opening was about 2.5 cm. in diameter. Its margins consisted of peritoneum, outside of which was a zone of adipose tissue. The tumor itself was kidney-shaped (Fig. 2) 12 cm. long, 7 cm. broad, and 6 cm. in thickness. It was covered everywhere with peritoneum, which could be readily separated from it. Here and there attached to the outer surface of the peritoneum were tags of adipose tissue. The tumor itself was in large measure solid, resembling a fibroma. It presented a lobulated appearance. Here and there between nodules it showed cystic spaces, oblong, irregular, or round, varying from 2 mm. to 2 cm. in diameter. The majority of these were transparent and contained clear fluid. Some of them were slightly blood-tinged. So much could be made out through a window, which was cut in the peritoneum. On peeping in through the hernial ring, were seen cysts varying from 2.5 cm. to 3 cm. in diameter and apparently filled with clear fluid. After the drawing had been made the tumor was cut in two. The appearance on section is well shown in the drawing in the right upper corner of Figure 2.

Histologic Examination.—The solid portion of the tumor consisted in large part of fibrous tissue containing triangular or spindle-shaped nuclei. In some places the nuclei were abundant, in others scanty in number. The tissue showed a considerable degree of hyaline degeneration. At one or two points characteristic ovarian stroma was still in evidence. No Graafian follicles could be found, but after an examination of numerous sections a typical corpus fibrosum was noted. In some sections a few bundles of non-striped muscle were visible. The stroma had a meager blood-supply except in a few areas, where there were groups of rather large veins.

Scattered sparingly through the stroma were small circular or irregular glands occurring singly or in groups of two or three. They were found to be lined with cylindrical epithelium and were similar to those so frequently noted in the hilum of the ovary. Some of the very small cystic spaces, noted macroscopically, were lined with cylindrical ciliated epithelium and had an underlying stroma that stained rather deeply and that consisted of cells with oval vesicular nuclei. This stroma stood out in sharp contrast to the surrounding fibrous tissue. Such cysts frequently contained a little fairly fresh blood. These cysts reminded one very much of the cystic spaces so frequently noted in an adenomyoma, but I believe that they represented only the earlier stages of the larger cysts.

The large cysts were lined with one layer of epithelium which might be cylindrical, cuboidal or almost flat. Projecting into some of the cysts were papillary folds. These occasionally occurred as delicate, irregular, finger-like projections, but in the main as blunt, single or branching outgrowths. All of them were covered over with one layer of epithelium. The stroma of the papillary masses had in many places undergone almost complete hyaline degeneration, and in a few liquefaction of this hyaline material had taken place. Even in some of the larger cysts a moderate amount of fresh blood was present. The stroma cells beneath the cyst epithelium had in some places become swollen and spherical and were filled with yellow or brown pigment indicating the absorption of blood at some previous time.

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* From the Gynecological Department of the Johns Hopkins Hospital.

On the surface of the tumor were a moderate number of vascular adhesions, and on the under and protected side of these the peritoneal cells had become cuboidal as is common on the under side of tubal or ovarian adhesions.

From the above description it will be seen that the dense matrix of the tumor consisted essentially of fibrous tissue and that scattered throughout this were multiple cysts, in large measure similar in character, some of which had small papillary masses projecting into them. Had the tumor developed in the abdominal cavity, I believe that in all probability it would have been a multilocular cystoma, but as it lay between the abdominal muscles and skin a rapid cystic growth was much more difficult, and the fibrous tissue was thus allowed to keep pace with the cystic formation.

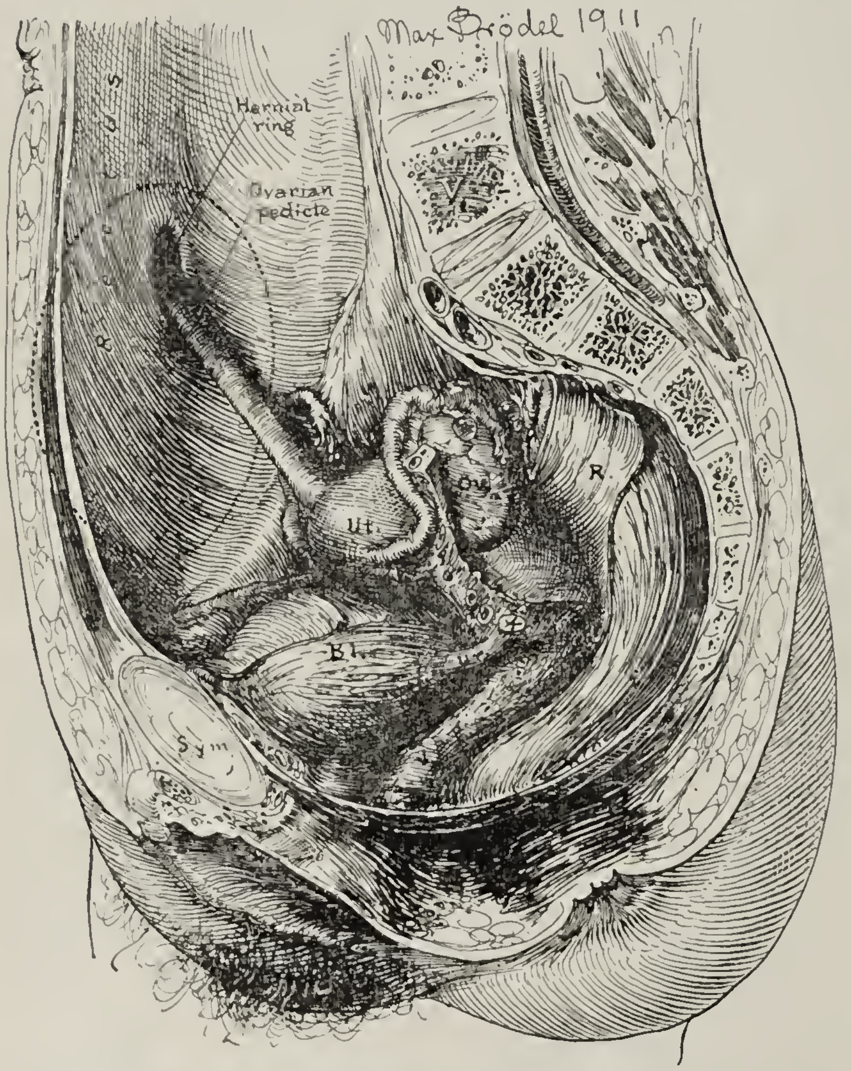

Fig. 1.—Ovarian Pedicle Passing from Uterus, Out Through a Hernial Ring in the Abdominal Wall. A schematic representation of the pelvic structures as found at operation. The uterus and left appendages were normal. The right tube was unaltered, but passing from the uterus where the right ovary should have been was a band 1 cm. broad. This ran upward and outward and passed out through an abdominal ring to the outer side of the right rectus. At the ring a finger could be passed completely around this pedicle. It was nowhere adherent to the ring. A glance at the umbilicus will indicate the exact location of the ring. On looking through the ring a small portion of the glistening tumor could be readily seen. The dotted line indicates the relative size of the tumor.

There was no sign of malignancy.

THE PRESENCE OF OVARIES IN HERNIAL SACS

The occurrence of ovaries and ovarian tumors in hernial sacs is of particular interest in this connection. I shall, therefore, briefly discuss the more important contributions made in this field.

The ovary has a rather free excursus, and it is not to be wondered at that where an inguinal or femoral hernia exists the ovary and often the tube form part of the contents of the hernial sac. Puech[1] in 1879 contributed a most interesting article on hernia of the ovary. In addition to his own cases, he refers to those of Pott, Lassus, Deneux, Guersant, Parker, Bruny, Warren, Méadows, Cusco, Coote, Englisch, Weinlechner, MacCluer, Sonnenburg, Werth and Rheinstaedter. In brief his paper says that the ovary may pass out at any of the natural abdominal openings, and that, when it does so, it is most frequently by way of the femoral or inguinal ring. The inguinal hernia, which is the more frequent, may be congenital or accidental. The congenital hernia is produced by a condition analogous to the descent of the testicle. In eighty-eight cases of hernia containing the ovary, fifty-four were incontestably congenital, seventeen doubtful and seventeen accidental. The congenital hernias were unilateral in twenty-seven cases, bilateral in twenty-seven cases. In the unilateral cases the left side was more frequently involved. In cases of double hernia the presence of the ovaries in the hernial sac was sometimes associated with defective development of the generative organs. Puech had records of sixteen cases in which the ovary was contained in a femoral hernia. In eleven of these cases the hernia was on the right side and in four on the left.

The uterus or one of its cornua was found ten times in the sac in cases of inguinal hernias, three times among the femoral hernias.

Dr. Joseph C. Bloodgood tells me that he has had two cases of femoral hernia with the ovary lying in the hernial sac.

Several years ago I operated on a child in Cambridge for an inguinal hernia. The sac contained the right tube and ovary. They were so intimately blended with the sac that it was impossible to save them, and they were removed preparatory to doing a radical operation.[2]

My experience with ovaries in hernial rings associated with lack of development of the generative organs has been limited to one case.[3]

A postoperative hernia occasionally contains an ovary. I reported a case of this character several years ago.[4] The patient had had an appendix abscess, which it had been necessary to drain liberally. The resultant hernia in the scar was very tender and in dissecting it out I found that the sensitiveness was due to the presence of the right ovary contained in and adherent to the hernial sac.

OVARIAN TUMORS DEVELOPING IN THE INGUINAL CANAL

Since one or both ovaries may occasionally be found in the inguinal canal, we should not be surprised to find now and then a case in which such an ovary undergoes tumor development. Rheinstaedter[5] in 1878 reported the case of a woman, 68 years of age, who had an elongate oval tumor in the neighborhood of the clitoris. In addition, there was a right-sided globular mass, which was found to be a right inguinal hernia. The oval tumor was larger than a child's head, elastic and apparently fluctuant. The overlying skin was normal. A probable diagnosis of ovarian tumor in a left inguinal hernia was made. Six months later the left hernial sac was opened. The tumor was easily raised and its broad pedicle apparently containing the tube and round ligament was tied off, some adherent loops of small bowel were loosened and pushed up into the abdomen, and the wound closed. The tumor weighed 750 gm. Careful examination of the right hernia revealed the presence of the ovary in the sac.

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[1] Puech, A.: Nouvelles recherches sur les hernies de l'ovaire, Ann. de gynéc., Paris, 1879, xi, 401.

[2] This case was reported and illustrated in an article published by Dr. Frank T. Andrews (Hernia of the Ovary and Tube, The Journal A. M. A., Nov. 24, 1906, p. 1707). Dr. Andrews' article gives an excellent résumé of hernia of the ovary and tube, and likewise contains a long tabulation of cases heretofore observed.

[3] Cullen, Thomas S.: A Right Pelvic Kidney; Absence of the Left Kidney; Absence of the Uterus, Both Ovaries in the Inguinal Canals, Surg. Gynec. and Obst., July, 1910, p. 73.

[4] Cullen, Thomas S.: The Right Ovary in the Abdominal Scar Following an Operation for Appendix Abscess, May, 1906, Bull. Johns Hopkins Hosp., xvii, No. 182, p. 152.

[5] Rheinstaedter: Kindskopfgrosses Angiosarkoma Ovarii in einem Leistenbruch, Centralbl. f. Gynäk., 1878, ii, 545.

Marchand, who made the microscopic examination, diagnosed the tumor as an angiosarcoma.

Rheinstaedter, in reviewing the literature on the subject, was able to find only one case in which an ovarian tumor in an inguinal hernia reached the size of a child's head. This was the case observed by Cazati and quoted by Beigel. The hernial sac contained a portion of an ovarian cyst, the remainder of which lay in the pelvis.

Of solid ovarian tumors contained in hernias he mentions only a case of Guersant reported by Englisch.

Fargas,[6] in 1890, described the case of a woman, aged 38, who had a tumor the size of a man's head occupying the right inguinal and labial region. On the left side was an inguinal hernia containing an ovary, which was easily reducible. The patient said that until eight years previous the right side had presented the same appearance as the left, and Fargas, therefore, diagnosed the tumor as a right-sided ovarian cyst. Six years prior to observation the right hernia had become irreducible, and after that had gradually increased in size.

The hernial sac was opened and the cyst lay free from adhesions. Its pedicle was tied off as in an ordinary ovariotomy and the tumor removed. The patient made a good recovery. The cyst was reticulated (multilocular). Fargas confessed that it might have been confounded with a cyst of the round ligament, but its topography rendered its source certain. The woman had had normal menstruation and had borne two children during the existence of this tumor.

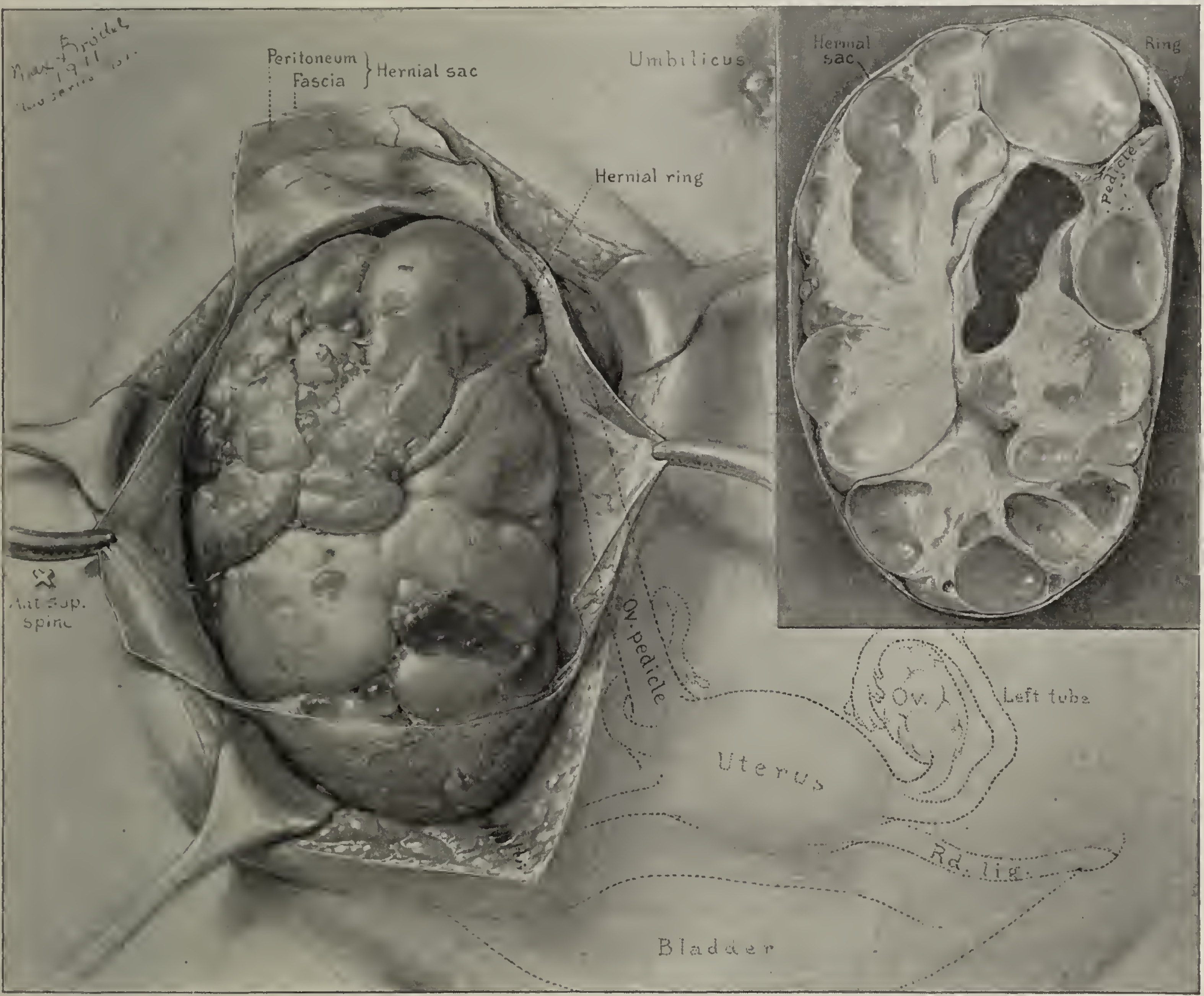

Fig. 2.—Extra-Abdominal Multilocular Fibrocystoma of the Ovary. The dotted lines indicate the pelvic structures and the right ovarian pedicle passing upward and outward until it emerges from the hernial ring, a short distance below and to the outer side of the umbilicus. After the abdominal relations had been determined an incision was made directly over the tumor and it and its peritoneal covering were removed intact. A thin layer of fascia and the peritoneum formed the sac. The tumor was roughly kidney-shaped, lobulated and consisted partly of a solid tissue, partly of cysts. Deep clefts subdivided the tumor into several portions. The tumor in the main was free from adhesions, but in a few places there were points of union between the tumor and the peritoneal covering. The drawing in the right upper corner shows the tumor on section. The fibrous tissue is abundant, but at this level the cysts predominate. The clefts are seen to have extended through the tumor. It was possible to lift the various segments out without disturbing the remaining ones. Figure 3 gives the real form of the tumor when liberated from pressure.

Seymour[7] in 1897 reported the case of a woman aged 48. Two years before coming under observation a small tumor had appeared in the right groin. It was somewhat sensitive, hard and irreducible. An inguinal hernia with possibly an incarcerated omentum without strangulation was thought of. At operation the tumor was found attached to the uterus by a pedicle, 4 inches long and ¾ inch in diameter. This passed out through the inguinal ring to the under surface of the upper end of the tumor in the inguinal canal. The pedicle was tied off and the sac closed. The tumor was ovoid in shape, 4 inches in length and 8 inches in circumference. The microscopic report was spindle-celled sarcoma.[8]

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[6] Fargas: Note sur un cas de hernie inguino-labiale de l'ovaire droit avec gros kyste réticulaire du même organe, Arch. de tocol., Paris, 1890, xvii, 767.

[7] Seymour: Hernia of a Sarcomatous Ovary, Tr. Med. Soc. State of N. Y., 1897, p. 370.

AN OVARIAN CYST PROTRUDING INTO THE INGUINAL CANAL

Baldy[9] in 1898 reported an interesting case of this character. Two years before coming under Baldy's observation the patient had noticed a small pedunculated tumor in the right inguinal region. This had continued to grow until it was as large as an egg and had then been removed. A year later a larger and similar growth had been present and had also been removed. When Baldy saw the patient the growth was as large as a fist. A pelvic examination revealed a mass filling the right side of the pelvis.

At operation, an incision was made directly over the growth and the tumor freed down to a thick, broad, short pedicle which passed into and through the inguinal canal. The attachments of the pedicle in the canal were freed and the finger forced into the abdomen when it was found that the tumor was a continuation of a large intra-abdominal mass.

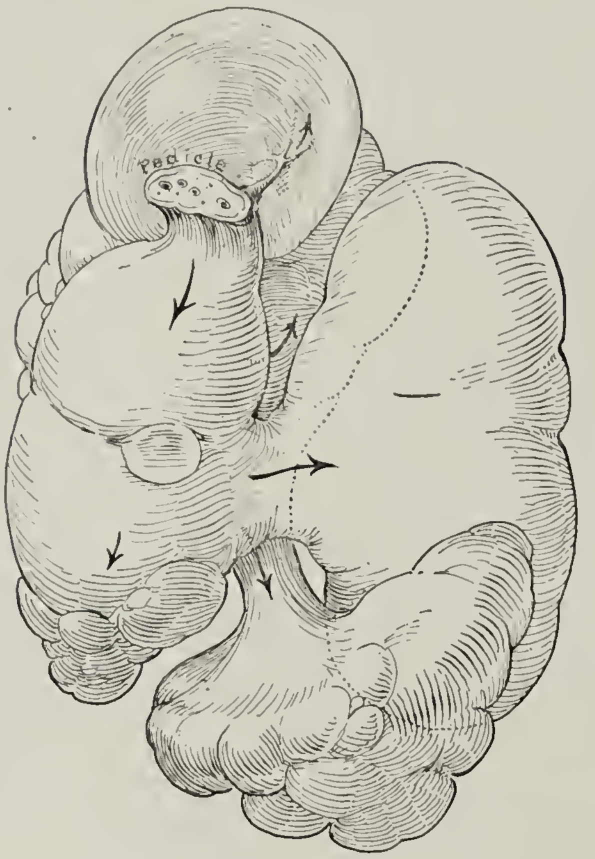

Fig. 3.—An Extra-Abdominal Multilocular Fibrocystoma. A schematic representation of the manner in which the tumor tended to develop when relieved from its surrounding pressure. It in reality consisted of four lobes similar in character and joined together by broad or narrow pedicles.

When the abdomen was opened in the median line, the pedicle of the inguinal growth was found springing from a large intraligamentary tumor similar in character. The left uterine appendages were normal. A supravaginal hysterectomy was performed and the hernial ring closed. The patient made an uninterrupted recovery.

AN OVARIAN CYST LYING PARTIALLY IN A FEMORAL HERNIA

This condition is exceptionally rare. Dellhaes[10] in 1885 cited the case of a woman, aged 55, who entered the hospital in 1879 on account of ascites. For four years she had complained of discomfort in the lower abdomen, and there had been an increase in size in the right side. Thereafter she had had a crural hernia on the right side and for the last nine months a similar hernia on the left. The right was reducible, the left irreducible.

After the patient had been built up to some extent and after the ascitic fluid had been removed several times by puncture, a right-sided ovarian tumor, partly solid, partly cystic, was removed.

The left ovary was cystic and enlarged. It was partly situated in the pelvis and had to be separated from a solid cord which passed into the femoral canal. The major portion of the large cystic left ovary lay in the fold of the groin and fourteen days later was removed through a herniotomy incision. This portion was as large as a child's head. The patient made a complete recovery.

A SMALL PORTION OF AN OVARIAN CYST INCARCERATED IN THE ABDOMINAL WALL JUST BELOW THE UMBILICUS

Hopkins[11] in 1894 reported an interesting emergency case. The patient, aged 57, was admitted for a supposed strangulated umbilical hernia. Protruding just below the umbilical opening was an almost black tumor the size of a walnut. Still thinking that it was a strangulated hernia, the operator cut the constricting band and the tumor at once disappeared. The abdominal opening was enlarged and serous and gelatinous material began to pour out. On further exploration a multilocular ovarian cyst, weighing about 25 pounds, was found. This was removed and the patient promptly recovered.

A small portion of this cyst had become strangulated in a small hernial defect just below the umbilicus.

DEFECTS IN THE ABDOMINAL WALL

A study of the weak spots in the abdominal wall is of interest. Levadoux[12] made a most exhaustive examination of the inner appearance of the umbilicus, of the final disposition of the umbilical arteries, the umbilical vein and the urachus, and described in detail how these sometimes blended in such a manner as to form a fibrous sheath that completely covered over the inner umbilical opening. In the course of his studies he also noted weak spots in the fascia just beneath the peritoneum. These openings were usually small and were oval, round or irregular in shape.

On careful scrutiny it has at times been noted that hernias, supposed to be umbilical, were in reality periumbilical and that the umbilicus itself was intact. These defects in the fascia are undoubtedly the cause of such hernias. In July, 1910, I saw, in consultation with Dr. A. H. A. Mayer, a boy, aged 17, who had a small hernial protrusion 4 cm. above and to the left of the umbilicus. This hernial protrusion projected 1 cm. through the fascia and was lobulated, forming a mass 3 cm. in diameter. The patient was of spare build. On cutting down on the hernial sac I found a small defect in the abdominal wall with a small portion of the omentum projecting through it. The omentum was readily returned and the opening easily obliterated with a few sutures.

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[8] If the fibrous character of a solid ovarian tumor is definite, one is safe in making a diagnosis of fibroma, and if the growth consists of spindle cells and has many mitotic figures and atypical cell changes, one can with justice make a diagnosis of sarcoma. There are, however, quite a number of solid tumors of the ovary of the spindle-celled type, in which it is impossible to say from the microscopic examination whether the growth is a sarcoma or a fibroma. In such cases the diagnosis can never be definitely determined unless the patient subsequently develops metastases.

[9] Baldy, J. M.: Ovarian Cyst Protruding Through the Inguinal Canal, Am. Jour. Obst., 1898, xxxviii, 827.

[10] Dellhaes: Eine Hernia cruralis cystovarii sinistri, Ztschr. f. Geburtsh. u. Gynäk., 1885, xi, 389.

[11] Hopkins, George G.: An Ovarian Cyst Simulating a Strangulated Umbilical Hernia., Boston Med. and Surg. Jour., July 26, 1894, p. 84.

[12] Levadoux, Michel-Joseph: Variétés de l'ombilic et de ses annexes, Thèse Fac. de Méd. et d Pharm. de Toulouse, 1907, No. 711.

Dr. Bloodgood tells me that he observed a case of hernia of the abdominal wall at the semilunar line, that was between the rectus muscle and those forming the lateral abdominal wall. The sac contained non-adherent loops of small bowel. The condition was readily cured. In our case the opening was also at, or near, the semilunar line, and instead of small bowel passing into it the ovary had for some reason occupied the space and later had gone on to tumor development. It is just possible that this weakness in the wall had become particularly accentuated during a pregnancy and that the ovary during its ascent with the pregnant uterus had dropped into the cavity.

In conclusion, I wish to thank Dr. Fred Ray for his kindness in ferreting out the references to the articles read by me in the preparation of this paper, and I am especially indebted to Mr. Max Brödel and the Foundation of Art in Medicine of the Johns Hopkins Medical School for the excellent illustrations.

SOME APPARENTLY OBSCURE CONDITIONS OF THE GASTRO-INTESTINAL TRACT AND THE PRACTICAL APPLICATION OF THE RÖNTGEN RAY IN THEIR DIAGNOSIS *

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We are not dealing with the obscure conditions of the gastro-intestinal tract as they arise, but mostly with the common pathologic states, often misinterpreted on account of the unsatisfactory methods of diagnosis at the present day. The subject is so broad that we have decided to restrict our paper to the size, position, and motility of the gastro-intestinal tract. Normal patients, or patients with splanchnoptosis with or without intestinal symptoms, constitute our particular theme. Cases of ulcer and malignancy have been omitted on account of limitations of space.

All the cases under consideration have been studied first with regard to the physical signs and the ordinary tests for gastro-intestinal secretions and contents. The Röntgen ray has been used as an aid and confirmatory agent in diagnosis. Whereas due consideration in every case has been given to the history, subjective and objective signs, and examination of secretions, we have found progressively downward and they become confirmed the previous diagnosis, it has also shown the error of the previous diagnosis in an astonishing number of cases. A great difficulty in gastro-enterologic work has been the lack of certainty in the results of clinical tests for size, position, and motility of the hollow viscera. The Röntgen ray solves this problem. Every day we meet patients with moderate or severe grades of constipation, not due to obstructions from tumors. They have usually gone the rounds of numerous physicians or dispensaries, and are relieved only by the continuous use of laxatives or cathartics. Their course is nearly always progressively downward and they become confirmed neurasthenics or slaves to the drug habit. Occasionally, without any scientific accuracy on the physician's part, these patients, if they are fortunate, improve by treatment on general principles.

In previous examinations, chemical tests for motility of the stomach and intestine have been unreliable. Peristalsis of the stomach and intestine sometimes can be seen through an abdominal wall that has been thinned out, usually in advanced emaciation. The entire length of time that food takes to pass from the mouth to the anus can be determined by the ingestion of indigestible and non-absorbable foods or chemicals, such as bismuth salts, which can be recognized in the stools. This does not indicate, however, the length of time consumed in digestion by the different portions of the alimentary tract, and is often inaccurate in determining the time of digestion. Tests for determining residual food in the stomach are tedious and very annoying to the patient, and determine only approximately the final result. This, with our other important data, can be shown by the Röntgen ray, in a properly conducted series of plates.

Radiographs of the alimentary tract after the administration of some insoluble substance which obstructs the Röntgen ray, such as the bismuth salts, have been used in Europe since 1904, by Rieder,[1] Holzknecht,[2] C. Kaestle and J. Rosenthal,[3] Franz M. Groedel,[4] A. F. Hertz,[5] and others; and in this country by G. E. Pfahler,[6] Hulst,[7] Pancoast,[8] Cole,[9] and others. The methods will soon be universally applied. Rieder was the first to give large amounts of bismuth salts. He gave from 40 to 50 gm. of bismuth subnitrate in a meal of boiled rice, barley broth, potato puree, spinach, or boiled meat. The bismuth can be administered by mouth or by rectum. Haenisch[10] was the first to give the bismuth per rectum, in the following formula: bismuth subcarbonate 75 gm., bolus alba 300 gm., water 1,000 c.c. We use the bismuth rectal injection and find it a valuable adjuvant to the method by mouth. Kaestle used zirconium oxid instead of bismuth because it was more insoluble. Of the salts of bismuth, the subnitrate was at first extensively used, but it has caused toxic symptoms. Cases of poisoning due to the impurities in the preparation, or to the absorption of the nitrites formed in the intestine, have been reported by E. G. Beck,[11] W. Alexander,[12] L. Lewin,[13] and many others. The subcarbonate of bismuth is apparently non-poisonous and acts in the same way as the subnitrate toward the Röntgen ray. We have had no toxic symptoms in over forty tests in which large quantities were given. Examination of the bismuth stool shows the bismuth passed through chemically unchanged.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Edward N. Gibbs Memorial X-Ray Laboratory and the Marcellus Hartley Foundation in Medicine.

[1] Rieder, H.: München. med. Wchnschr., August, 1904.

[2] Holzknecht: Berl. klin. Wchnschr., Jan. 29, 1906; also: Mitt. a. d. Lab. f. radiol. Diag. u. Therap., Vienna, No. 1, 1906.

[3] Kaestle, Reider and Rosenthal: Arch. Röntg. Ray, June, 1910.

[4] Groedel, F. M.: Arch. Röntg. Ray, September, 1910, p. 156.

[5] Hertz, A. F.: Discussion on Groedel's paper, Arch. Röntg. Ray, September, 1910.

[6] Pfahler, G. E.: THE JOURNAL A. M. A., Dec. 21, 1907, p 2069.

[7] Hulst: Physician and Surg., Detroit, 1905, xxvii, 391.

[8] Pancoast: Univ. of Penn. Med. Bull., August, 1906.

[9] Cole, L. G., and Einhorn: Radiograms of the Digestive Tract, New York Med. Jour., Oct. 8, 1910.

[10] Haenisch: Rep. Am. Röntg. Soc., Sept. 29 to Oct. 1, 1910.

[11] Beck, E. G.: New York Med. Jour., Jan. 2, 1909, p. 16.

[12] Alexander, W.: Deutsch. med. Wchnschr., 1909, xxxv, 877.

[13] Lewin, L.: München. med. Wchnschr., 1909, lxi, 643.

Milk, as representing a suitable form of food, is now being used as a menstruum for the bismuth. A serious objection to ordinary milk is the early precipitation of the bismuth, but this can be overcome by the use of the fermented milks which hold the salts in suspension for a much longer time. Our experiments with bismuth suspended in various media demonstrate that the salts mixed with the fermented milk remain in suspension longer than in other fluid foods, as malted milk, sweet milk, buttermilk, and chicken soup. The next best substance is a thick chicken soup. (Fig. 1.)

For the average adult, 75 gm. of bismuth subcarbonate suspended in 500 c.c. of fermented milk is given with the stomach empty. Previous catharsis is unnecessary and inadvisable. The diet for the previous twelve hours must be light and exclusive of meat, fruits, and vegetables. All medication is omitted.

The radiographs have all been taken with the patient in the standing position. The distance from the anode to the plate is 24 inches, with the plate anteriorly and the anode on a level with the umbilicus. The illumination is dorsoventral, with one or two lateral views, as the occasion demands. The duration of the exposure is from one-sixth to four seconds, mostly under one second. It requires an average of from eight to twelve radiographs to examine a patient. Occasionally, a second series is necessary for a control, or a rectal injection to corroborate the colon findings. For experimental purposes, more plates have been taken than are ordinarily necessary for a routine examination. We find that the radiographs after the rectal injection do not give as natural an appearance to the colon as those taken after the administration of the bismuth by mouth. The plates can be taken much sooner, however, as the bismuth mass reaches the cecum within fifteen minutes and is then rapidly expelled per rectum.

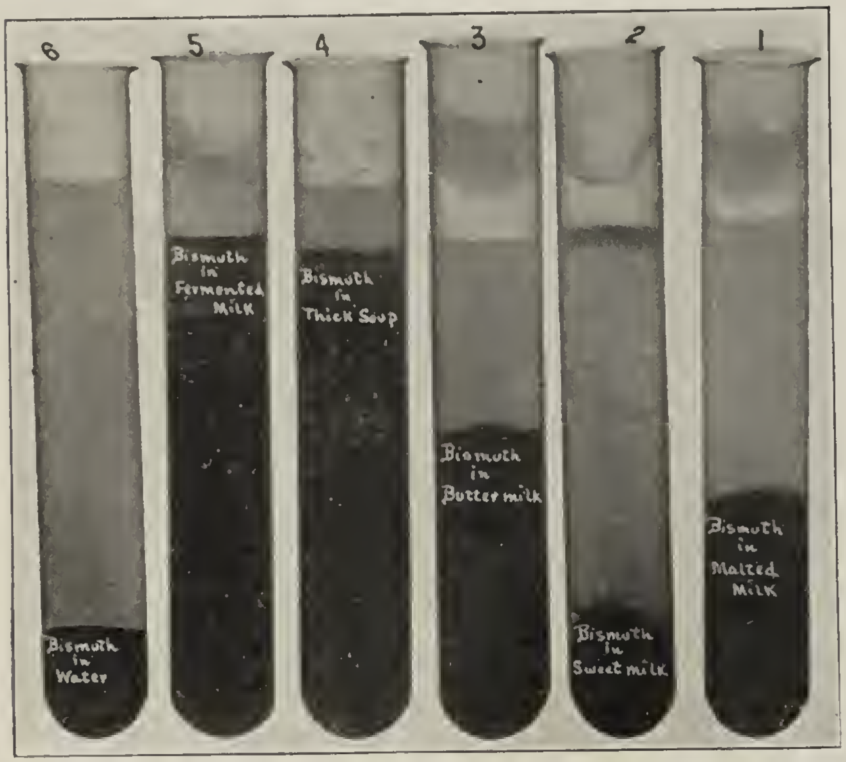

Fig. 1.—Radiograph of substances used for Röntgen-ray test-meals. Each test-tube contains an equal amount of bismuth subcarbonate. It shows the amount of settling fifty hours after suspension. 1. Malted milk and acacia. 2. Sweet milk. 3. Buttermilk. 4. Chicken soup. 5. Fermented milk. 6. Water and acacia. Note the remarkable stability of the suspension of the bismuth in the fermented milk.

We always try to make a primary, a secondary, and a final diagnosis. The primary diagnosis is made from the history, the physical examination, the examination of the gastric contents after a test-meal, and the examination of the feces and the urine. Other examinations are made as the occasion arises. The primary diagnosis is made previous to any consideration of the Röntgen ray.

The secondary diagnosis is made wholly from thorough consideration of multiple Röntgenograms, taken seriatim after the bismuth meal. In every case, the exposures are continued until the last trace of bismuth has left the alimentary tract.

The final diagnosis is made by carefully comparing the primary and secondary diagnoses and weighing the preponderance of evidence offered by the symptomatology.

In estimating the position of the viscera, our technic is to place markers on (1) the tip of the ensiform, on (2) the umbilicus, over (3) the tip of the ninth right costal cartilage, and on (4) the anterior superior spine of the right ilium. The umbilicus, contrary to what we expected, appears to be a fairly well-fixed point, except in very pendulous abdominal walls. It must be remembered, however, though these landmarks are sometimes uncertain, yet if their location is abnormal it is evident on physical examination, and hence allowance can be made.

We shall first mention some of the results, quite constant in nearly all our cases. Our studies on the esophagus have been entirely too superficial as yet to warrant the findings being chronicled. The points in fixation of the stomach agree with those described by anatomists. They are the esophagus and distal end of the first portion of the duodenum, which latter point anatomists say is firmly attached by the duodeno-hepatic ligament (Piersol[14]). In a normal, or at least a nonptosed well-filled stomach, the shadow of the distal end of the first portion of the duodenum reaches the level of the upper border of the second lumbar vertebræ. The outline of the pylorus is situated opposite the junction of the second and third lumbar vertebræ. For the purpose of classification, we consider that if the lesser curvature is well up above the upper margin of the umbilicus, the stomach is not ptosed. The shape of the stomach varies according to the position of the subject. When the patient is in the standing position, in the greatest number of cases, the shape of the stomach resembles that of a fish-hook, and when in the recumbent ventral position, it simulates a steer's horn. This modifies former anatomic views based on dissections in the dorsal decubitus. When the patient is in the standing position, the long axis is vertical; when he is in the prone position, the long axis in the same subject may be oblique or almost transverse.

In order to determine accurately the size, shape, and position of the stomach, studies of plates made within a few minutes after ingestion of the bismuth meal should be made. During activity of the stomach, peristaltic waves can be seen distinctly as constrictions on the greater and lesser curvatures. These are differentiated from permanent constrictions by the changes in form of the organ in the succeeding plates or by the fluoroscope. The former is, in our estimation, more accurate and practical than the latter. The cardiac end of the stomach empties very quickly and shows the rugæ often plainly marked out by the bismuth. In cases of gastric fermentation, the gas rises in the cardiac end and pushes up the diaphragm, as can be well demonstrated in the radiograph.

The average time required for the normal stomach to empty itself completely of a full bismuth meal is, in our experience, from two and one-half to four hours. It is difficult to prove atony of the gastric musculature, but stasis and permanent pouches can be demonstrated, some of the bismuth remaining in the lower pole as long as ten hours after ingestion.

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[14] Piersol, George A.: Human Anatomy, 1909 ed.

The motility of the stomach in nearly all cases appears to be most rapid during the early part of digestion. Some stomachs seem to rest after the first thirty minutes to an hour. After that, they still contain about one-quarter of the amount of the original contents, which is discharged in a variable time. The end motility of the stomach is apparently not influenced by the amount of free hydrochloric acid in the gastric contents. The early activity in certain cases of hyperchlorhydria is increased, however. This is demonstrated by the serial radiographs taken up to the final emptying of the organ. The dilated stomachs almost invariably show a slow motility, especially in completion of the act.

The study of the small intestine has so far been unsatisfactory, especially so of the duodenum, on account of the rapidity with which the bismuth meal passes through this part. The first portion of the duodenum can usually be identified by a small mass of bismuth, the so-called "bishop's cap," separated from the pyloric antrum by the outline of the pyloric muscle. The pyloric ring, as thus seen, averages 3/16 of an inch in width. In most of our cases, splashes of bismuth appeared in the jejunum within a few minutes after the entrance of the meal into the stomach, and it is the exception to find the small intestine free from bismuth within ten minutes after taking the food.

The course of the bismuth in the jejunum is first to the left iliac region, but it quickly settles in the median line. It appears between the umbilicus and the brim of the true pelvis in non-ptosed conditions and enters quickly the true pelvis in ptosed states.

We find the progress of the bismuth in the small intestine to be comparatively rapid. In the twenty-seven cases studied for this paper, the earliest time within which the bismuth has reached the cecum was one hour. This occurred in two adults, and in three children about twelve years of age, one of whom had a pan-visceroptosis. Rieder[1] and Goldthwaite[15] consider two hours to be the most rapid time in which the bismuth can reach the cecum, while Groedel and Hertz say that they have not seen the bismuth reach the cecum in two hours, and that four hours is the shortest time it takes. In our slowest cases, so far, the bismuth has taken five hours to reach the cecum. The average time seems to be two hours. Complete emptying of the small intestine can be determined in only nine out of the twenty-seven cases. In these cases it averages about six hours, and varies from four to seven hours. The estimation of the time is rendered uncertain by a dilated, sacculated, or "residual" stomach, which constantly sends over splashes of bismuth into the small intestine until the organ has completely emptied itself.

Normally, the cecum is always situated well above the brim of the true pelvis. When the colon is ptosed, the cecum lies near the brim and in severe cases often hangs over into the true pelvic cavity. Dilatation of the colon appeared in eight cases, in which the colon had not been emptied in forty-eight hours.

In three of our cases, the vermiform appendix can be plainly seen, the lumen being patent and filled with bismuth. This occurred in one case after a cecum had become much engorged, and in another before the cecum had been filled. In these three cases, the situation and size could be proved. In one of the patients the bismuth remained in the appendix four days after the cecum had been emptied.

In one of our patients, with a complete transposition of all the viscera and a coloptosis, a subacute appendicitis seemed probable. The radiograph demonstrated the cecum well below the line leading from the anterior superior spine to the umbilicus and on the left side. McBurney's point, where the place of tenderness existed, corresponded to the hepatic flexure. An operation has not been performed, as the pain and tenderness were probably caused by a localized colitis, as evidenced by the mucus in the stools. The bismuth radiogram proved the locality of the cecum, and, if it did not absolutely disprove the diagnosis of appendicitis, at least showed that the patient's appendix was on the left side and well down in the pelvic cavity. The patient improved under treatment, which was general, and local for the colitis, with an abdominal belt for support for the coloptosis.

Our results as to the position, size, shape, and motility of the colon have been very satisfactory. The organ can be readily identified by its size, position, and sacculations. We have classified the cases into (1) normal colons, (2) abnormally long and looped colons, (3) ptosed colons, with or without abnormal length and loops, and (4) abnormally short colons. As to the shape of the colons, the following terms have suggested themselves to our minds: (a) straight, transverse colons, the strictly normal; (b) the U-shaped colon, caused by one large loop, dipping down toward the pelvis; (c) the V-shaped colon, which is similar; (d) the double U-shaped colon, with one loop from the hepatic and another from the splenic portion of the transverse colon; (e) the W-shaped colon, similar to the last; (f) the diamond-shaped colon, with the transverse portion running abruptly upward from the hepatic to the splenic flexure; and (g) the dragon-shaped colon. Our control radiographs show the constancy in the shape and posi-

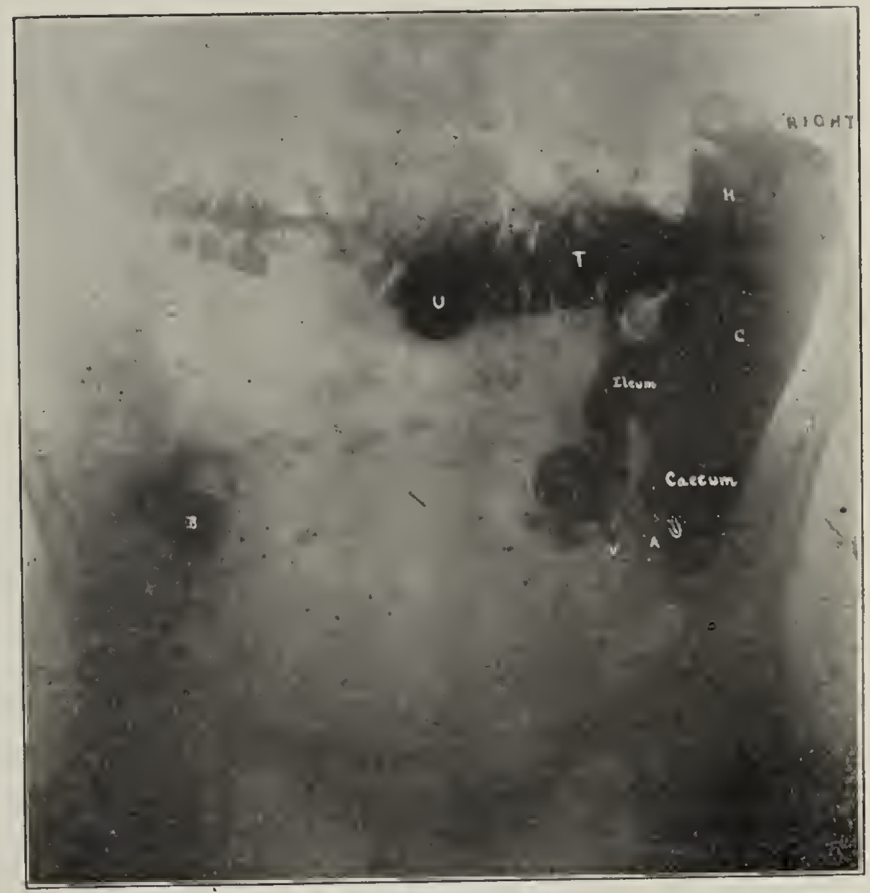

Fig. 2.—Radiograph taken five hours after the ingestion of a bismuth meal (Case 1). A, base; V, the tip of the vermiform appendix; U, umbilicus; T, transverse colon; H, hepatic flexure; B, remnants of bismuth in coils of small intestine; S. S., anterior superior spines.

tion of these colons, and in our estimation prove them to be peculiar to the individual. In some cases, hidden folds in the colon occur which give in later radiographs, after the colon is well filled, a much longer and looped appearance.

A ptosis of the colon is recognized by the low position of the caput coli and of the hepatic flexure. The hepatic flexure is normally at or above the level of the umbilicus. The loops of the colon may exist without a coexisting ptosis, as shown in some of our cases. The most constant point of fixation of the colon is at the splenic flexure where the intestine is attached by the phrenocolic ligament to the left abdominal wall under the spleen (Piersol). The average height of the splenic flexure, in our cases, is 4 inches above the umbilicus, a point which varies but little except in some extreme cases of coloptosis.

Motility of the colon varies, often out of proportion to its length. The motility in ptosed colons we think is always slow.

The sigmoid flexure has, as we expected, a variable length and size. In normal cases it is situated well within the pelvic brim and does not pass much to the right of the median line. The length of abnormally long sigmoids may be estimated by the distance to the right of the median line and the height to which they extend. In three of our cases the shadows of the sigmoid and cecum impinge. In two of the cases long and dilated sigmoids are present, associated with colons of normal length. In one of our patients the sigmoid and rectum held the bismuth for over seventy-five hours and it was forty-eight hours more before the patient passed bismuth in the stool. This made a total residence of the feces in this part of the intestinal tract of over five days. The patient had a long-standing constipation, followed by hemorrhoids, which were excised. The radiographs show a long, looped and ptosed colon, with a long and tortuous sigmoid and upper portion of the rectum.

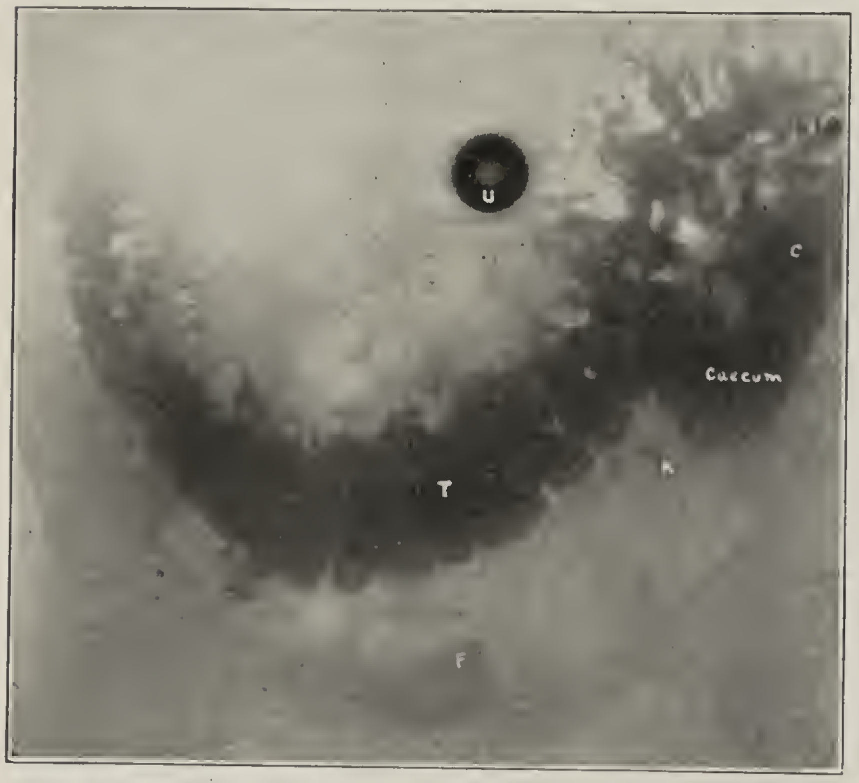

Fig. 3.—Radiograph taken twenty-six hours after the ingestion of a bismuth meal (Case 1). T, transverse colon, now become U-shaped; A, vermiform appendix, bent on itself; F, traces of bismuth in the sigmoid flexure; C, ascending colon. The lighter areas in the upper part of the colon are due to gas formation.

Our treatment for these cases of gastroptosis, enteroptosis and coloptosis consists of an abdominal wall support, often reinforced by two horsehair pads arranged ventrally, so as to support the colon. Goldthwaite's posture[15] taken immediately after eating, with the patient on his back, hips and thighs elevated, has been tried successfully in a number of cases.

CASE REPORTS

Case 1.—M. McD., a woman aged 27, child's nurse, single, ever since childhood had been constipated and had to take cathartics or laxatives. For the past two years she had been getting worse, vomiting having occurred from one-quarter to one-half hour after meals. She had pain, which was most marked in the epigastrium, but which also at times extended lower down on the right side of the abdomen and into the right hip and leg. Distress and soreness after eating were invariably present over the sternum. During the summer and fall of 1910 she developed hemorrhoids, which became inflamed and were removed in January, 1911.

After the operation, the patient's symptoms continued; the obstinate constipation could not be relieved by medical means, the chief of which were olive oil internally, ordinary enemas, and olive oil per rectum, colon massage, and vibration. Analysis of the gastric contents showed traces of free hydrochloric acid. The stools were very dry, hard and contained undigested food.

In May, 1911, the bismuth-Röntgen-ray test was made. This showed a stomach of normal shape and size, but ptosed, with a complete emptying in three hours. The bismuth reached the cecum in two hours, and the small intestine was completely emptied in five and one-half hours. Four hours after the ingestion of the bismuth, the cecum and part of the transverse colon were filled, the transverse colon straight, and the hepatic flexure 2 inches above the umbilicus, and therefore no ptosis apparent. The shadow of the bismuth in the ascending colon was so heavy that in consideration of the next picture the colon seemed to be folded on itself (Fig. 2.) One hour later the bismuth meal had not made any progress, but the apparent churning motion and the weight of the residue had dragged down what must have been a folded colon, and distended the appendix. This organ could be plainly outlined by the bismuth in the lumen; it overhung the brim of the true pelvis, was long, and made a sharp bend near its middle. In the last plate of the series, taken 101 hours after the bismuth meal, the outline of the bismuth in the appendix could still be plainly seen. Four hours later, or nine hours after the ingestion of the bismuth, a most remarkable drop in the transverse colon occurred, making a large central loop reaching down into the true pelvis, and the hepatic flexure was one inch lower than in the previous picture (Fig. 3). Twenty-six hours after the bismuth had been taken, very little progress had been made, but the whole colon was distended with gas which collected in the upper parts and raised apparently the level of the hepatic flexure. The sigmoid flexure was outlined in places, and the colon retained the same shape as before. The eighth plate of this series, taken forty-eight hours after the bismuth meal, showed very little progress in the looped colon. The bismuth did not show in the descending colon, but filled fairly well the sigmoid flexure. Up to this time the patient had had no bowel movement; seventy-seven hours after the bismuth meal, the colon retained its same position, but the main mass of the bismuth was still in the sigmoid flexure and the rectum. The sigmoid was very tortuous and long. The appendix was in the same position as before, and the same size. At the one hundred and first hour, without a movement, the bismuth was massed in the sigmoid and rectum and the appendix was still full of bismuth. It was two days after this picture was taken before the bismuth appeared in the stool, making a total of six days for the bismuth to pass through the gastro-intestinal tract. The diagnosis made in her case was a very severe case of constipation which, from the history, was probably the causative factor of the ptosed colon. At the time of writing, a laparotomy, with appendectomy and colopexy, is being considered.

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[15] Goldthwaite, J. E.: Boston Med. and Surg. Jour., May 19, 1910.

Case 2.—B. S., a girl 18 years old, shirt-waist maker, said that her mother had an ulcer of the stomach. For years the patient had had obstinate constipation and three years before she had been operated on for appendicitis and abscess formation. Since that operation the constipation had been growing worse, with headache across the temple, cramplike pains in the abdomen, worse at night, vertigo, heartburn, nausea, and occasional attacks of syncope which compelled her to give up work. She had no appetite and would vomit small amounts of food after eating; she said that she had vomited a tablespoonful of bright blood two weeks before examination by us in February, 1911. Her diet had been reduced to a ridiculously low amount, with nothing before lunch time. She had lost weight, but was still fairly well nourished. Her chief complaints were obstinate constipation, frequent vomiting, and pain in the epigastrium and back. Examination of the abdomen showed a good-sized scar over the appendiceal region, abdominal musculature was of good tone, and there was no distention. The outlines of the stomach seemed normal, but there was tenderness over the whole abdomen in general, which was localized over the epigastrium and along the spine, and more marked at the level of the tenth and eleventh dorsal vertebræ. The Ewald test meal showed a 0.07 per cent. and 0.04 per cent. free hydrochloric acid on two occasions respectively, with a total acidity within normal bounds. No lactic acid was present.

The diagnosis of an ulcer of the stomach as being the cause of her trouble seemed unlikely, no blood or occult blood being found in the gastric contents or stools. Lavage relieved her somewhat, but only temporarily. February 27, the bismuth Röntgen-ray test was applied. The first picture, taken fifteen minutes after the swallowing of the bismuth, showed a nearly normal stomach, oblique fish-hook type, which emptied rapidly. The rugæ in the cardiac end were well marked. Within five hours the organ was completely empty. The small intestine was well down in the pelvic cavity.

The last picture in this series was taken twenty-four hours after the bismuth meal, and showed a ptosed cecum and splenic flexure. All the bismuth was in the large intestine, and the transverse portion of the colon has a long U-shaped loop, the lower border of which is 4 inches below the umbilicus, with its center 2 inches to the left of the median line. As this was one of our early cases, unfortunately we did not continue the series until the gastro-intestinal tract became completely empty. For a month and a half the patient was treated by regulation of the diet, massage and vibration, olive oil by mouth and per rectum, and by the usual instructions for regularity, etc., but an occasional cathartic was the only thing that gave her relief, and that only for a day or two. The flatulence, pain and vomiting continued. The pain now seemed localized over the left kidney with tenderness there, and an *x*-ray picture showed absence of renal or other calculi. An exploratory laparotomy showed the long, looped and ptosed colon, which was distended with feces, in spite of previous catharsis and high enemas. One adhesion of the cecum to the abdominal wall, as the result of the appendectomy, was cut. The cecum was dilated but otherwise not pathologic.

Palpation of the stomach gave no evidence of ulcer or growth. The kidneys, gall-bladder and other organs seemed normal. The loop of the transverse colon was freely movable and low down in the pelvic cavity. With no permission to do a radical operation on the intestine, we closed the wound.

Since the operation the patient's condition has not improved, except for a short time after an abdominal web belt for the support of the ptosed colon was provided, and the patient sent to the country. At the end of last May she reported that the constipation was no better and that she still had attacks of sickness. She and her family have been advised of the probable necessity of a radical operation on the intestine, and of the dangers of the same, and have agreed to have it performed soon. We propose to sidetrack part of the colon, or possibly excise part of it.

CONCLUSIONS

1. The length of time that it takes the contents of the gastro-intestinal tract to reach each division of the tract, and the time in which the division is completely emptied, can be definitely determined in each individual by the bismuth Röntgen-ray test.

2. The normal motility of each part of the gastro-intestinal tract can be definitely established.

3. The food immediately after ingestion begins to pass into the small intestine and by the end of an hour, at least one-quarter of the gastric contents is in the jejunum.

4. The stomach is emptied of 500 c.c. of milk or soup in two and one-half to four hours.

5. The existence of an increased amount of free hydrochloric acid in the gastric contents has no influence on the final emptying time of the stomach.

6. The time which this meal consumes in passing to the cecum averages two hours, varies from one to four hours, and is shorter in children.

7. The complete emptying time of the small intestine after this meal is probably about six hours.

8. Complete emptying of the colon consumes from twenty-four to forty-eight hours.

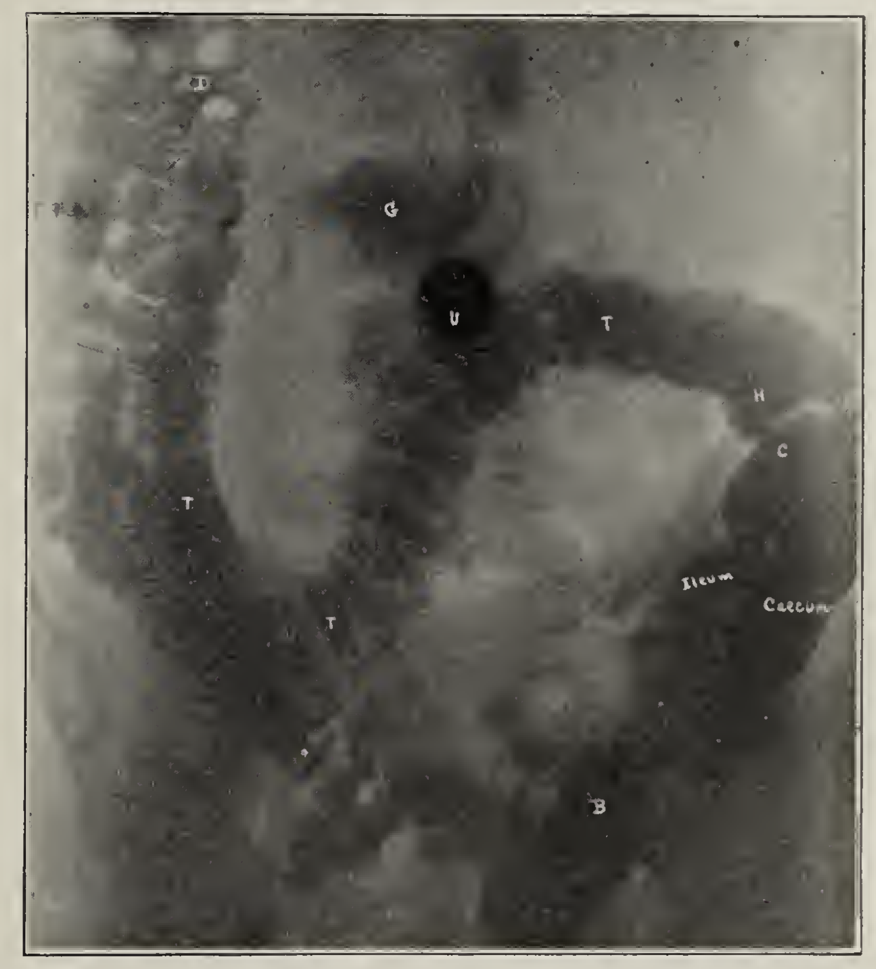

Fig. 4.—Radiograph taken three hours after the ingestion of a bismuth meal. This shows the rapid passage of food through the stomach and small intestine. The colon is dragon-shaped. H, hepatic flexure; T, transverse colon; D, splenic flexure; G, traces of bismuth in the stomach; B, bismuth in the small intestine. Case 6 [not reported in detail].

9. The bismuth-Röntgen-ray test is harmless and practical.

10. The ordinary methods of medical treatment can be more intelligently applied with the improvement in diagnosis accomplished by this test.

11. The bismuth-Röntgen-ray test should be employed before an operation is performed for a chronic condition of the gastro-intestinal tract.

We wish to thank Dr. George B. Wallace and Dr. John C. A. Gerster for their help in sending us patients, Dr. Arthur Mandel for his assistance in clinical and chemical analyses, and Dr. Alexander Smith, Dr. Egbert LeFevre and Dr. Harlow Brooks for their encouragement in undertaking the work.

125 West Fifty-Eighth Street—338 East Twenty-Sixth Street.

CERVICAL IMPLANTATION OF THE PLACENTA WITH RUPTURE OF THE UTERUS

HYSTERECTOMY; RECOVERY

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Any investigations which throw light on the causation or treatment of that greatest of obstetrical calamities, rupture of the uterus, are of importance to the obstetrician, the surgeon and the general practitioner. The most frequent causes of this condition are obstructions to the descent of the fetus, with neglect of the procedures necessary for delivery of the child, as in patients treated by midwives or by the laity. Such obstructions are often in the form of contracted pelves, or tumors of the pelvis encroaching on the parturient canal. A normal fetal head of large measurements or a hydrocephalic head may cause obstruction by failure to enter a normal pelvis. Malpositions of the fetus, as a transverse position with a shoulder presentation, lead invariably to obstruction unless properly cared for.

Rupture of the uterus has been the direct result of manipulations, as attempted versions or the use of the hand or curet in efforts to empty a pregnant uterus. Even external violence has been known to produce rupture. The improper administration of ergot in the early stages of labor may cause a tetanic action of the muscle of the upper uterine segment which may end in a thinning out and tearing of the lower segment.

Finally, abnormalities of the uterus itself, as pathologic changes in various portions of its walls, or deformities, as bicornate uterus with a pregnancy in one cornu, play a prominent part in the causation of uterine rupture. The presence of carcinoma, syphilis or soft myomata in the uterine walls, predisposes to its occurence. The scars of previous Cesarean sections often give way during labor and the cervix has sometimes proved so rigid or stenosed as to resist all efforts of nature to dilate it until the thinned-out lower uterine segment is torn apart by the straining efforts of the uterine muscle. Very rarely an ectopic gestation in the mural portion of the Fallopian tube, as it gradually enlarged, has put the uterine wall on the stretch until it has suddenly given way with all the signs of a ruptured ectopic pregnancy in their severest form.

I have observed a case which exemplifies a very rare cause of rupture of the uterus.

History.—The patient was 28 years old, the mother of two children, 2 and 4 years of age, respectively. The first child was delivered with forceps, while the second was the result of a normal pregnancy and delivery, with the exception that at the end of eight months the patient had a slight bloody vaginal discharge which disappeared after a few days' rest in bed. She had had two miscarriages, the last one early in July, 1910, at about seven weeks. Her last menstruation was on May 15, 1910. About the middle of August of the same year, when three months pregnant, she was shocked by the news of the sudden death of her father, and a few days later began to complain of pains in the pelvic region, with a desire to urinate frequently. She consulted a physician who made a very cursory general investigation, omitting the vaginal examination, and pronounced her case to be one of bladder inflammation, for which he continued to prescribe every few days during the subsequent two weeks. Early in September, after intercourse with her husband, she suffered severe pain in the right lower abdominal quadrant. Her physician, who was immediately summoned, gave her a hypodermic of morphin. One week later, after intercourse, she had a similar attack of severe pelvic pain in the right side, for which, as before, she was given a hypodermic. This was followed by retention of urine. She was confined to bed four days, during which time she was catheterized twice daily. For this purpose a glass catheter kept in a solution was utilized. During the following three weeks she had slight pains in the pelvis, some headache and was constipated. During this time she had no intercourse on account of the fear of bringing on another attack of severe pain. Another attempt at coitus on October 2 brought on intense abdominal pains and rectal tenesmus. The physician was called and administered a hypodermic and gave the patient an enema. After this she fell asleep for about two hours, when she was awakened by the recurrence of pain, followed by attacks of syncope. When the doctor returned, he found her in great agony with abdomen distended and a failing pulse. Believing that rupture of an ectopic pregnancy had occurred, I was summoned.

Examination.—When I saw the patient her skin and mucous membranes were completely blanched. Her abdomen was distended with fluid and her pulse had become imperceptible. Faint and fluttering heart sounds could be auscultated. She was conscious, but so weak that she could speak only in monosyllables. On digital examination, I felt the vaginal portion of the cervix somewhat enlarged and having the soft, velvety consistency of pregnancy. The os was closed and there was no sign of any discharge. The vaginal fornices and the pouch of Douglas felt boggy and were very tender to the touch. The fundus of the uterus could not be mapped out on account of the extreme distention and sensitiveness of the abdomen. A detailed examination was not deemed advisable on account of the urgency of the case.

Operation.—I agreed with the doctor in attendance that we had to deal with a probable ruptured ectopic gestation and made arrangements to have the patient transferred to the hospital. On her arrival, she was immediately taken from the ambulance to the operating table. A hypodermic injection of morphin was given and ether was administered by the drop method. On opening the peritoneum a large quantity of fluid and clotted blood was found, and a large fluctuating tumor presented which seemed to be wedged into the pelvis. When this tumor was lifted from the pelvic cavity, it proved to be a pregnant uterus with an attenuated anterior wall which at first sight was mistaken for an ovarian cyst. At the extreme left border of the anterior wall near the broad ligament there was a rent about the size of a silver quarter through which shreds of placental tissue protruded. Behind the uterus more fluid and clotted blood was found. The appendages were normal in appearance. Cesarean section was deemed inadvisable, as, from the meager history obtained during the emergency, I was not sure that there had been no interference and accompanying infection. Furthermore, the condition of the uterine wall was such as not to justify an attempt to suture it. Where the products of pregnancy were retained, the walls of the uterus were as thin and fragile as paper. Hysterectomy was therefore decided on. The bladder was separated from the anterior uterine wall, which was here so thin and paper-like that it was torn, allowing the escape of amniotic fluid, followed by the presentation of the lower extremities of the fetus at the opening. In order to facilitate the handling of the uterus, the fetus was extracted in an upward direction through this tear. The ovarian arteries were clamped and divided and the rectum separated posteriorly. The right uterine artery was then ligated, the cervix cut through and the ligature applied to the left uterine artery. In order to get below the attachment of the amniotic sac, I cut deeply into the cervix, but, although only a small portion of the cervix was left intact, I did not succeed in getting entirely beyond the confines of the placental attachment. The uterus was delivered with the placenta attached. As soon as the toilet of the peritoneum was completed, a saline solution of 1,000 c.c. was injected into the right median cephalic vein and the abdomen was closed without drainage.

Outcome.—During the first twenty-four hours after operation the patient received proctoclysis and some hypodermic stimulation. The bowels were moved by calomel and salts on the third day. Convalescence was uneventful with the exception of a slight rise of temperature due to a stitch abscess near the upper angle of the wound. The patient was discharged from the hospital at the end of three weeks. She now feels perfectly well, has gained seven pounds in weight and is able to attend to her household responsibilities. The hemoglobin, which was 30 per cent. on the day subsequent to the operation, is now 85 per cent.

Pathology.—The pelvis was carefully examined in order to ascertain whether an anomalous condition was present which might have contributed to the cause of rupture.

It is evident from the following measurements that no such anomaly existed:

Distance between the anterior superior spines, 23 cm.; intertrochanteric diameter, 30 cm.; external conjugate, 20 cm.; right and left obliques, each, 22 cm., and the internal conjugate, 11 cm.

The uterus after hardening measures 3½ by 4 by 2 inches, excluding the placental site, which is so torn and irregular as to prevent accurate measurement.*

An anterior thin wall lodging the placenta continues down from the normal thickness of the uterus. This portion when spread downward measures between 3 and 4 inches.

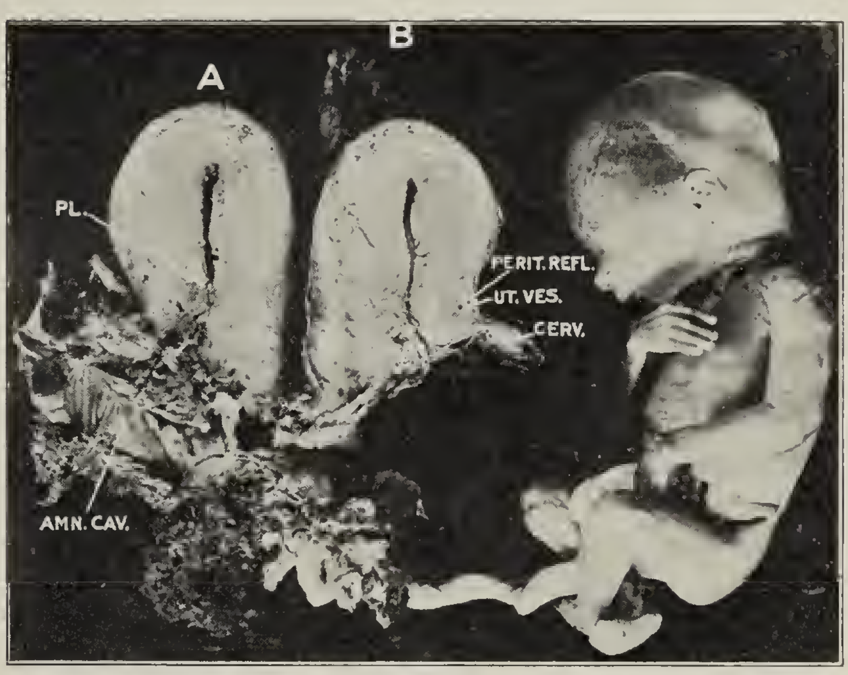
Similarly, the posterior portion of the uterus is a thin muscular wall which also gives attachment to placenta. When the flaps are restored to their natural relations, it is apparent that the placenta occupies the inner surface of the dilated lower portion of the uterus. The posterior portion of the placenta showns an amnion with the umbilical insertion still well preserved. Attached to the cord was a well-formed female fetus 9½ inches in length, nearly 5 months old.

On sagittal section of the uterus, microscopically, the placenta seems to begin at the dilated thin lowermost portion of the uterus just below the insertion of the uterine vessels and nearly corresponding to the anterior and posterior reflections of the peritoneum. This would mean that the placenta occupies the cervical portion of the uterine canal commencing at about the isthmus. The corporeal portion of the canal seems altogether devoid of placenta, microscopically.

Microscopically, the lowermost portion of the uterus shows chorionic villi lining the canal. The glands are for the most part absent. When seen they show very low cylindrical epithelium which has the tendency to form papillæ and are for the most part corpus glands. Only in the smallest areas can cervix glands be seen in sections which also show chorionic villi. These latter are of the transitional form, i. e., they contain for the most part syncytial cells, while the Langhans cells are beginning to disappear. There is an unusually large amount of lime. The chorionic villi show a moderate tendency to penetrate the cervical parenchyma. In some portions of the myometrium, however, a variable number of serotinal giant cells are seen. The musculature shows an outspoken hypertrophy. Here and there is a leukocytic infiltration. This is most marked in the thin walls of the lowest portion of the uterus, where, furthermore, the vessels are filled with thrombi. The thin portion of the uterus measures from ⅛ to ¼ of an inch as compared with 1½ inches thickness of the corporeal portion of the uterus.

While evidences of the inflammatory reaction are not sufficient in this specimen to provide a predisposing cause for spontaneous rupture, the examination proves the presence of a condition quite analogous to one of the aberrant forms of pregnancy, as in the extra-uterine or interstitial varieties. The placental site was below or at the isthmus and its development took place within the cervical canal. There was obviously not sufficient room for the ovum to expand beyond a period of five months. It impinged against the linea iliopectinea. This was a predisposing cause of rupture, the real cause being the fact that the chorionic villi had invaded the entire parenchyma of the wall of the cervix, favoring rupture, as in tubal pregnancy. This process was confined to the small pelvis and the thinned-out cervical walls finally gave way to the increased pressure. It is probable that coitus played an important traumatic rôle in the history of the case.

The mechanism of uterine rupture in this case differs materially from that involved in most cases. Bandl, in 1875, described a ring of fibers in the inner wall of the uterine muscle located about 12 to 15 cm. above the internal os at full term. This is the dividing point during labor between the upper uterine segment, which, by its contraction, propels the fetus through the parturient canal, and the lower uterine segment which is simply passive and dilates to form a passage for the fetus. In the presence of obstruction to its passage through the parturient canal, the upper segment, in its efforts to overcome the obstruction, continues to exert tension on the thinned-out lower segment until a tear occurs. Such an explanation for the rupture in my case can scarcely be taken into account, as the relations of the upper and lower uterine segments are of significance only at a full term delivery.



The photograph shows the two halves of the uterus and attached placenta; A, right half; B, left half; Ut. Vess., uterine vessels; Perit. Ref., lowermost points of peritoneal reflection; Pl., uppermost attachment of placenta; Am. Cav., amniotic cavity; Cerv., cervix.

My conclusion that the case was one of cervical implantation of the placenta is based on the following grounds:

1. The uterus is divided into two general portions, a well-preserved, thick upper portion, and a very much thinner lower portion. The placenta is attached to this lower portion. Neither macroscopically nor microscopically can evidences of placental attachment, such as retained villi, decidua or giant cells, be demonstrated in the body of the uterus.

2. The point where the placenta appears macroscopically corresponds to a line drawn between the insertion of the uterine vessels on either side, and also between the anterior and posterior peritoneal reflections. Both of these landmarks indicate the level of the isthmus and the internal os.

3. The placental attachment was demonstrated in contact with cervical glands.

The findings prove that the case was one of pregnancy at about the fifth month, with spontaneous rupture of the uterus, due to a cervical implantation of the placenta.

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* Dr. I. C. Rubin will publish a more detailed pathologic report of the specimens of this case at a later date.

This is probably the first case of its kind reported in this country.

A careful review of the literature of the subject reveals several cases on record abroad in which placental tissue was undoubtedly attached to the cervix.

L. Müller has reviewed the literature, but without finding cases in which the anatomic investigations were thorough enough to assure the correctness of the diagnosis.

In more recent years several cases have been reported which are so convincing in their clinical and anatomic aspects that the occasional existence of a placenta prævia cervicalis cannot longer be doubted.

Dr. Otto v. Weiss[1] reported a case of a quintipara, aged 33, who was admitted at full term on account of profuse hemorrhage, with a diagnosis of placenta prævia. Tamponade was followed by podalic version and delivery, with the loss of a large amount of blood. The child died during the attempt at delivery. The placenta was found intimately adherent to the cervical mucous membrane and was separated from it with great difficulty by manual extraction. A chill and fever occurred and it was found that there was a streptococcus infection with retained shreds of placenta. Vaginal hysterectomy was followed by death on the third day.

A. Keilmann[2] reported a case of a tertipara admitted with ruptured membranes, slight labor pains and some hemorrhage. Spontaneous delivery occurred. Two hours later a portion of undelivered placenta was found adherent to the anterior lip of the cervix and was removed with great difficulty by manual separation.

E. Ponfick[3] reported a case of a nonipara with repeated hemorrhages during pregnancy. A diagnosis of placenta prævia was made and on the left and posterior aspect, the placenta was found to be continued down inseparably adherent as far as the vaginal portion of the cervix.

Jaschke[4] reports a recent case of placenta isthmica et cervicalis.

The cases which have been so far reported in the literature have not been supported by microscopic evidence and are so few in number as to warrant the assumption that placenta prævia cervicalis is either a very rare condition or one which is very rarely recognized.

969 Madison Avenue.

[1] Weiss: Centralbl. f. Gynec., 1897, p. 641.

[2] Keilmann: Centralbl. f. Gynec., 1897, p. 857.

[3] Ponfick, E., and Ponfick, W.: Ueber placenta prævia; insbesondere Placenta prævia cervicalis, Berl. klin. Wchnschr., 1899, No. 35.

[4] Jaschke: Ztschr. f. Gynec., March, 1911, p. 1409.

SUBPARIETAL RUPTURE OF SOLITARY KIDNEY *

A. J. MAYER, M.D.,† and A. NELKEN, M.D.
NEW ORLEANS

The horseshoe kidney, while rare, is sufficiently common to require no especial comment. Those anomalous conditions in which the kidneys are completely fused into one mass are of much less common occurrence. To this condition, the *Kuchinniere* of the Germans, Rokitansky applied the term "solitary kidney," to differentiate it from the true single, or "unsymmetrical" kidney.

Morris, reviewing the statistical reports of four of the largest of the London hospitals, found that while the "horse-shoe" kidney was present once in each 1,000 autopsies, the fused kidney, not of the "horseshoe" variety, was found only once in 15,908 necropsies.

Subparietal rupture of the kidney is comparatively rare. Connell, in a paper read before the Western Surgical Association,[1] collected from all sources a total of 841 cases.

Our case of subparietal rupture of a "solitary" kidney is, we believe, unique in the literature.

History.—Our patient was a white man, 30 years of age, a native of England, and a sailor by occupation. We were unable to get a connected account of his injury and the sequelæ, but, as far as we were able to gather, seven days prior to applying for treatment, while climbing a ladder, he had fallen a distance of from four to six feet. In falling his body swung around, and he struck with his right lumbar region on an iron rail. He complained of some pain in his right side, following the injury, but continued to void urine up to seven days after the accident. We were unable to learn whether or not this urine contained blood. His urine stopping suddenly (?), the captain of his ship sent him to the Touro for treatment.

Examination.—The patient was admitted to the service of Dr. Matas who requested Dr. Mayer to look after him. On admission the patient's general condition was good, his temperature was normal. He showed considerable ecchymosis in the right lumbar region and in the perineum. A large diffuse swelling could be felt in the right side almost to the umbilicus, and longitudinally from the last rib to the pelvis. The abdomen was distended and very tense. About two ounces of bloody urine were withdrawn by catheter. He was catheterized twice more in the following twenty-four hours, but no urine was obtained. He vomited three times the day following admission.

Diagnosis.—The question of diagnosis was interesting. The history of the injury and the mass in the right side suggested at once rupture of the right kidney. But rupture of the right kidney would not explain the absence of urine in the bladder, since there was no evidence of damage to the left kidney. Rupture of the bladder, with postperitoneal infiltration of urine was contra-indicated by the nature of the injury, and, especially, by the fact that the patient had voided urine normally for seven days after the accident.

The possibility of there being but one kidney was discussed, but, if this rare anomaly was present, we could not explain why a ruptured single kidney should secrete what the patient described as being comparatively normal urine for seven days, and then suddenly cease functioning. Rupture of the right kidney, with subsequent sloughing of the bladder-wall, the reason for which we did not understand, seemed to us to be the only plausible explanation of the conditions present.

Because of this opinion, and because the condition of the patient did not justify any unnecessary delay, no attempt at cystoscopy was made. As was demonstrated by subsequent findings, cystoscopy with catheterization of the ureters would have been unintelligible or even misleading, unless styleted catheters had been used and a radiograph taken.

Operation.—At Dr. Matas' suggestion, an exploratory laparotomy was done. The incision was made to the left of the median line, to avoid possible contamination of the peritoneal cavity with what appeared to be infiltrated urine beneath the abdominal wall on the right side. When the peritoneum was opened, the cavity was found to contain about a pint of clear fluid which had no urinary odor. To the right, postperitoneal, extending from the last rib to the crest of the ilium was a large oval swelling which evidently included the right kidney. No left kidney could be found, although search was made as high as the spleen and as low as the pelvis. The bladder was tested and found to be intact. The abdominal wound was closed with some difficulty because of the intestinal distention and the patient turned over on his left side. The ordinary loin incision was made over the right kidney. As the muscles were being cut through there was a gush of bloody urine. The wound was enlarged and the hand introduced. The kidney was found to be lying slightly lower than usual, but otherwise its position was normal. The lower pole of the kidney was roughly broken off and sloughing. The cavity below the kidney was filled with what seemed to be sloughing tissue and partially organized blood-clots. The ureter was felt to be hard and considerably thickened, but there was no dilatation either of the ureter or of the pelvis of the kidney.

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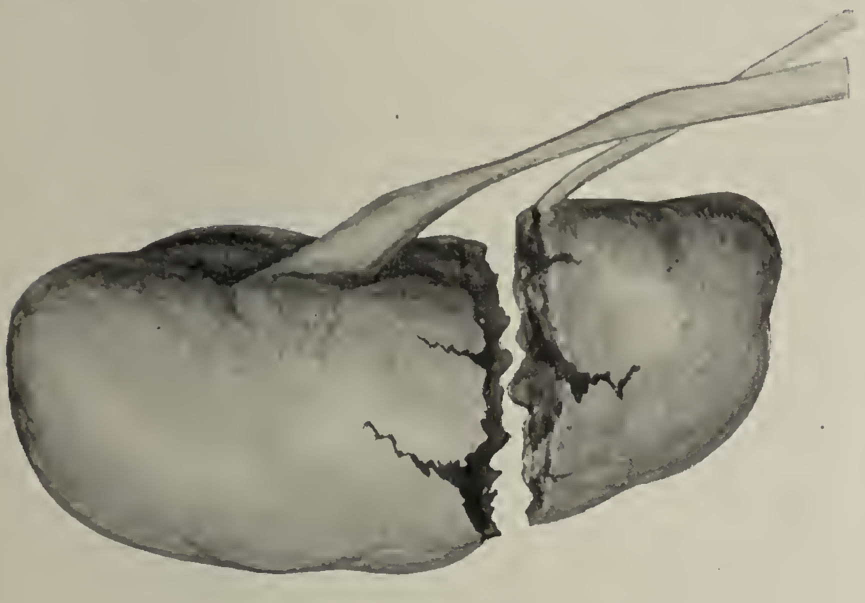
* Pathologic report by F. B. Gurd, M.D.

† Deceased, Jan. 14, 1911.

[1] Connell: The Journal A. M. A., March 25, 1911, p. 875.

As the condition of the patient was bad, no time was lost in careful examination. Drainage with tubes and gauze was done, the wound dressed, and the patient was returned to the ward. Shortly after the operation, the patient voided urine, and he continued to void normal quantities of clear urine. But he never rallied from the operation, and died thirty-six hours thereafter.



The subparietal rupture of a solitary kidney.

From the findings at autopsy, we concluded that, following the injury to the kidney, the upper segment continued to function until the gradually contracting blood-clot finally completely occluded the ureter.

The operation, by removing the obstruction, permitted the kidney to resume its function. The autopsy findings showed that there had been no hydronephrosis.

The autopsy was performed by Dr. F. B. Gurd, whose report is appended.

Autopsy.—This was performed six hours after death; a general examination of the body revealed nothing worthy of note with the exception of those parts in the neighborhood of the right kidney.

Over the loin on the right side is an incision 10 cm. in length, also a second incision of a similar length opening into the mid-line of the abdomen, its lower extremity being 8 cm. above the pubis.

On opening the abdomen, the posterior peritoneum appears to be deep reddish-black in color, the result of a blood-clot lying behind it. This appearance is especially marked in the neighborhood of the right kidney. Separation of this blood-clot, which measures from 2 to 6 cm. in thickness and is moderately friable, deep red in color and firm, discloses the right kidney. This organ is large (weight 380 gm.) and normally firm. Somewhat below the center of the organ from above downward there has been a solution of continuity, the separated surfaces lying about 4 cm. apart, the intervening space being filled with blood-clot and greyish friable masses, apparently necrotic material.

On the removal of the two portions of the kidney and the placing them in opposition, a more or less normal shaped large kidney is seen. The surface is smooth and normal in color, with the exception of an area 2 cm. wide on either side of the rupture. In these zones the surface is mottled deep red and greyish-yellow in color. On section the organ appears in general more or less normal, though somewhat pale. The cut surface bulges and exudes fluid blood. The cortex is thickened, measuring from 0.6 to 0.8 cm. in diameter. The glomeruli are somewhat more distinctly prominent than usual. Differentiation between the cortex and medulla is moderately well marked. The central portion of the kidney on either side of the line of rupture shows irregular deep purple, somewhat softer areas between which lie triangular yellowish portions with the apex pointing toward the medulla. These areas correspond to yellowish blotches seen on the surface.

At the point mentioned, namely 4 cm. from the kidney, the ureter is constricted measuring not more than 0.35 cm. in diameter for a distance of 4 cm. The wall of this ureter throughout its entire length is somewhat thickened.

The second ureter which is approximately half the size of the other arises from the lower portion of the kidney, at the point of rupture. No pelvis, and no calices are present.

Two sets of blood-vessels supply the kidney. One in the neighborhood of the upper, the other in the neighborhood of the lower ureter.

Absolutely no evidence of a second or left kidney can be found.

The bladder contains two normal-looking ureteral openings, the left opening being situated slightly further from the urethral opening than the right, giving the trigone an irregular appearance. The two ureters cross one another about 8 cm. above the bifurcation of the aorta, the right going to the upper pole of the kidney and the left to the lower. On removal, the kidney is found to weigh 400 gm., and, though large when the two portions are approximated, is normal in size. The kidney substance is moderately firm and somewhat paler than normal. On the upper surface of the lower portion several irregular, yellowish blotches are noted.

Anatomic Diagnosis: Congenital absence of left kidney; traumatic rupture of right kidney, retroperitoneal hematoma (perirenal).

Microscopic Examination of Kidney: A section cut from a more normal-looking area of the kidney shows an injection of the renal vessels and a few sclerosed Malpighian tufts. The cells lining the tubules are somewhat swollen and take the red stain with moderate intensity. The nuclei stain well. Within the tubules and about the glomeruli there is a moderate amount of granular red staining material (serum).

Other sections cut from the greyish purple area in the line of rupture consist of blood-clot, made up chiefly of necrotic blood-cells and kidney substance infiltrated here and there with polymorphonuclear leukocytes.

Section 3 cut from one of the yellowish nodules in the lower portion shows a necrosis *in situ* of the kidney substance surrounded by a zone characterized by injection of the blood-vessels and interstitial exudate of serum.

Microscopic Diagnosis: Acute nephritis

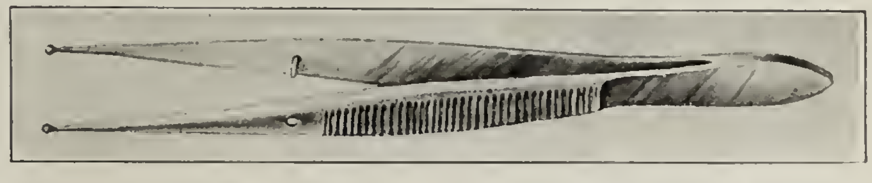
Infarcts of the kidney (traumatic).

Perrin Building.

A NEW BLOOD-VESSEL FORCEPS

BERTRAM M. BERNHEIM, M.D.
BALTIMORE

The slightest scratch given the intima during the manipulations required in any blood-vessel work almost invariably spells failure in the form of a thrombus. Sharp-pointed instruments are, therefore, scrupulously avoided in all such work. Indeed, most men find their fingers the best and safest of all instruments.



Blood-vessel forceps with small ball-tipped ends

But since the work can at times be facilitated by a delicate pair of forceps, I have had one constructed which has a small, polished metal knob about the size of an ordinary pin-head on each end. These knobs enable one to grasp the vessel firmly without doing the slightest damage to the intima.

2319 Linden Avenue.

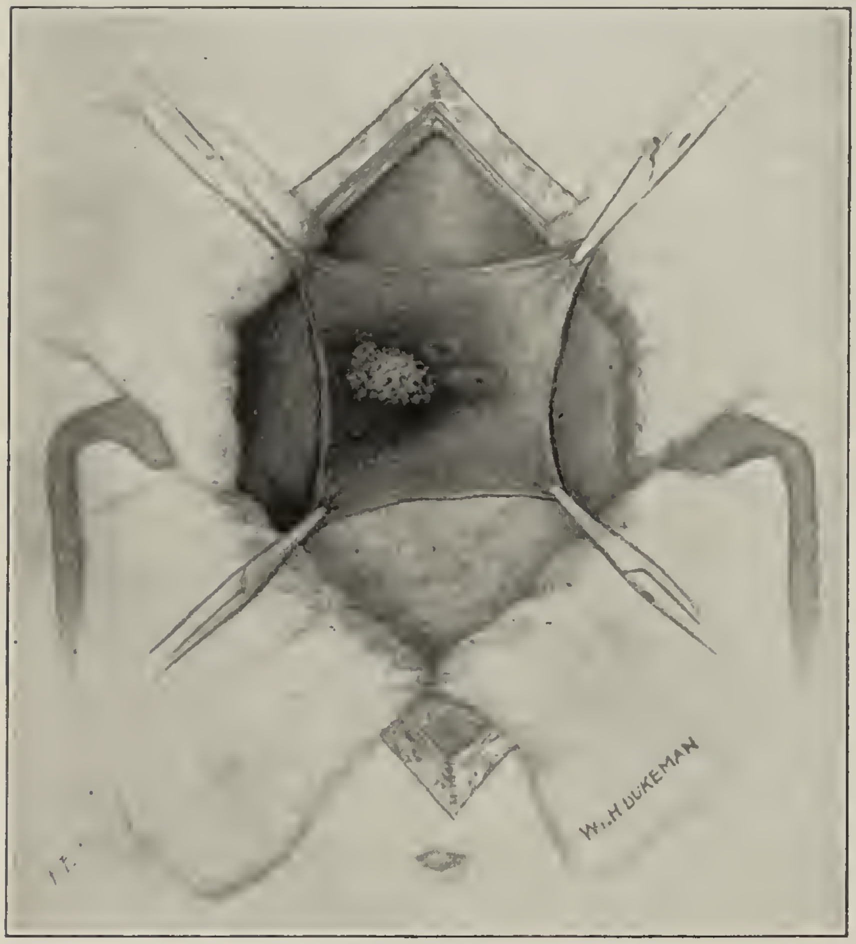
INTRAPERITONEAL CYSTOTOMY FOR TUMOR OF THE BLADDER *

W. H. DUKEMAN, M.D.
LOS ANGELES, CAL.

The conception of the operation of intraperitoneal cystotomy and the successful performance of the operation by Dr. F. B. Harrington of Boston in the year 1893 opened the way for the ideal surgical procedure for the removal of intravesical tumors of the bladder.

Harrington's detailed descriptive technic of the operation,[1] and full explanation of the feasibility of his method gave to the profession an operation in bladder surgery of great advantage over other methods now in vogue.

It is now eighteen years since Harrington first performed this operation, and only a very few surgeons have recognized its safety and ease of performance. The high rate of mortality in the surgery of the bladder for the removal of tumors, either by the suprapubic or perineal route, whether the growth be malignant or benign, does not give very encouraging results.



Abdominal wound, intestines and omentum, walled off with gauze pads, showing incision in the bladder, held open by forceps, exposing the tumor, urethra and right ureter. The left ureter is hidden behind the tumor.

Watson,[2] of Boston, in his tabulated report of 653 cases, shows the unsatisfactory results of surgical intervention by the perineal and suprapubic methods, and suggests the intraperitoneal operation.

Scudder and Davis,[3] of Boston, report four cases of the removal of tumors of the bladder by the Harrington intraperitoneal method, and all recovered.

The surgeons of St. Mary's Hospital, Rochester, Minn., in their collection of papers recently published, report fifteen cases of bladder tumors removed by the Harrington intraperitoneal method with but one death. From the literature I have at command several other surgeons have reported single cases of resection of the bladder for malignant growths by this method, and with success.

As the intraperitoneal operation has not become as general with surgeons as its merits warrant, I trust that the addition to the list of another successful case, in which I operated recently by this method and which resulted in a most satisfactory and speedy recovery, will lead the cautious surgeon to give this method a trial.

REPORT OF CASE

History.—Dr. A., aged 68, retired physician, consulted me last November for slight hemorrhage of the bladder. His family history is unimportant as he has always enjoyed the average good health. Last November, he first noticed blood in the urine and some discomfort in the region of the prostate gland, with the desire for frequent micturition. The blood in the urine was not constant, but appeared only at intervals, accompanied with the occasional passage of small clots of blood. There was no profuse hemorrhage at any time.

Examination.—The prostate gland examined per rectum was normal for a man of his age. Microscopic examination of the urine showed blood, bladder epithelium, a few villous-like shreds, few crystals of calcium oxalate, no pus; the kidneys were normal. Diagnosis, possibly papilloma of the bladder.

I advised cystoscopic examination and sent the patient on March 28, 1911, to Dr. F. S. Dillingham, who reported the discovery of a growth, about the size of the first joint of the little finger, situated a little above and drooping down over the left ureter; any attempt to raise the tumor caused considerable hemorrhage. The tumor was attached by a broad base and its full length, which discouraged any attempt to remove it by operative cystoscopy. Diagnosis, tumor of the bladder, probably malignant. The bladder was washed out daily with boric acid solution and the patient sent to the Pacific Hospital.

Operation.—This was done April 5, by the intraperitoneal method. An incision was made from the pubes to within one inch of the navel, which gave ample room. The patient was placed in the Trendelenburg position and the intestines, omentum and abdominal incision walled off with gauze pads, leaving only the bladder exposed. The catheter was previously introduced into the bladder by the urethra and the bladder irrigated with boric acid solution. An incision, one and one-half inches, was made in the median line in the posterior bladder wall, and with clips holding apart the bladder incision, the tumor was nicely exposed to view. Its position had been accurately located by cystoscopy, being above and hanging over the left ureter; the lower point of attachment was about one-third inch above the ureter. Its base of attachment did not extend into the muscularis, and the tumor was very easily extirpated. The red-hot platinum cautery point was now applied to the raw surface at the seat of the tumor attachment, and the oozing of blood was completely controlled. The bladder was then carefully cleansed of all clots and mopped dry with gauze sponges. The little flow of urine from the ureters during the extirpation of the tumor, did not interfere in the least. The bladder incision was now closed. The first row of suture with No. 0 chromic catgut was inserted by the Connell stitch, taking in all the layers of the bladder wall, completely closing the incision, the mucous surface thereby being turned in and controlling all oozing of blood from the line of incision. The peritoneum was then enclosed over the first line of suture by the Cushing continuous method with No. 1 Pagenstecher linen thread. The catheter having been left in the urethra, the bladder was now irrigated with boric acid solution and slightly distended to test the line of suture, which proved to be water tight. The catheter was now withdrawn from the urethra, and about two ounces of the boric acid solution was left in the bladder. The gauze pads were then removed and the abdominal incision closed in layers. No drainage.

Histopathologic Report (by Dr. E. L. Leonard).—Epithelioma. Evidently low grade of malignancy.

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* Read before the Los Angeles County Medical Association, June 2, 1911.

[1] Harrington, F. B.: Ann. Surg., October, 1893.

[2] Watson: Ann. Surg., December, 1905.

[3] Scudder and Davis: Ann. Surg., December, 1908.

Postoperative History.—The patient recovered from the anesthetic without vomiting and voided six ounces (urine and boric acid solution), three hours after the operation and without discomfort. The bladder was irrigated with boric acid solution three times daily for the first three days, then twice daily until the sixth day when the urine became almost clear, and by the tenth day the urine voided was all clear normal, and the irrigations of the bladder were stopped. The capacity of the bladder by the tenth day had increased to 8 and 10 ounces, while before the operation it was only from two to four ounces. By the eighth or tenth day all postoperative hemorrhage and irritability of the bladder had ceased. After the third day the patient partook of three regular light meals and was quite comfortable throughout the entire period of convalescence, amusing himself reading and relating funny stories to his attendants. He was up and around on the twelfth day and left the hospital on the seventeenth day. The postoperative temperature never arose above 99.4 F. and the pulse remained normal. After the operation there was no abdominal pain at any time, and no more discomfort at the neck of the bladder than had been present for months previously. The only inconvenience which the patient experienced after the intoxication from the ether had ceased was from the pulling of the abdominal stitches.

The surgeons who have adopted the intraperitoneal cystotomy operation for the removal of malignant tumors of the bladder, all agree in the praise of this method over the perineal and suprapubic routes.

The mortality from the cases reported so far, is less than 10 per cent., whereas by the suprapubic and perineal methods it is from 28 to 47 per cent.

In the hands of the careful operator, by the intraperitoneal route the danger of soiling and infecting the peritoneum is practically nothing. In the case here reported, there was no necessity for drainage and there was no postoperative annoyance to the patient; whereas every surgeon dreads the postoperative annoyance to which the patient is subjected by either the perineal or the suprapubic route, and the surgeon's anxiety relative to these postoperative dangers is practically eliminated by doing the intraperitoneal operation.

This single case, with the ease of approach and the ready access to the growth which the surgeon has at command to the base of the bladder, at once suggests the idea that, under favorable conditions, the enlarged prostate gland may be as easy and safely removed and all hemorrhage controlled by closure of the capsule by suture.

1116 Lake Street.

HEMORRHAGIC EROSIONS OF THE STOMACH

WITH THE REPORT OF THE AUTOPSY FINDINGS IN A CASE OF EINHORN'S DISEASE*

N. W. JONES, M.D.
PORTLAND, ORE.

Hemorrhagic erosions of the stomach from the viewpoint of the examination of the fasting organ is not an infrequent clinical finding. In 600 consecutive cases in which this routine examination was made as a part of general diagnosis, there were thirty-five cases, or 5.8 per cent., in which definite erosions of the gastric mucous membrane were found. As shown by the accompanying table, these cases were divided among the following disease conditions: Pernicious anemia, general asthenia, carcinoma of the stomach, carcinoma of the esophagus, cardiospasm, cardiosclerosis, dyspepsia nervosa, Schmidt's fermentation dyspepsia, Einhorn's disease, chronic anacid gastritis, chronic subacid gastritis, chronic acid gastritis, chronic gastrosuccorrhea, chronic gall-bladder disease, chronic intestinal catarrh, spastic obstipation, chronic salpingitis and chronic ulcer of the stomach. Two cases of so-called simple erosion, characterized by sudden severe gastric hemorrhage, afforded no fragments of mucous membrane either by vomiting or later by examination.

From a study of these cases the erosions group themselves logically into, (1) those without clinical significance, and (2) those with positive clinical significance.

Into the first group are placed the fragments of mucous membrane which are, for the most part, accidentally recovered. Chronic gastritis, together with the muscular contractions of the stomach and the trauma from the tube, has afforded thirteen of thirty-four cases. This trauma, together with the contractions of the muscular coats, has seemingly been the entire cause in all of the remaining cases with the exception of the two malignant ones, in which erosions were found. It has been noted also that these erosions were obtained only where there was more or less retching and resistance on the part of the individual. Study of most of the fragments in teased preparations or from sections, in those instances in which the erosions were large enough to be so treated, has not thrown any further light on their etiology. There is always a variable amount of small round cells between the gland acini, but it has been quite impossible to distinguish between round-cell infiltration and normal lymphoid structure. In one large erosion from a case of subacid gastritis "the cuticula and crypts were not broken or disintegrated, but in the deeper portions of the glands the cytoplasm stained faintly and was swollen. In places it seemed to be disintegrating and portions of the glands were missing. There was some small round-cell infiltration, but nowhere was it of marked degree." Other etiologic factors determined by Mintz, Wurtz and Leudet, Dieulafoy, Nauwerk, Gerhardt, Langerhans and E. Fraenkel, were not found.

There are, however, two types of hemorrhagic erosions of the stomach of distinct clinical importance, which present fairly definite clinical pictures. They are (a) the so-called simple erosion of Dieulafoy and (b) the chronic and recurring type of erosion described first by Einhorn and now termed Einhorn's disease.

Of the simple erosion, which is characterized by sudden, severe, at times fatal hemorrhage occurring during normal health, usually without pain and with but little sickness, I do not wish to speak, excepting to emphasize the need of a better recognition of the condition and the employment of rational medical treatment. In one of the four cases seen by me death was hastened, if not actually caused, by surgical measures, and two of the three other patients were strongly urged by competent operators to submit to operation. I think it is now quite agreed among surgical writers as well as among physicians that acute bleeding from the stomach is a condition best handled by medical means and not by surgery. In 1901 Rodman reported thirty-two operations for acute gastric hemorrhage with nine deaths, a mortality of 40.6 per cent. In 1906 Laurent reported 93 per cent. recovery in his patients treated medically. A critical review of the literature since these dates bears out this contention more forcibly, and yet such patients are still being operated on. This fact, in my opinion, justifies the clinical grouping of this class of cases in such a way as will emphasize the importance of their treatment whatever the pathogenesis underlying the condition may be.

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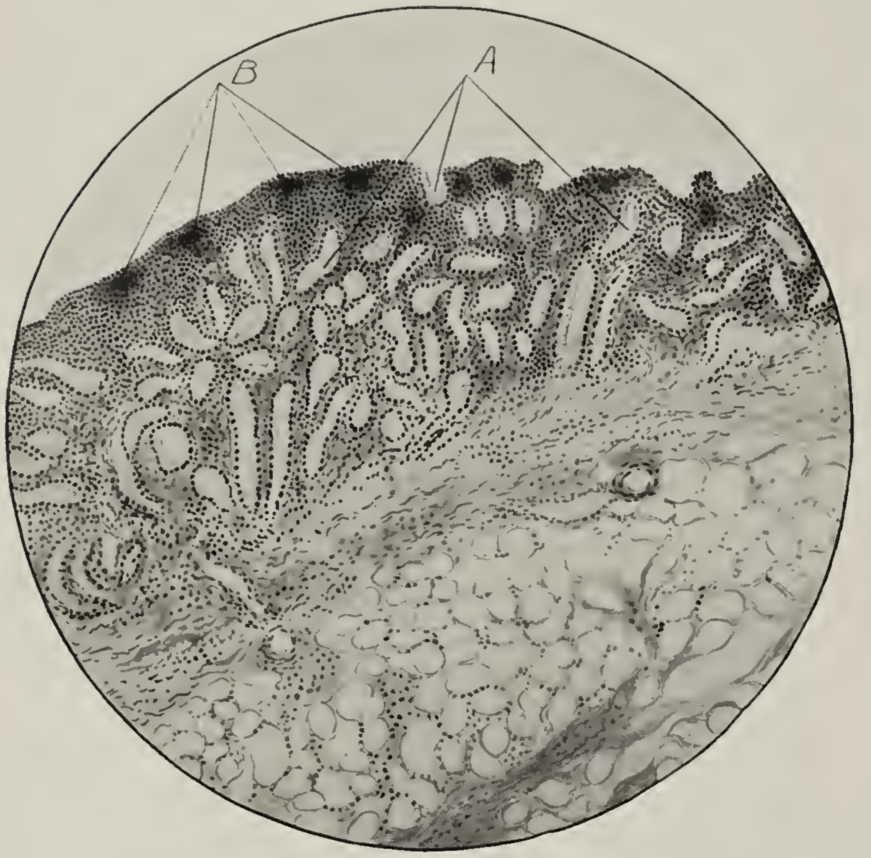
* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

According to Einhorn, the disease which was described first by him in 1894, and which now bears his name, is a chronic condition characterized by diffuse stomach pain which comes on shortly after eating and is not influenced by pressure, vomiting or eating again; by a sense of great weakness, a rather rapid loss in weight, and, pathognomically, by the repeated presence of from two to four erosions in the wash water from the fasting stomach. Einhorn's belief that this clinical picture was the expression of a distinct disease has been upheld by Mintz, Berger and others. Pariser, Nauwerk and Elsner, on the other hand, have maintained that the basis of the picture has been a chronic gastritis, the ordinary symptoms of which have been forced into the background by the periodic occurrence of the erosions and the bleeding. Owing to the entire absence of postmortem examinations of such cases, the following typically illustrative case which came to autopsy is given briefly in detail, together with the anatomic findings:



Reproduction from drawing showing histologic characteristics of tissue. A, remnants of gland acini; B, blood extravasation in areas of dense, small round-cell infiltration.

History.—Mr. D., a business man, aged 57 years, began twenty years ago to have, with the coming of each winter, periods of illness characterized by a diffuse sense of burning in the stomach after eating, sometimes on rising, a rapidly developing weakness, paleness and loss of weight. At times there was some nausea and the regurgitation of clear fluid which was not especially sour to taste. All foods produced distress. There was no local tenderness, no fever, chills or sweating. The bowels were regular. Each year the illness lasted several weeks, usually in bed with restricted diet. More or less paleness and weakness would last until warm weather set in, when he would regain his health rapidly, his anemia would disappear and his stomach would again tolerate any kind of food without discomfort. The patient believed a causal relationship existed on the part of the cold and always dreaded the approach of winter. During the illness of the year preceding that of his death occult blood was found in the stools. His last illness came on as they always had before and was of several weeks' duration. Blood was again found in the stools. Dr. Mackenzie tells me that blood examinations showed a very severe grade of a chlorotic type of anemia. The patient had weighed 202 pounds before his illness began but had lost much flesh during it. His own personal history and that of his family were negative in all respects.

Necropsy.—Through the courtesy of Dr. Mackenzie I made a post-mortem examination on Dec. 20, 1909, six hours after death. Briefly the anatomic findings were as follows: The body was that of a tall, heavily boned, greatly emaciated middle-aged man. The panniculus was pale and scanty; the peritoneum was smooth and glossy. All parenchymatous organs were very pale and dry. The heart and lungs were otherwise negative. Very small scattered atheromatous patches existed in the beginning of the arch of the aorta. They were absent throughout the course of the abdominal aorta. There was no gross evidence of terminal infection. The bone-marrow of the ribs was pale in color. The intestine and colon were more or less filled with dark, tarry content that contained much blood. The stomach was of normal size, blanched, and contained a little turbid fluid. Over the mucosal surface a moderate amount of greyish, somewhat blood-stained, tenacious mucus was found. On the posterior wall about midway between the cardia and the pylorus were seen five small eroded areas with hemorrhagic margins and bases. They were superficial in character, not extending to the submucosa, and varied from the size of a split pea to 1.5 cm. in length and 1/3 cm. in width. No eroded vessels could be found.

The stomach was given to Dr. Roberg of the medical department of the University of Oregon for histologic examination. He reports as follows:

The mucosal surface of the organ is pale yellowish in color, mottled by several deeply colored and rather circumscribed areas. Sections for examinations were taken through both the pale and the darker portions of the stomach-wall. Microscopically, the dark areas show no difference in appearance from the other. They are pigmented areas of submucous hemorrhages, the coloring of which is derived from dissolved hemoglobin deposited in the interglandular tissue and in the secreting cells of the gastric glands. The interstitial tissue of the epithelial layer of the mucosa is the seat of a dense, small round-cell infiltration. This infiltration is diffuse and more marked in the surface of the mucosa. The deposit of these small round cells is so dense that in many cases the stomach glands have been completely obliterated. Scattered throughout this dense infiltration are islands or portions of glands. Their lumina are distended to two or three times the normal size. The cell cytoplasm is granular and disintegrated and in many places the lumina are filled with a cytoplasmic debris. In the fundus region no differentiation of the gland cells occurs into parietal and chief cells. All gland-cell nuclei stain less deeply than normal. The capillaries in the mucous membrane are markedy dilated along the basement membrane and, in the region of the crypts, show a diffuse extravasation of blood. The blood-vessel plexuses in the submucosal and muscular layers show a thickening of the walls and a slight congestion. The muscular layer, submucosa and muscularis have to a slight degree an infiltration of small round cells.

I submitted also to Dr. Roberg for histologic examination three large erosions from a typical case of Einhorn's disease which I have had under observation for over three years and which I have previously reported. His findings are as follows:

The gastric crypts and cuticular border of the mucosa are quite intact. The neck and fundus portions of the gastric glands are displaced and partly obliterated by a small round-cell infiltration not unlike that described in the previous case but not so dense. The destruction and displacement of the glandular elements, although considerable, are likewise not so marked. Interstitial hemorrhage and congestion are absent.

Thus the microscopic examination of the two cases presents the picture of a form of chronic gastritis characterized (1) by a dense small round-cell infiltration in the interstices of the glandular elements, which when extensive obliterates the gastric glands by pressure; (2) by the disintegration of the cuticular portion of the mucosa as the crypts are displaced by the small round cells; and (3) by the fact that with the disintegration of the cuticula and crypts the congested vessels are exposed and ruptured, which accounts for the gastric hemorrhages occurring during the clinical course of the disease.

An entire absence of proliferation of the connective tissue elements, the engorgement of the superficial blood capillaries and the manner in which the gland cells are destroyed sharply differentiate the process from ordinary chronic gastritis. The claim, therefore, of Elsner and others that the disease is one of ordinary gastritis with the factor of erosion formation added to it is no longer tenable, and neither, on the other hand, is that of Einhorn, for the process must be classified as a type of chronic gastritis. It is, in fact, a chronic, non-proliferative, hemorrhagic gastritis.

In general, I believe it will be well to retain this clinical grouping of hemorrhagic erosions, and to consider them, clinically speaking, as disease entities for the sake of defining their relation to other types of gastric hemorrhage. Simple erosion, on the one hand, probably possesses a manifold etiology. Whether Einhorn's disease likewise does, only further autopsy findings will determine. From the similarity of these two cases, however, it is probable that its pathology will be found to be the same in others.

TABLE OF SIX HUNDRED CASES AND RELATION OF STOMACH EROSIONS TO THEM

Disease.	No. of Cases.	Cases with Erosions.	Erosions Found in Each.
Anemia, pernicious	4	1	2
Anemia, metasyphilitic	1	0	0
Anemia, chlorosis	1	0	0
Aneurysm abdominal aorta	2	0	0
Appendicitis, chronic	3	0	0
Abdominal arteriosclerosis	4	0	0
Arthritis, toxic	3	0	0
Asthenia, general	79	1	4
Brain tumor	1	0	0
Carcinoma, stomach	18	1	2
Carcinoma, pancreas	1	0	0
Carcinoma, sigmoid	3	0	0
Carcinoma, liver (*sec*)	1	0	0
Carcinoma, esophagus	1	0	†
Colitis, mucous	24	0	0
Colitis, chronic ulcerative	2	0	0
Cardiospasm	7	2	2, 2
Cardiosclerosis	15	1	1
Cirrhosis stomach	1	0	0
Dyspepsia nervosa	11	1	1
Dyspepsia fermentation (Schmidt)	13	2	2, 1
Diabetes	1	0	0
Erosions of the stomach (Einhorn's disease)	1	1	4
Erosions of stomach (simple hemorrhagic) examined late after bleeding	2	0	0
Epilepsy, *petit mal*	1	0	0
Fibroid right broad ligament	1	0	0
Gastritis—chronic anacid (inc. achylia gastrica)	47	6	†1, 4, 2, 1
Gastritis, chronic subacid	22	3	1, 2, 3
Gastritis, chronic acid	13	2	1, 2
Gastrosuccorrhea, chronic	23	2	1, 1
Gastrectasis (without ulcer)	11	0	0
Gastroptosis	12	0	0
Gastromyxorrhea	1	0	0
Gall-bladder disease, chronic	29	3	1, 1, 2
Hyperchlorhydria	8	0	0
Hypochlorhydria	3	0	0
Hypertension, arterial chronic	2	0	0
Intestinal catarrh, chronic	22	1	1
Myatonia congenita	1	0	0
Migraine, chronic	4	0	0
Nephritis, chronic	3	0	0
Neurasthenia	31	0	0
Obstipation, atonic	31	0	0
Obstipation, spastic	69	3	†1, 1
Organic heart disease	11	0	0
Polycythemia	1	0	0
Pyloric insufficiency	4	0	0
Urticaria univ	1	0	0
Salpingitis, chronic	1	1	1
Sacro-iliac joint relaxation	1	0	0
Scoliosis	1	0	0
Tuberculosis, lungs	7	0	0
Tuberculosis, peritoneum	1	0	0
Tabes	2	0	0
Ulcer of stomach, chronic	31	3	†1, 1
Ulcer of stomach, healed	2	0	0
Ulcer of stomach, duodenal	2	0	0
	600	35	

† Many.

ABSTRACT OF DISCUSSION

Dr. Robert T. Morris, New York: In these days when so much credit is given to proper stomach surgery, I wish to emphasize a point made by Dr. Jones that hemorrhagic erosions of the stomach are not cases for the surgeon. Whatever credit comes to surgeons is from wise selection of cases. Surgery does not at all comprehend the question of gastric erosions and does not give relief because the original condition persists. Again, there are the shock and other features which were incidental to operation, features that are not desirable. There was one point, however, that Dr. Jones did not bring out and one which I believe to be very important. We should learn more of the early septic history, and especially of the ordinary medical treatment that was employed at the time the erosions occurred. Of course, the patients must have treatment when these erosions of the stomach occur, but the earlier toxic history should be kept track of in all these cases. We should remember that hyperchlorhydria and hypochlorhydria are symptoms like coughing or sneezing. The hormones send wrong messages to the secreting glands. What reason have we for believing that excreted toxins are basic factors in these erosions? What is found in the peritoneum of the vicinity gives us a clue? We all have found peritoneal adhesions so common in the pyloric region that we must assign some significance to them. We often meet with cases of adhesions, "cobwebs in the attic of the abdomen," which are due apparently to the excretion of toxins by the liver; in some cases the lesion might be due to the actual excretion of bacteria, chiefly of the colon-bacillus group, which pass the liver unharmed at times, but set up trouble in the bile-tract. The endothelium desquamates, lymph is excreted, coagulation occurs and adhesions are then formed and gastric disturbances follow. These hieroglyphics most of you can read and must read. When these hieroglyphics in *bas relief* occur in the peritoneum, the "cobwebs in the attic of the abdomen," we must look for an explanation in the toxic influences preceding erosion. Such toxic influences result in spasm of the terminal arteries situated in this region. Please do not forget the terminal arteries, for we are dealing with them. The toxic spasm of the terminal arteries here results in cell infiltration and other pathologic conditions, such as Dr. Jones has described in his paper.

In the treatment of hemorrhagic erosions of the stomach, surgery should not, I believe, be considered at all; medical treatment alone should be employed; any operation in these cases must result in disaster. If we hark back to the original cause I think we shall find that hemorrhagic erosions of the stomach are the result of excreted toxins.

Dr. J. F. Hultgen, Chicago: Erosions of the stomach are not considered sufficiently in connection with the constant anemia which one meets with in these cases. This fact suggests to me that there might be an anatomic cause for this condition—the symptom-complex might be due to the anemia itself; it might be due, as Dr. Morris has suggested, to some toxic process. The anemia coexistent or coexisting in these cases has not been thoroughly inquired into; more investigations should be made in order to bring out this matter. As a matter of fact, the anatomic basis, so far as was shown by Dr. Jones, was not sufficient to explain the clinical course of the disease. I believe that the gastric hemorrhage from the erosion is nothing but a symptom, and that the underlying morbid process might be of hemolytic nature or of toxic origin.

Dr. Philip King Brown, San Francisco: This condition of hemorrhagic erosions of the stomach is not recognized easily. Hemorrhage occurring in association with pain might be the result of chronic disease of the appendix, so fully described by Moynihan several years ago. He reported twelve cases, the symptoms of which were classical of gastric ulcer; at operation no ulcers were found. In each instance, however, there was found a diseased appendix. When the appendix was removed in these cases all the symptoms of gastric ulcer disappeared. It was my lot to recommend for operation practically the same kind of a case; this patient presented symptoms that made one feel quite positive of his diagnosis. The individual had been under the care of Dr. Boas and Dr. Ewald and other stomach specialists of note. They all made a similar mistake in the diagnosis. The symptoms were entirely gastric and hemorrhages were quite frequent. Under my care and while on a strict Lenhart diet, with the usual subnormal temperature, there suddenly developed a rise of 4 or 5 degrees above the normal. Evidently there was some pathologic condition in the appendix, as the fever was accompanied by pain, spasm and tenderness at McBurney's point, but it did not seem wise to operate on her at the time. Later at operation a very careful exploration of the gastric region was made, but nothing was found at all. The appendix was examined and removed, because adjacent to it was found a calcified gland and there were other evidences of old disease of this organ in the way of firm adhesions and partial occlusion and thickening. No really satisfactory explanation of the cause of hemorrhage from the stomach in these cases has yet been given. Whatever statements have been made thus far are not at all satisfactory to those who are looking for an explanation, but the point of gastric hemorrhage without ulcer from disease of the appendix is well established and should be borne in mind.

Dr. N. W. Jones, Portland, Ore.: In an exhaustive search of the literature on Einhorn's disease there are found no records of cases coming to autopsy. The pathology of the case reported by me seems to be distinct, but it needs verification by other cases. This condition is entirely distinct from those septic conditions in which stomach bleeding has occurred, as reported by Moynihan and Dieulafoy; and, it would seem to me, can have no relation to them. Its pathogenesis is not known. It does not seem to be that of ordinary chronic gastritis.

BUBONIC PLAGUE

WITH SPECIAL REFERENCE TO THAT OF GROUND SQUIRREL ORIGIN *

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Bubonic plague is a subject with which, fortunately, few of us have to deal. The practitioner in California, however, especially if his lot has been cast in the rural communities, must always keep the disease in mind when any acute febrile case comes under his observation. It is my intention to discuss only the isolated cases that occur in the country districts. Those that have been seen in San Francisco and in Oakland at various times between 1900 and 1908 were clearly associated with the presence of plague among rats, while the cases to which I particularly refer are associated with, and due to, the prevalence of the disease among ground squirrels (*Citellus beecheyi*). While plague in man when contracted from these animals is probably not essentially different from that derived from other sources, usually from rats, the cases that have come under observation are sufficient in number to justify us in examining them with care, especially as they are due to infection from a source that is unusual in other countries.

Two or three years after plague had been recognized in San Francisco, several cases of the disease occurred among persons living in the rural districts in the country across the bay from San Francisco. Surgeon Rupert Blue, of the Public Health and Marine-Hospital Service, noted in one or two instances that the disease occurred in those who had hunted ground squirrels a few days prior to the onset of the illness, and he suggested that since there had been no contact with human plague, and no known opportunity for infection from rats, the disease might be present in the squirrels, and be communicated from them to man.

During the past three years I have conducted the bacteriologic investigations in eleven cases of plague of ground squirrel origin. Seven of these patients I have seen clinically, and verified the diagnosis by laboratory methods, while in four the diagnosis was made from the bacteriologic examination of tissues taken at autopsy and sent to the laboratory. Six of these patients, all from the known infected zone, gave a clear history of handling ground squirrels within a week prior to the onset of the symptoms. Five gave no such history although they had been in vicinities where plague was known to exist among the ground squirrels at the time, or where it was demonstrated as a result of the investigations set in motion by the discovery of the disease in man. Of these eleven patients, seven were young men between the ages of 13 and 37; one was a boy aged 5; another, a boy aged 7; while two were young women. Six of these proved fatal, while five recovered.

Clinically there were three groups: The severe acute, the mild acute, and the subacute or pyemic. Six belonged to the first group. A typical history of one of these is as follows:

> About a week before becoming ill, the man had been squirrel shooting. The first complaint was of pain in the back and in the groin. There was great prostration. The temperature was 101.4 F., pulse 100. The second day, a swelling was made out in the femoral region. The third day, the patient was delirious and remained so until he died. The highest temperature recorded in this case was 103.8 F. but it usually goes to 105 F. or over. Death occurred on the fifth day of the illness.

One of these cases was rather unusual in that recovery occurred after invasion of the blood-stream by the plague bacillus. The evidence of septicemia was the recovery of the bacillus from the blood, and the development of secondary buboes in the regions of the various peripheral lymph glands.

The mild cases were four in number; all ending in recovery, but none was so mild as to justify calling it pestis minor. The history of the most recent case is as follows:

> There was no evidence of contact with squirrels, but the patient, a girl, lived in a territory that was known to be heavily infected. The first symptoms were headache and fever. These were followed by pain and tenderness in the right groin. The disturbance was so mild that it was thought sufficient to consult a physician by telephone. However, when improvement did not occur, the patient was visited by the medical attendant, who found a temperature of 104 F. There was a bubo in the femoral region. One week after the onset of the illness the glands were removed under an anesthetic. The patient made an uneventful recovery, never having been regarded as dangerously ill.

The subacute class is represented by only one among the squirrel cases that have come under my observation. This has been reported in detail by former Acting Assistant Surgeon W. B. Wherry and myself.[1] These cases of subacute or pyemic plague are seen occasionally in epidemics of rat origin.

> The patient was a youth, aged 13, who had been squirrel shooting about five days prior to the onset of the symptoms. The illness began with headache and vomiting. The next day the temperature was 104 F. Forty-eight hours after the onset of the symptoms, the glands in one axilla were found to be much enlarged and very painful. The nature of the dis-

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Federal Laboratory, San Francisco.

[1] Wherry, W. B., and McCoy, G. W.: Jour. Infect. Dis., November, 1909, vi, 5, p. 670.

case was not suspected and the glands were excised. On the fifth day all of the superficial glands became swollen and tender. The sputum was blood-tinged, and the patient was evidently quite ill. On the tenth day a pustular eruption appeared and plague bacilli were found in one of the skin lesions. The patient became septic and died on the sixteenth day of the illness. At the post-mortem, caseo-purulent foci were found in the lungs, liver and kidneys, as well as in the lymph glands.

No case of primary pneumonic or primary septicemic plague attributable to ground squirrel infection has come under observation.

On account of the importance of a diagnosis that cannot be impeached, it is required that all of these cases be verified bacteriologically; a few words may be said, however, about the clinical diagnosis. The onset is usually with fever, headache and pain in the back. Nose bleed often occurs. Several of the cases gave a history of an initial chill. The temperature is usually about 102 F., or 103 F. when the patient is first seen by a physician. A glandular swelling appears, sometimes coincident with the onset of the other symptoms, but usually a day or two later. In eight of the eleven cases, the primary bubo was in the axilla; in three it was in the groin. The gland involved is tender. The outline is lost in an edema that surrounds the parts. Fever and other general symptoms continue from five to eight days, or even longer. In the only cases in which recovery has taken place and the glands had not been excised, suppuration occurred. In the fatal cases, the patient usually dies while the glands are caseous and hemorrhagic and before pus has formed.

It is a pleasure to be able to state that although the disease is rare our recent cases have been recognized as suspicious by attending physicians and by the surgeons who removed the glands.

The bacteriologic diagnosis is made by the examination of a piece of the gland removed at operation, of fluid aspirated from a gland, or of tissue removed at the necropsy. When the smears show a considerable number of pest-like bacilli, a provisional diagnosis is made. The bacillus is isolated by cultural methods and laboratory animals are inoculated. It is the rule that the media inoculated from the bubo show an enormous number of colonies of *Bacillus pestis*, but in one case only six colonies appeared on the three tubes used, showing apparently that bacilli were very scarce. The growth was highly virulent, though the case was a mild one.

An experiment was undertaken for the purpose of ascertaining whether there was any difference in virulence for laboratory animals of the cultures isolated from the mild and from the severe cases of plague in man. Without entering into the details of the experiment I may state that the bacilli derived from mild cases were quite as pathogenic as those obtained from the severe and fatal cases. In other words, the severity of clinical manifestations is due to the varying resistance of the individuals rather than to a difference in the virulence of the organisms causing the disease.

Whenever practicable, the cases are treated with antipest serum, but the majority have come under observation too late to be benefited by it. The other treatment is purely symptomatic.

So much for the subject as regards human plague. I shall now discuss briefly the more important problem, the infection among the ground squirrels. The first proof of plague among the squirrels was obtained in the summer of 1908. Since that time, by an extensive investigation of these animals throughout the state, it has been found that the disease is probably confined to ten counties lying east and south of San Francisco Bay. This work has been carried on by the Public Health and Marine-Hospital Service, the immediate direction being in the hands of Surgeon Rupert Blue. The squirrels are shot and sent to the laboratory where they are dissected and examined.

In the rodents, the disease causes well-marked and readily recognized lesions which vary greatly. The larger percentage of cases are distinctly subacute or chronic, while a smaller number are of the acute type.

The pest bacillus isolated from infected squirrels is, morphologically, culturally and bacteriologically, in every way identical with that isolated from man and from rats. As to its pathogenicity, I may say that the organism appears to be a trifle less virulent than those from other sources; however, no definite statement is to be made on this point.

A very interesting observation is that many of the squirrels from the zone in which plague has prevailed for several years are relatively immune to laboratory infection with *Bacillus pestis*.

During the routine examination of these rodents, we have encountered a disease, the gross lesions of which bear a very strong resemblance to those of plague.[2] It is readily differentiated by bacteriologic methods.

The subject of the transmission of the disease from one squirrel to another, and from these rodents to man, is a very important one, and I regret that we have no conclusive evidence about the mode of infection. We have been able to show experimentally that plague may be carried from squirrel to squirrel by means of fleas. It may also be transmitted by feeding. What evidence we have, largely dependent on the location of the bubo, leads us to suspect that the disease is conveyed in nature by fleas, and possibly by other ecto-parasites. Briefly, this evidence, the importance of which in rat plague has been demonstrated by British workers in India, is as follows: In natural infections in rodents the bubo is found in the region of the peripheral glands, cervical, axillary, inguinal or pelvic. This agrees with the distribution of buboes in squirrels, rats and guinea pigs that have been infected experimentally by fleas, while in rodents infected by feeding, the buboes are always in the neck or in the mesentery. It will be noted that the neck buboes may be acquired in either way, i. e., through fleas or by ingestion.

In one of the cases the patient, a boy, was bitten on the hand by a squirrel, and since the primary bubo occurred in the axilla on the same side, it seems reasonable to suppose that the bite infected the boy. This is rendered probable as many plague squirrels have lung lesions. Most of our cases have occurred during the summer months, which is the season of squirrel hunting. That the mere handling of an infected animal is not very dangerous is shown by the fact that the employees of the service have handled hundreds of plague squirrels without an accident, merely taking precautions against fleas.

The predominance of axillary buboes in human cases would appear to be accounted for by the fact that in handling infected squirrels which may carry parasites, the hands and arms would be more exposed to the attacks of the insects than other parts of the body. We cannot assert positively that parasites carry the disease to man, but it seems to be the most reasonable explanation.

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[2] Pub. Health Bull. 43, U. S. Public Health and Marine-Hospital Service, Washington, D. C., 1911.

The question might be asked why so few cases of plague in man have resulted from the extensive infection among the ground squirrels. The answer is not quite clear, but leaving aside such matters as failure to recognize or to report the disease, it may be stated that the evidence offered by the examination of infected squirrels leads to the belief that a comparatively small percentage of them have the bacilli circulating in their blood in any considerable numbers. Of about 250 infected squirrels of which we have complete records, only about one-fourth could have been regarded as septicemic at the time they were shot.

The chief menace of squirrel plague is, as has been recognized from the first by all of those who have occasion to deal with the subject, the danger of the infection of the rats of the cities, which might lead to more or less extensive outbreaks among human beings. The discussion of this problem is not within the scope of the present paper.

I wish to acknowledge here my indebtedness to the various physicians in the state in whose practices the cases occurred and who furnished me with the clinical data.

ABSTRACT OF DISCUSSION

Dr. Edward F. Wells, Chicago: The paper of Dr. McCoy is a very important one bearing on bubonic plague with special reference to ground squirrel origin. I should like to ask him for what purpose the animal was killed and what becomes of the carcass? Also does each species have special fleas of its own?

Dr. G. W. McCoy, San Francisco: The squirrels examined have all been killed or caught by hunters employed by the Public Health and Marine-Hospital Service for the purpose of securing specimens in order that the extent of the zone of plague infection may be determined accurately. As to the matter of fleas, in a general way we may say that each species has a special flea of its own, and, judging from what we have learned by experimental work on the lower animals, fleas from one species are capable of carrying the infection to other species, in addition to carrying it among the members of the species to which the particular flea properly belongs.

METHOD OF INFECTION IN PNEUMONIC PLAGUE *

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The object of the present investigation in Manchuria was to show, first, whether in cases of pneumonic plague pest bacilli become disseminated into the air by the vapor arising from the breath, as in ordinary or in dyspneic respiration, and second, whether the organisms are disseminated by moderate attacks of coughing of pneumonic plague patients in whom the cough does not result in the expulsion of particles of sputum visible to the naked eye. In the course of the experiments on a number of occasions during coughing, small droplets or larger particles of sputum, visible to the eye, were raised and touched the surface of the media on the plate cultures which were exposed before the plague patient. The study of these culture obviously is not included in this investigation. The cultures were invariably exposed before cases of pneumonic plague with bloody sputum, and in which enormous numbers of plague bacilli had been shown to be present. All of the patients, before whom the plates were exposed died of plague infection within twenty-four to forty-eight hours from the time of the exposure. Twelve series of experiments were performed in which seventy-eight plate cultures were exposed and the microorganisms which developed on them studied.

The experiments were performed in the following manner:

The plates were sterilized in the hot-air sterilizer within a metal plate-holder; they were then removed, the cultures poured in the usual way, and as soon as the medium was sufficiently hard, were replaced within the plate-holder and taken to the bedside of the patient, in the sputum of which plague bacilli had previously been found. All of the attendants were asked to retire from the room in order that as little dust as possible might be present in the air. The condition of the patient before whom the plates were exposed was noted, and during the exposure of the plate, the character of the respirations were particularly observed and notes made of whether coughing or talking occurred. The time of the exposure of the plate and the distance from the patient were also recorded in each instance. The plate was then returned to the holder and placed in the incubator. After twenty-four hours the cultures were examined for the appearance of colonies and their number counted, but the plates were not opened until after forty-eight or seventy-two hours. The colonies were then again counted and carefully studied. Any of the colonies which in any way resembled colonies of the plague bacillus were transplanted to agar slant cultures. The morphology and the staining properties of these organisms were then studied.

In every instance in which the morphology was at all similar to that of the plague bacillus or the organism decolorized by Gram's stain, it was inoculated either into mice or guinea-pigs. In a few cases the colonies were so thick on the plate, or surface growths from air contamination with bacteria were so extensive that the separate organisms could not be isolated and studied. In these instances a suspension of the whole plate was made and a portion of the suspension either rubbed over the scarified abdomen of a guinea-pig or inoculated subcutaneously into a mouse. On several occasions in which it seemed hopeless to determine whether the plague bacillus was present or not on the plate, owing to the extensive contamination of the culture with air organisms, the animal so inoculated died of plague. In a few instances the plates were discarded because of very extensive contamination from air organisms which covered the whole surface of the plate, with a very thick layer of growth. During the colder weather in Mukden the plates exposed before plague patients during ordinary respiration were frequently entirely sterile. The plates were exposed vertically before the mouth and nose of the patient; the time of exposure varied between two and five minutes; generally the shorter period was employed. In the experiments performed in the earlier part of the investigation the plates were held at a distance of from 2 or 3 inches to 3 or 4 feet from the mouth of the patient. Later in the experiments, when it became evident that in cases without cough during exposure, no plague bacilli were encountered at the greater distances, they were exposed at a distance of from 2 to 4 inches in front of the mouth and nose.

We shall not present here, in detail, the results obtained with each plate culture, these will appear when publication of the entire results are made. In thirty-nine instances the plates were exposed before patients who did not cough during the time of exposure, and notwithstanding the fact that many of the patients suffered with marked dyspnea and advanced edema of the lungs, in only a single instance was the plague bacillus encountered in one of these plate cultures,

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

although in a number of the experiments the surface of the media was visibly wet by the vapor arising from the breath.

In this one case the conditions of the experiment were as follows:

> Three plate cultures were all exposed at a distance of about 3 inches, and for two minutes before a patient with marked dyspnea who died two hours afterward. A suspension of the bacterial growth which developed on one of these plates, and which covered almost the entire surface of the plate, was made, and a portion rubbed over the abdomen of a shaved guinea-pig with the side of a scalpel and the skin then freshly scarified. The animal died of plague infection six and a half days later; there were inguinal buboes and miliary nodules in the spleen.

The animals inoculated with the colonies from the other two plates exposed in exactly the same manner did not develop plague infection. The results obtained from this one plate are different from those obtained from the remaining thirty-eight plates. Two possible explanations of the result suggest themselves: (1) that the plague bacilli reached the plate exposed before the patient in the plague ward in some other way than by the expired air; (2) that the plate was infected with plague bacilli by the droplet method through the forced expirations of the patient during the time this one plate was exposed.

The remaining number of plate cultures, thirty-nine, were exposed before patients who coughed during the time of exposure, and in fifteen instances, colonies of plague bacilli developed on the exposed plates. In some cases more than 100 colonies of this organism were obtained on the cultures after a single cough, sometimes in almost pure culture.

Guinea-pigs in which the abdomen had been shaved and extensively scarified just before the time of the experiment, were exposed before three cases of pneumonic plague for a period of two minutes and at a distance of 2 inches from the mouth, the abdomen being placed toward the mouth. The breathing of the patient in all of these experiments was labored, so that the hair of the guinea-pigs waved back and forth in the breeze made by the expired air, but no cough occurred during the time of the exposure. The animals remained alive and did not develop plague infection.

The results of all these experiments are in accord with those of Nägel, Flügge and their pupils whose experiments showed conclusively that by currents of air bacteria are not lifted from moist surfaces, but that in the coughing of tuberculous patients the *Bacillus tuberculosis* might become disseminated into the air suspended in fine droplets (drop infection).

However, these observers concluded that in the case of pulmonary tuberculosis this was not a very practicable or frequent method of infection. In pneumonic plague the conditions are very different, owing to the enormous numbers of plague bacilli which are present in the lungs and bronchi. In our experiments, performed with cases of marked pulmonary edema, the conditions were also different. The opportunities for infection by means of the droplet method must be very great in a pneumonic plague ward.

CONCLUSIONS

1. During normal and dyspneic respiration of primary pneumonic plague patients, plague bacilli are not usually expelled by means of the expired air.

2. During the coughing of such patients, even when sputum visible to the naked eye is not expelled, plague bacilli in large numbers may become widely disseminated into the air surrounding the patient.

3. As to the distance from the patient that the air may be infected by droplets containing plague bacilli, this varies largely with the strength of the cough, the amount of mucus in the throat and larynx at the time, and the currents of air in circulation in the ward.

4. The idea that infection of doctors, nurses, attendants, etc., in plague hospitals is caused entirely by particles of sputum expectorated by the patient and visible to the naked eye, is erroneous. It follows from these experiments that the wearing of masks and the proper covering of any surface of the skin where fresh abrasions are present are important personal prophylactic measures in pneumonic plague. It also follows that the eyes should be protected against this manner of conjunctival infection by proper glasses.

5. Articles of clothing worn in the wards should immediately be sterilized after removal, since, even though no particles of sputum may be visible on them, plague bacilli may be present.

PREVENTIVE MEDICINE SECTION COMMITTEE REPORTS

REPORT OF COMMITTEE ON METHODS FOR THE CONTROL OF PLAGUE *

Your committee begs leave to report as follows: Plague infection exists to-day among the ground squirrels—rural rodents—of California. No infection, in man or rodent, has been found in the centers of population in California since the fall and winter of 1908, and none in the state of Washington since February, 1910, the last human case having occurred in Oakland, July 17, 1908. In the past two years more than 200,000 rats have been collected in San Francisco and Oakland and examined in the laboratory, without yielding a single case of infection. Your committee, therefore, is of the opinion that all traces of the disease have been eradicated from the cities about the bay. Notwithstanding the successful outcome of the anti-plague campaign the Public Health and Marine-Hospital Service intends to enforce prophylactic measures in these centers for a considerable period longer. These operations include building reforms, rat-proof construction, rat extermination ashore and aboard vessels, and such other methods as tend to exclude plague.

Numerous foci of infection have been found in the rural districts, affecting large areas in the central and coast counties of the state. Human cases have occurred in four of the counties covered by the epizootic, and in each case there existed an intimate association with ground squirrels. The epidemiologic observations and the laboratory work of the officers of the Public Health and Marine-Hospital Service show that these animals are the enzootic hosts of plague in America; in other words, they keep *B. pestis* alive until a favorable opportunity arrives for a human outbreak.

Methods for the control of the present situation should include the following measures:

1. The prevention of spread from rural to urban rodents by limiting the chances of contact and interchange of ectoparasites between the two. This suggests (a) the maintenance of squirrel-free zones around the centers of population; (b) prohibiting the marketing or traffic in rodents; (c) general rat destruction in the cities.

2. The prevention of a wider spread among rural rodents and the ultimate invasion of the eastern states by such means as the following: (a) destruction of known enzootic foci in the various counties; (b) general rodent extermination throughout California and the near-by states.

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* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

This work should be continued where now in operation and inaugurated at once throughout the United States, and made a continuous, systematic measure. It should include the adoption of building ordinances, garbage regulations and systematic extermination in all cities but more especially in the sea-ports. There should be instituted without delay, in all cities, a system of collection and examination of rats so that an epizootic could be detected in time to apply preventive measures before the occurrence of human cases.

Your committee desires to commend the action of certain county supervisors in California for the energy displayed and wisdom shown in undertaking general rodent extermination at this time. It is an example that might well be followed by the health boards and other officials of the western states.

Rupert Blue, M.D., Chairman, San Francisco.
Elmer E. Heg, M.D., Seattle, Wash.
William F. Snow, M.D., Sacramento, Cal.

METHODS FOR THE CONTROL OF PLAGUE WITH SPECIAL REFERENCE TO ADMINISTRATIVE DETAILS

ARGUMENT SUPPORTING THE COMMITTEE'S REPORT *

RUPERT BLUE, M.D.
Surgeon Public Health and Marine-Hospital Service
SAN FRANCISCO

It would obviously be impossible in a brief paper to discuss the entire problem of plague control, but the general principles may be illustrated by a review of the measures that proved of value in the San Francisco campaign. A consideration of the methods for combating the further advances of the disease in this country is of special interest and should not be omitted from to-day's program.

There are some special considerations to be borne in mind in regard to this disease. Bubonic plague is primarily, and *par excellence*, a disease of the lower animals, human cases being mere accidents in the progress of an epizootic, and produced in most instances through the bites of infected fleas. There are other channels by which man may receive infection, such as inhalation and ingestion, but with these we are not concerned for the present inquiry into the rôle which animals have played in connection with the spread of plague showing that epidemics among men are invariably dependent on epizootics among animals.

The principal offenders of this zoologic group in California are the families *Sciuridæ* and *Muridæ*. Ground squirrels (*Citellus, Spermophilus*), tree squirrels (*Sciurus*) and marmots (*Arctomys*) compose the former, while of the latter there are numerous genera in this country, such as the domesticated rats (*Mus*) and the wild wood-rats (*Neotoma*) of the western, middle and southern states. A knowledge of the life-history of these animals is essential if the sanitarian would keep abreast of the times in all that pertains to his professional duties.

It can be laid down as a principle that measures directed against persons and things other than rodents will not check an epidemic of *bubonic* plague. In all recent epidemics much valuable time has been devoted to the enforced isolation of infected persons, the inoculation of those exposed to the disease, and the disinfection of infected houses, without adequate returns for the labor expended. These procedures, however, are efficient and can be relied on to stay an outbreak of *pneumonic* plague. Recent experiences in Harbin, Manchuria, show that such measures had an immediate effect in reducing the morbidity and finally in eradicating all traces of the epidemic.

Let it be understood, however, that I do not undervalue the importance of isolation and disinfection in anti-plague work. They should be enforced as auxiliary measures, and because of the fact that a bubonic case may become secondarily pneumonic and highly infectious and contagious.

MEASURES FOR COMBATING PLAGUE IN CENTERS OF POPULATION

The first requisite is a special plague organization having no duties other than those for which it is called into service. This should be placed under the direction of an expert sanitarian who, preferably, should have no local or political affiliations in the infected city.

For the convenience of administration the city should be divided into districts. Each district should have an experienced medical officer at its head, a sufficient number of sanitary inspectors, laborers and all necessary equipment for the expeditious handling of the work. A rapid sanitary survey should be made of each district, taking note of cases of sickness, insanitary conditions, rat mortality and prevalence, and the method of disposal of garbage. Daily reports of this work should be made to the central headquarters.

An indispensable adjunct of such an organization is the bacteriologic laboratory where all diagnoses should be verified, by appropriate means, and to which all rats and pathologic specimens should be sent for examination. A systematic bacteriologic examination of rats collected from all sections of the city should be carried out. Certain entomologic studies, more particularly in reference to the *Siphonaptera*, are also of interest.

Another important consideration—one most necessary in America—is legislation drafted especially to meet the extraordinary conditions existing in a plague-infected community. Epidemic outbreaks are of rare occurrence in this country, and, as a rule, no provision has been made in our laws, either state or municipal, for grave emergencies of this class. It will be necessary at the outset to draft a sanitary law, present it to the municipal council and request immediate action thereon.

If immediate and satisfactory legislation is secured, there is still another serious obstacle to be met, namely, the opposition of the people. This is always present, in some degree, in all commercial centers. If business has been seriously disturbed by the occurrence of panics, the local feeling may assume a very threatening tone. I recall an incident that occurred in the city of New Orleans where, during an epidemic of yellow fever, a physician was arrested and taken before a police justice for fumigating an infected residence.

The foregoing facts are related merely to emphasize the need of legal support and the importance of that other necessary feature of a successful campaign—the education of the public. The platform, press, pulpit and public schools should be utilized to place before the public the dangers of the situation. The story should be told in simple, forceful language in order that it may reach the understanding of all classes of citizens.

In the event that the press is lukewarm or hostile, there is no quicker or more satisfactory way of reaching the masses than through the civic bodies and women's clubs. Without the aid of the Citizen's Health Committee the San Francisco campaign would have dragged miserably at the cost of many valuable lives. No amount of education, however, will do away with the prejudices of some people. This is evidenced by the growing opposition to vaccination. Public education is hard work, and those who attempt it must be content to receive more "kicks than ha' pence." Self-control under the undeserved abuse of a hostile newspaper is, in my opinion, one of the essential qualifications of a good leader.

With such an organization it will be possible to rid a city of plague infection in a short time by the systematic destruction of rats. The most satisfactory method of exterminating them is by the employment of traps and poisons on a large scale. These measures should be supplemented by a simultaneous attack on the rats' food-supply and habitations. All edible refuse, or rat-pabulum, should be collected daily in metal receptacles and burned; the main harboring places should be sought out under wooden floors, in feed stables, granaries and warehouses, and destroyed. If these are made rat-proof, wherever practicable, by concreting the ground areas and side walls, and by screening all apertures near the ground level, rats will be deprived of their breeding-places.

The means above suggested will suffice to keep the rat population of the cities at a safe minimum. In centers where no such precautions are being taken every effort should be made to prevent the introduction of infected rats or squirrels and the parasites from these.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

As to personal prophylaxis, it may be said that haffkinization or immunization has never been tried on a large scale in this country. In view of the brief immunity conferred (six months), and the personal discomfort which at times follows its use, it is not believed that the measure will ever become popular in our western civilization. The advisability of immunization for persons about to enter a plague-stricken city cannot be questioned, and the same applies to persons who are employed in antiplague measures. Yersin and Haffkine vaccines have both been used by us in San Francisco for the latter purpose. Vaccination, however, is not to be recommended as an eradicative measure.

POST-EPIDEMIC MEASURES

Of great importance in this connection is to know exactly when to discontinue the eradicative work. Antiplague operations require enormous financial outlays, and the municipal and state authorities will want to cut down appropriations at the very first indication that the epidemic is under control. What sign or indication, then, should govern our action in this matter?

The disappearance of human plague is not a safe criterion, nor is the failure to find infected rats to be depended on as a safe guide. It is safe to predict that the rat population will return in a short time, and if there is a vestige of the infection left it will light up again when the necessary combination of factors have ben restored.

It can be laid down as a universal standard that a certain amount of the work should be continued almost indefinitely after the last infected rat has been found. As a matter of fact, the enforcement of the building ordinances, and the special garbage regulations, must be made a permanent obligation on the city. These laws make for permanent civic immunity by building the rat out of existence. It will be necessary also to continue the work of rat extermination, on a somewhat smaller scale, by means of traps and poisons. The importance of keeping the rat population down to the minimum at such times, especially in certain threatened districts, cannot be too strongly emphasized.

Of interest in this connection is an examination of the records of the numbers of rats caught by months from September, 1907, to April, 1911, in San Francisco. The maximum catch was reached in the fall and winter of 1907. After that, although more rat catchers were employed, and a greater number of traps set daily, the catch diminished until a fixed monthly rate (index) was established. This indicates clearly if it indicates anything that a rat population can be controlled to a certain extent by appropriate means. Rat-proofing, however, is the most important single measure in the control of plague. The city which demands of its builders the rat-proofing of all buildings with concrete is insuring itself against a disastrous outbreak at some future day.

PLAGUE AS IT AFFECTS RURAL SANITATION IN CALIFORNIA

On the discovery of the existence of plague infection among the ground squirrels (*Citellus beecheyi*) of Contra Costa County, Cal., in the fall of 1908, it was realized at once that a serious feature had been added to the plague situation on the Pacific Coast. The investigations which were made then, and which have been carried to completion in the past two years, have confirmed that opinion. In view of the threatening possibilities, as above outlined, the surgeon-general authorized an ample allotment of the public health fund for the work.

The Pacific states, according to Merriam of the Geological Survey, are overrun with this and allied species of rodents, their ranges being continuous throughout the central and eastern portions of California. All states in which rodents are permitted to thrive unmolested should be regarded as infectible territory. The collection and bacteriologic examination of squirrels received from thirty-six counties showed that the infection was widespread.

It was long held by bacteriologists that the continued prevalence of plague in a locality (endemic) was due to the saprophytic power of the organism (*B. pestis*) which enabled it to live for long periods in soil and other inert material. The work of the Indian Plague Commission (1905), and other observers, directed the attention of the scientific world to a living intermediary (the rat) and this cleared up what had been a mystery for centuries. The finding of epizootic plague among the California ground squirrels accounts for the endemicity of the disease in this country.

Prevention of Spread from Rural to Urban Rodents.—The epizootic at present is limited to the former and should be eradicated before reinfection of the latter takes place. This is to be accomplished by carrying out the following measures:

A. Prevention of communication and the interchange of ectoparasites between the two by the creation and maintenance of rodent-free zones around the centers of population. This has been done at federal expense for the cities of San Francisco, Oakland, Alameda, Berkeley and Richmond.

B. Prohibition of transportation or traffic in rodents from one section to another by the application of state and municipal regulations. The California State Board of Health issued regulations against this practice as early as 1908.

Prevention of a Further Spread Among Rural Rodents.—This measure will afford protection to the adjacent states, Nevada, Oregon, Arizona and the Republic of Mexico which contain extensive infectible areas. Such measures should include the following:

A. Destruction of known enzootic foci. Extensive and valuable work of this character is being carried out under the direction of this Service in the ten infected counties.

B. General rodent destruction. This is to be taken up and carried on systematically and continuously in broad zones around the present infected areas, the idea being to limit the advance by breaking the chain, and to reduce the number of carriers (susceptible animals) so that if infection were introduced no wide-spread dissemination could ensue. It is an enterprise of great magnitude, as to cost and time, and can only be successfully managed by the adoption of a cooperative plan which must have the support of the individual farmers and county officials.

General extermination should be instituted as a systematic and continuous prophylactic measures in all Pacific and Mississippi Valley states. Interstate regulations should be so formulated as to prevent traffic in rodents from one to another except for scientific purposes. If not prohibited, it should be regulated and subjected to inspection under the most rigid precautions.

THE PREVENTION OF SPREAD BEYOND THE SEAS

Plague follows almost exclusively the lines of maritime commerce, and with but few exceptions the incidence of the disease is limited to the coast. The infection is conveyed to the shore, as a rule, by rats from infected ports, and the resulting rat mortality occurs first on the water front. As regards the source of rat supply, other than the natural local increase, it can be definitely stated that many rats come ashore from vessels engaged in the foreign and domestic trades.

Port regulations with regard to rat-guards (funnels) on hawsers and lines, as well as to fenders and gang planks are seldom effective. The funnels are generally too small, and not infrequently they are carelessly placed on mooring lines. It may be inferred from the foregoing that additional precautions should be taken to guard against rat infestations from abroad. This is undoubtedly necessary with regard to vessels coming from infected ports.

So important is this feature in the system of control herein advocated that mention should be made of the classification of ships as laid down by the Paris convention (1903), especially as it relates to the *indemne* vessel. Have events justified the exemption of vessels coming from plague-infected ports from the process of elimination of rats prior to entry? In answer to this question it can be stated that there are many quarantine officers in this country who believe that the *indemne* vessel should not be admitted to free pratique without first undergoing fumigation. The application of this measure is particularly indicated in instances in which vessels have embarked steerage passengers and cargo at an infected port. Exceptions may be made of vessels which have complied with all the quarantine laws and regulations of the United States for foreign ports.

Pandemics can be dealt with only through international regulations as follows:

1. The periodical fumigation of vessels to kill rats.
2. A medical surveillance of outgoing passenger and freight traffic at badly infected ports.
3. The appointment of an international commission to investigate and determine the location and extent of the endemic or enzootic centers, with authority to formulate plans for their eradication.
4. International notification of both epidemic and epizootic prevalence.

ABSTRACT OF DISCUSSION

ON PAPER AND REPORT OF DRS. BLUE, SNOW AND HEG

Dr. George E. Abbott, Pasadena, Cal.: In what I am about to say I do not wish to be considered as being opposed to the extermination of squirrels; on the contrary, I am most decidedly in favor of it. At the same time, however, I fear our present policy is prohibitory of success. I understand that there is an ordinance about to be enforced whereby the owners of land are to be made responsible for any rodents found on their premises. The extermination of even a small percentage of squirrels would, in many places, cost from five to ten times the value of the land per acre. Moreover, in many instances, the government land is the greatest sinner. This measure is manifestly unfair to the farmer. The most that can be asked the farmer is to do the work, while the state or government provides the material. Moreover, it is the towns-people who are crying for protection against the plague and its contagion. Let the cities, state and government furnish the weapons of war and then demand of the farmer the labor of exterminating the rodents, which will, at one and the same time, protect the people and the crops from destruction. My belief is that such measures would not have to be enforced, but would be gladly adopted by all.

Dr. J. W. Kerr, Washington, D. C.: As a colleague of Dr. Blue I am naturally very much interested in his work. It is not my intention, however, to discuss it, but rather to mention briefly some measures that have been taken by the federal government for the prevention of the introduction of plague from abroad.

The Quarantine Act of Feb. 15, 1893, authorizes the President to detail officers of the Public Health and Marine-Hospital Service for duty at infected ports abroad for the purpose of supervising American shipping to prevent the introduction of exotic diseases. It was my privilege, after the beginning of the outbreak of plague in San Francisco in 1900, to be detailed to the port of Hongkong, China. At that time the disease was very prevalent there, and had been prevailing for about five or six years. The problem of the protection of American shipping was, accordingly, a difficult one, particularly on account of the close proximity of Manila to the port of Hongkong. Cognizance had to be taken of the passengers, cargoes and crews of all ships. Every passenger leaving the port of Hongkong (and this is true of other infected ports in the Orient) was required to undergo inspection prior to embarkation. Foreign products, and particularly Chinese food-products, were inspected, not only just prior to loading, but where the food was stored, and also in the localities from which they came. As a result it was found that a very small amount of this kind of food was at all liable to carry plague infection, and probably never had carried it.

The most important means of protection against plague is preventing rats from gaining access to the ships while in harbor. It was the practice to disinfect ships periodically to kill rats; and this, in the case of trans-Pacific ships, was done every third voyage. By this means the rat population aboard ships was kept at a low ebb and greater protection was afforded in that way than any other. Since that time there has been an international agreement, adhered to by a number of foreign countries, as well as our own, for the prevention of the spread of plague, cholera and yellow fever in international commerce.

Dr. Blue referred to the necessity of the periodical disinfection of ships to free them from rodents. This has been brought to the attention of the permanent international committee, which has control of the International Office of Hygiene established at Paris in accordance with the International Sanitary Treaty of 1903. Furthermore, our quarantine regulations require the periodical disinfection of ships to kill rats at least once in six months; that is, any ship that has within a recent time been in an infected port. Dr. Blue referred to indemne ships as being subject to disinfection. An indemne ship is one which, although coming from an infected port, has had neither death nor case aboard, and these ships are practically always disinfected on arrival in our ports to kill rats.

With reference to the methods in a city to eradicate plague, I want to mention one measure that was adopted in Hongkong, the depopulation of infected areas. This was practically the only way that some local outbreaks there could be stopped.

A method of determining the extent of infected areas has been outlined by Dr. Heiser, Director of Health of the Philippine Islands, by which his rat-catchers catch rats along radiating lines toward the known infected center. These rats are examined in the laboratory and the circumference of the infected area is thus outlined. Since the above system was adopted plague has disappeared from Manila, in which city the disease has not prevailed for several years.

Dr. Elmer E. Heg, Seattle, Wash.: The fact that plague has prevailed only on the Pacific Coast in this country has had a tendency to cause our eastern brothers to think that this is a western subject only. If they would stop to think that London and Edinburgh and European ports have been infected, they would realize that we have a problem that should be studied by the eastern men interested in public health as well as by the western men; and it is only when they get an epidemic, or get a case of plague, that they will realize what they are up against. When they first had the plague in California, I was interested, but not materially so. I was interested as our eastern men are now. It was when we got the plague in Seattle that it became a different subject, and I have realized, for the past four years, what it is to have plague in one's own state. The committee, of which I am one, recommended that the extermination of rodents be continued indefinitely. This seems, perhaps, rather a strange, or rather a rigorous, recommendation. The fact is that the next to the last plague rat found in Seattle was found in September, 1908; and although from four or five hundred to a thousand rats daily were examined from that time on, no more plague rats were found until February, 1910, a year and a half after the last previous plague rat was caught. Now, whether this was a hold-over or whether it was a new infection, I cannot tell you. If it was a new infection, it must have come from somewhere else; and other cities are just as apt to get it as we were. We certainly had carefully examined the city for rats; and yet one appeared after an interval of one and one-half years.

The cities should protect themselves by their building ordinances and by a systematic examination of rats. Not only will it help them in controlling plague, but the commercial benefits will pay. The losses to merchants through rats are many times more than the cost of extermination or protection. Since we started in Seattle to exterminate rats we have gotten the different merchants interested and they keep it up right along, in conjunction with the city. It pays them to do it. And when you can appeal to a merchant and show him that his loss in merchandise is greater through the rat than the cost of keeping them out he becomes a sanitary agent; but you have got to show him that there is money in it.

One of the speakers mentioned the fact that the farmers would eradicate squirrels for the loss of crops but not to protect the cities. That illustrates the exact point. Only those who are interested in public health are willing to do anything unless there is a dollar in it; but the eradication of rats, and of ground-squirrels also, is certainly a commercial proposition, just as well as a sanitary proposition.

Dr. N. K. Foster, Oakland, Cal.: For a good many years Dr. Blue has stood by California and fought that disease pretty nearly to a finish; and we fully appreciate him in that part of the state. If our editors, and some of our public men, had been educated in the ordinary principles of truth, we would not have had the trouble in California that we did. In the first place, educate the people—and the children, beginning at the bottom—so that they will understand that plague is simply a disease that can be handled just as well as any other; that there is no especial danger in it if we handle it scientifically; teach them to meet the fact, and if plague breaks out that we are going to eradicate it, and that they have got to help to do it; but teach the children in the primary grades, in the grammar grades, and in the high-school grades, and up into the universities, just what it is and how to handle it. In California we are adopting at the present time a new book on physiology, hygiene and sanitation, and we are trying to get, and I think will get, a chapter on plague in that book. I would really advise, in conjunction with Dr. Heg, that you eastern men and women take up this question and study it carefully; for you cannot tell how quickly it will come to your doors. I have believed ever since it broke out here, that some time you will have it. I hope you will not, for, as Dr. Heg says, it is a very different thing when you get it at your own door and have to fight it, from when it is away off in California or Washington. The next thing that I would emphasize is to have every one rat-proof his own building. It can be cheaply done. Simply have the basement of your house of other building spread with concrete so that the rat cannot get through. If he gets into your house, let it be through the same opening that you go and you will be practically safe.

REPORT OF COMMITTEE ON METHODS FOR THE CONTROL OF EPIDEMIC POLIOMYELITIS *

Within the last two years the attention of the medical profession has been strongly directed to the prevention of poliomyelitis, first, because of its increasing prevalence in epidemic form and the serious nature of its after-effects; and, secondly, because it has been shown to be an infectious disease due to a filterable virus, probably a specific microorganism, from which the inference has been very naturally drawn that it is necessarily preventable.

As regards its prevalence, there can be no doubt that it has very greatly increased in recent years, especially in the United States. During the year 1909 not less than 2,500 cases were reported as occurring in epidemics in the United States. During that year 539 deaths, indicating probably not less than 5,000 cases, were reported from the registration area comprising 55 per cent. of the population of the United States.

For the year 1910, 5,093 cases and 825 deaths have been reported to the Surgeon-General of the Public Health and Marine-Hospital Service from thirty-one states, the District of Columbia and Hawaii. It can hardly be doubted that these statistics give a very imperfect and much too low estimate of the prevalence of the disease. Granting, however, a prevalence several times as great as reported, a mortality of 5 to 20 per cent., and permanent disability in perhaps 75 per cent. of the survivors, still the magnitude of the public health problem involved has undoubtedly been greatly exaggerated. Compared with the ravages of tuberculosis, pneumonia, typhoid fever, infantile diarrhea, scarlet fever, diphtheria, measles, whooping-cough, and even of such a comparatively rare disease as cerebrospinal fever, the havoc wrought by poliomyelitis on the country at large, while not negligible, is yet very small.

As regards its preventability also there has seemingly been some hasty and unwarranted optimism. Inferences drawn from laboratory studies of experimental poliomyelitis have been applied to the disease as occurring in nature with too little consideration of the vast differences between laboratory and natural conditions. While laboratory experiments have, it is true, furnished indications not only that poliomyelitis is preventable, but also to some extent of the methods by which its prevention may be accomplished, the final proof of preventability, namely, demonstrable control of the disease, is still lacking.

In the absence of data as to the actual efficacy of preventive measures, the present report must necessarily be drawn up on theoretical grounds, from data which are, in some essential respects, deficient. The facts needed for the deduction of effective preventive measures for an infectious disease include the following or a close approximation to them:

1. A knowledge of the specific causative agent—its habitat, the conditions necessary for its life and propagation, and the agencies by which it may be destroyed.

2. A knowledge of the means by which the causative agent may be and most commonly is transmitted from its habitat to healthy persons, and the avenue by which it gains entrance to the human body.

3. A knowledge of the conditions which constitute susceptibility to infection by the agent when it has been introduced into the body.

The knowledge of these facts may be effectually applied to the prevention of the disease, provided that the causative agent can be controlled or destroyed in some part of its life history, or that immunity to the infection can be established by measures of practical application.

As a preliminary to the presentation of any recommendations regarding methods for the control of poliomyelitis, it seems necessary to summarize as briefly as possible the essential facts known concerning its etiology and dissemination.

I. EXPERIMENTAL STUDIES

1. The Specific Causative Agent or Virus.—The successful transmission of poliomyelitis from man to monkeys, and from monkey to monkey, has demonstrated that the disease is due to a specific virus which passes readily through a bacteria-proof filter. Several observers have reported the demonstration of minute bodies in the filtrate from emulsions of the cord of infected monkeys. Much larger bodies have been found by the Pennsylvania health authorities in the blood of infected persons and monkeys. It has not, however, been established that the bodies demonstrated either in the blood or in the filtrates are the causative organisms.

Although the virus has probably been cultivated on artificial media, such cultures offer no practical aid to its isolation or identification. Its recognition, therefore, depends solely on the characteristic effects produced in animals.

2. Habitat of the Virus.—The virus of poliomyelitis has been shown to be present in the following locations:

A. In man: In the spinal cord and bulb (and possibly in the spleen, blood and cerebrospinal fluid) of persons who have died during the acute stage of the infection.

B. In lower animals: In monkeys experimentally infected the virus has been found in the brain, spinal cord; mesenteric, axillary and salivary glands, and in the nasal and pharyngeal mucous membrane. It has been found in the blood and cerebrospinal fluid only in the early stages of infection, and apparently in great dilution. In the nasopharyngeal mucous membrane it has been found to persist for as long as five months after the acute stage of the infection.

Several observers claim to have reproduced the disease in rabbits by inoculation with human virus and to have propagated the infection thence to other rabbits and to monkeys. Some doubt, however, remains concerning the transmission of poliomyelitis to rabbits. The majority of observers have found them insusceptible, and those who have reported success in transmitting the disease have failed to find characteristic histologic lesions. With the exception of these somewhat doubtful demonstrations in rabbits, the virus has not been found in lower animals other than experimentally infected monkeys. Inoculations of other varieties of laboratory and domestic animals have given only negative results. None of these animals (guinea-pigs, rats, mice, dogs, cats, sheep, goats, hogs, horses, chickens and pigeons) has so far been found susceptible to the disease. Also, pathologic and experimental studies on mammals and fowls suffering from paralysis similar to human poliomyelitis have failed to establish any etiologic relation between such diseases and poliomyelitis.

C. Outside the animal body: The virus has never been found outside the animal body. Its demonstration in the nasopharyngeal mucous membrane and salivary glands of experimentally infected monkeys has led to the inference that the nasal and buccal secretions contain the virus. However, experiments made to demonstrate the infectiveness of these secretions, as well as of the urine and feces of infected persons and monkeys, have been uniformly unsuccessful.

3. Viability of the Virus.—Studies on viability have been necessarily confined to animal tissues containing the virus. Under these conditions the virus has been found easily destroyed by heat (45 to 50 C.) and by comparatively weak disinfectants. It has been found resistant to low temperatures, desiccation and the action of glycerin.

4. Vehicles of Transmission and Avenues of Infection.—Since the virus has been found only in the tissues of naturally infected persons and experimentally infected animals (of a species which cannot be considered of importance in its natural transmission), the carriers of the infection outside the human body can only be inferred from the biology of the virus and the epidemiology of the disease. Laboratory studies so far indicate (although they do not prove) that the virus has no natural animal host except man, and that its viability outside the human body is short. To that extent they indicate direct transmission from person to person.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Possible avenues of infection experimentally demonstrated are numerous. Monkeys may be infected by inoculation into the brain, cerebrospinal canal, peripheral nerves, vascular system, peritoneal cavity, anterior chamber of the eye, or subcutaneous tissue. They have been infected through the digestive tract by introducing massive doses of the virus into the stomach or intestines, peristalsis being retarded by the administration of opium. Through the respiratory tract infection has been caused by rubbing the virus into the scarified nasal mucous membrane, and in one instance through the intact nasopharyngeal mucosa.

5. Susceptibility.—Laboratory experiments have thrown practically no light on the conditions determining natural susceptibility or immunity to the infection. Monkeys are almost uniformly susceptible to artificial infection by inoculation. They have not, however, been known to contract the disease spontaneously, although in several laboratories considerable numbers of them have been kept in contact with artificially infected monkeys. Acquired immunity, both active and passive, has been shown; but no practical means of immunizing persons has been developed. The susceptibility of monkeys may be diminished by the administration of hexamethylenamin, and it is reasonable to infer that this may apply also to human beings.

II. EPIDEMIOLOGIC STUDIES

Satisfactory epidemiologic data from which to draw inferences as to the transmission of poliomyelitis are scant. Such data are lacking, both in extensiveness, failing to give an accurate idea of the prevalence and distribution of endemic and epidemic cases, and also in accuracy of detail, failing to give full enough information concerning the cases studied.

The following important facts are, however, pretty well established:

1. Geographic Distribution.—Epidemics have occurred over a very wide, not definitely limited area, including all sections of the United States, various parts of Canada and the West Indies, most if not all the European countries, Australia and Micronesia. Sporadic cases are of even wider distribution.

The distribution of epidemic areas is quite peculiar, showing no constant definite relation to previous epidemic foci, to density of population or to the amount of communication by travel. In general, it is true that densely populated cities suffer relatively less than rural districts. Epidemics have sometimes appeared to be confined to certain water-courses, and investigations in Pennsylvania seem to show a greater prevalence of the disease over old formations, poorly drained, than over gravel formations, but no constant relation has been shown to exist between topographic or telluric conditions and the occurrence of epidemics.

2. Seasonal Prevalence.—In the northern hemisphere the disease is markedly more prevalent during the summer and fall months; in the southern hemisphere during the winter and spring. In general, hot, dry weather seems to be one of the conditions most favorable for its spread.

3. Incidence of Disease Among Population.—The total attack-rate in the population of any considerable area is always small. It is seldom that more than one to ten per thousand are attacked, and even this latter rate is not often reached in a population of more than a few thousand. The greatest incidence, both actual and relative, is in the first decade of life, usually from the second to the fifth year. The proportion of adults to children attacked varies greatly, however, in different epidemics. More males than females are attacked. Such statistics as are available indicate that during the first decade of life males and females are attacked at approximately the same rate, but that in later life males are attacked much more frequently.

4. Origin and Means of Dissemination of Epidemics.—None of the epidemiologic investigations undertaken can be said to have shown the origin and means of dissemination of epidemics. Practically all observers have failed to find any relation between the spread of the disease and certain factors commonly operative in the dissemination of many infectious diseases, namely, food and water-supplies, crowding and insanitary environment.

Regarding other factors, findings have been various and opinions divergent.

A. Contagiousness.—Direct Transmission from Person to Person: The most comprehensive and in many respects most reliable information on this point is derived from a study of the attack-rate in persons known to have been in intimate contact with recognized acute cases. A study of multiple cases in families, institutions and schools shows that only a small proportion of persons known to have been in such contact have subsequently developed the disease. Therefore, if we limit recognized cases to persons with actual paralysis, it must be admitted that the disease is usually very slightly contagious as compared with scarlet fever, measles, diphtheria or typhoid fever.

On the other hand, studies of small outbreaks have not infrequently shown indications of direct transmission, and occasionally an apparently high degree of contagion. This is especially true in instances in which abortive cases have been included in the epidemiologic studies. Studies of this kind are, however, too few to furnish a basis for general conclusions and to eliminate the error introduced by personal bias in the inclusion of abortive cases.

For the present it may be concluded that few clinically recognized cases can be traced to contact with previous clinically recognized cases. If the disease is transmitted by direct contact, paralytic cases must be a small factor in its dissemination.

Factors of possibly greater importance are:

1. Abortive and Clinically Unrecognized Cases: The existence of such cases, often so mild as to be ambulant, has been inferred on clinical evidence and confirmed by the demonstration of apparently specific microbicidal properties in the blood-serum of a number of suspected cases.

2. Carriers: The experiments of Osgood and Lucas, and of Flexner and Clark, demonstrating that the virus may persist in the nasal mucous membrane of artificially infected monkeys for several weeks—in one instance as long as five months—indicate the probable existence of human chronic (convalescent) carriers. The existence of healthy carriers—persons in whose bodies the virus multiplies without causing infection—can only be surmised at present. Numerous cases are cited in which infection has apparently been conveyed by a healthy intermediate person. The epidemiology of cerebrospinal meningitis has been interpreted as offering an analogy to this method of transmission, furnishing an example of a disease spread by healthy carriers, whose number has in many instances appeared to be greater than the number of persons actually suffering from the disease.

The presumption of healthy carriers, namely, persons harboring the germs but not suffering from the infection, carries with it as a necessary corollary individual variations in susceptibility. The existence of abortive cases, while not proving this assumption, tends to confirm it. The uneven distribution of the disease in different age groups and between males and females, and also its seasonal distribution, suggest variations in susceptibility as their explanation. To offer variations in susceptibility as an explanation of the irregular incidence of the disease is, however, begging the question unless some satisfactory demonstration of such variations can be offered at the same time. It is reasoning in a circle to advance a variable factor of susceptibility in explanation of the irregular incidence of a disease and then to advance the irregular incidence as a proof of variable susceptibility. Satisfactory proof that susceptibility to poliomyelitis varies to any considerable extent is lacking. While, therefore, it is reasonable to suppose that the element of individual susceptibility is a factor in the epidemiology of this disease, its importance is as yet undetermined.

The digestive tract as the avenue of infection is suggested by several facts, namely, the seasonal prevalence, the greater incidence in childhood and the early and almost constant occurrence of gastro-intestinal symptoms in the acute stage.

On the theory of poliomyelitis being directly transmissible from person to person, it is difficult to offer a satisfactory explanation of its uneven distribution in relation to density of population and travel.

B. Theories explaining the dissemination of poliomyelitis by agencies other than direct transmission from person to person are worthy of careful consideration. Of these theories, the one which appears to the committee to have the best basis of fact assumes that the disease is transmitted from lower animals to man. This theory is supported by the occurrence among domestic animals (horses, dogs, cats, sheep, hogs, cattle and poultry) of paralytic diseases clinically resembling acute anterior poliomyelitis. Experimental studies have so far failed to show that such diseases are in any way etiologically allied to the human disease and have, on the other hand, shown that these animals are insusceptible to inoculation with the virus derived from human cases.

The distribution of paralytic diseases in animals in relation to human poliomyelitis has not been determined with all desirable accuracy, and it is therefore impossible to state at present how closely it corresponds to the distribution of human poliomyelitis.

It has been suggested that the disease is conveyed from horses to man by dust from barnyards and streets. The evidence in favor of this theory is as follows:

1. The greater frequency of the disease in the country and in small villages than in more densely populated cities where, as a rule, streets are better paved and less dusty.

2. Its greatest prevalence during the season when dust is generally most prevalent.

3. Its greatest prevalence among children at the age when they commonly play in the dust, and its greater prevalence among adult males, who are relatively more out of doors than in females who are more intimately exposed to contact with the sick.

4. The distribution of cases in several towns on the more dusty streets; and the cessation of several epidemics after sprinkling the streets.

The probability of some insect being a factor in the transmission of poliomyelitis has been suggested by several epidemiologic observations, namely:

1. A seasonal prevalence corresponding to the maximum prevalence and activity of many varieties of insects.

2. The irregular distribution of epidemics. Outbreaks have occurred simultaneously or consecutively in localities separated by wide, often densely populated and much-traveled areas in which the disease has not been epidemic.

3. The relatively greater prevalence of the disease in rural communities and in small towns than in large densely populated cities, where the opportunities for the spread of diseases transmissible directly from person to person are generally greater.

4. The absence, in epidemic areas, of any constant and obvious relation between cases in regard to proximity, intercommunication or exposure to readily discernible common sources of infection.

Such peculiarities in the epidemiology of poliomyelitis have been thought by some to be most readily explained by the assumption that some insect, showing corresponding peculiarities in its distribution and activities is a necessary factor in the spread of the disease. Dr. Conn of the Connecticut State Board of Health has recently suggested the flea as a probable carrier of the infection. It is doubtful, however, whether all the facts known concerning the biology of the flea are in accord with this hypothesis.

III. RECOMMENDATIONS

The committee recommends, as the most important step toward the prevention of poliomyelitis, further studies of its means of transmission and of the factors of immunity.

While it is hoped that experimental studies on the transmission of the disease will be continued and will be as productive of results in the future as in the past, neither recommendations nor prophecies in this regard come within the scope of this report.

The collection of data which it is believed will greatly enlighten the question, and the collection of which is quite practicable, is recommended as follows:

1. Prevalence.—It is obviously of the greatest epidemiologic importance to determine as accurately as possible the prevalence and distribution of the disease. This can be accomplished most efficiently and thoroughly through state and municipal health organizations, by requiring that poliomyelitis be reported as an infectious disease. In the absence of any definite diagnostic criterion except paralysis, reports could, for the present, be required of paralytic cases only. It is desirable, moreover, that morbidity and mortality statistics should, for the present, be based on definitely diagnosed paralytic cases. Abortive cases should be included wherever practicable in the statistics of the disease, but should be designated as such and tabulated separately.

2. Diagnosis.—Further and more detailed studies of the symptomatology and of the blood and cerebrospinal fluid of patients in the preparalytic stage and of suspected abortive cases are needed to establish a more definite standard of diagnosis. For collective studies of this kind local medical societies have opportunities which are rarely available to public health organizations.

3. Epidemiology.—In connection with the collection of morbidity reports, state and municipal health authorities can, by obtaining more detailed reports, collect data of considerable epidemiologic importance. Valuable studies based on data so collected have already been made by several state and city health organizations and by medical societies. The value of the data so collected would be much increased by greater uniformity in the methods of collecting them. The employment of a uniform blank for this purpose is recommended.

It is necessary, however, for a better understanding of the transmission of the disease, that such studies be supplemented by more detailed information, based on a systematic epidemiologic study of individual cases by competent epidemiologists. Studies of this nature have already been undertaken in several states and have resulted in the collection of the most thorough, instructive and satisfactory data so far available.

The objects of an intensive study should be to determine as accurately as possible:

1. Clinical types with special reference to early diagnosis with the aid of laboratory methods.

2. The actual prevalence of the disease in each community studied. This would necessitate an investigation not only of definite paralytic cases, but also of suspected abortive cases.

3. The distribution of cases and their relation to each other and to possible common causes. Among the etiologic factors other than direct contact which deserve especial study are: the prevalence of paralytic diseases among animals; meteorologic conditions, especially the prevalence of dust; immediate environmental conditions with special reference to crowding, sewage disposal and the presence of insects; food and water-supplies; the prevalence of other diseases.

Pending the results of further investigations, the committee recommends the following preventive measures based on the assumption that the disease is directly transmissible from person to person.

1. Isolation and screening of all patients known to have or suspected of having the disease. Since a positive diagnosis can be made only on the appearance of paralysis, which usually develops one to six days after the onset of febrile symptoms, and in abortive cases does not appear at all, isolation, to offer any hope of effectiveness, must be instituted on suspicion. Three weeks from onset is suggested as the period of isolation, although only a surmise can be made on this point.[1]

2. Disinfection of all discharges from patients, and of all articles used by them and their attendants.

3. Fumigation of the premises with formaldehyd on release from isolation.[2]

4. A quarantine of persons in contact with patients does not seem at present justifiable. It is recommended, however, that members of patients' families be excluded from schools during the period of the patients' isolation and during the possible incubation period of a new case; that is, for three weeks following the end of the last exposure to the (presumptively) contagious person.

5. For the protection of persons presumably exposed to infection, namely, those in contact with the sick and in communities where the disease is epidemic, the daily administration of hexamethylenamin seems to offer some hope of reducing susceptibility. It seems not unreasonable to suppose that susceptibility, especially of young children, may perhaps be further modified by preserving the gastro-intestinal tract in normal condition, by avoiding dietetic errors, by prompt attention to slight gastro-intestinal disturbances and by the avoidance of overexertion in hot weather. Rest, which seems to be an important therapeutic measure, may quite possibly have some prophylactic value.

The committee is unable to express any great confidence in the efficacy of the measures above outlined. Even granting that the disease is transmitted directly from person to person by infectious secretions, the difficulties in the way of its prevention are great.

It is often impossible to recognize even severe paralytic cases before the onset of paralysis, which may be several days after the onset of the disease. It is still more often impossible to recognize and isolate abortive cases, whose number may reasonably be supposed to be considerable. Chronic convalescent carriers, whose existence is probable, and healthy carriers, whose existence is not improbable, are not recognizable and hence cannot be controlled.

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[1] In the opinion of one member of the committee (H. W. H.) a period of two weeks is sufficient to meet the situation as we understand it.

[2] In the opinion of one member of the committee (H. W. H.) terminal fumigation is unnecessary. In the present status of our knowledge concurrent disinfection, i. e., disinfection of the discharges of the nose and mouth, should be rigidly carried out.

Moreover, the disease is already wide-spread throughout the country, and experience with other infections diseases has shown the difficulties which beset the eradication of a wide-spread endemic infections disease by quarantine alone. Finally, it will be difficult to estimate the efficacy of preventive measures, since it is impossible to foretell the extent to which the disease is likely to spread in any community without the application of restrictive measures.

If, however, the above measures actually prevent even a small proportion of cases they are justified.

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REPORT OF COMMITTEE ON CONTROL OF CONTAGION THROUGH PHYSICIANS AND NURSES *

The subject, "Control of Contagion Through Doctors and Nurses," might imply that these are the only agencies for combating contagious disease, which is not quite true, though health boards must primarily depend on these agencies for preventive work. Through their efforts and teaching many other agencies, such as clubs, church organizations, social centers, fraternal bodies, principals and teachers in schools, and parents, are made to cooperate in preventing the spread of contagion. Doctors and nurses, however, are the only agencies employed legally and under control of municipal authority.

To control contagion we must first know where contagion exists. It follows that there must be authority to compel physicians, parents and guardians to report to boards of health, all cases of contagious disease when found. This should include suspected cases of contagious diseases—these to be dealt with differently from actual cases as explained further on.

City ordinances should be comprehensive and yet explicit enough to make their enforcement easy. Loosely drawn ordinances invite legal resistance. In the absence of city ordinances, state health laws can be invoked. In the absence of ordinances or state health laws we can proceed under the general police power. Under police powers a board of health can take such measures as are necessary to protect the public health against epidemic diseases and such action will be sustained by public opinion and the courts.

In order to secure reports of contagious diseases, postal cards, on which is indicated the information desired by the department of health, should be furnished free to physicians (Form 1). The acute contagious diseases—small-pox, diphtheria, scarlet fever, measles and whooping-cough—should be reported by telephone and by postal card. Telephoning the report makes it possible to take action twenty-four hours earlier than if the case were reported by mail. The postal card, with the physician's signature, following the telephone report, is necessary for the record of the case.

Other reportable diseases may be reported by card only.

When a case of contagious disease is reported, an acknowledgment of receipt of the report should be sent to the person making the report, on one half of a double postal card (Form 2), the other half of the postal card to be torn off and returned to the department of health when the case is ready for termination.

The name and address of the reported patient are telephoned to the medical health officer in whose territory the case is found. He visits the patient and establishes quarantine. If no adequate quarantine can be established and maintained, the patient should be sent to a hospital for contagious diseases.

In cases of diphtheria, if the attending physician has not taken a culture from the throat, the health officer should take one. If the case proves to be bacteriologically and clinically not diphtheria, the attending physician receives notice from the department of health of the laboratory findings (Form 3), and a postal card enclosed on which he expresses his wish as to the early termination of the case (Postal Card Form 4). The health officer gives immunizing doses of antitoxin to other members of the family if the attending physician has not done so; gives oral instructions to the family and printed instructions as to the management of the case (Circular 1) to prevent the spread of contagion. A printed card of instructions is hung on the door of the patient's room (Circular Card Form 2). The medical health officer endeavors to place the patient in a room apart from other members of the household with a view of preventing other inmates of the house from contracting the disease. A warning card (Placard Form 1) should be placed on the front door, and a milkman's warning card on which are printed instructions to be followed by the milkman (Placard Form 2) is placed on the rear door. The medical health officer fills out a blank quarantine card (Form 5), giving information and instructions as to the quarantine requirements to the quarantine officer who follows him. This card is placed under the right upper corner of the front door warning card and a tack is driven through both. The medical health officer fills out and mails a postal card (Form 8), notifying school principal, Sunday-school superintendent and factories in the neighborhood, giving the location of the case. He then fills out his report blank (Form 9), giving detailed information as to the conditions and requirements of quarantine in the case and mails it to the department of health.

The following day a quarantine officer calls and secures the instruction card which was placed under the front door warning card by the medical health officer. This card informs him what the quarantine requirements are in the case. This officer visits the house daily, or as often as necessary, to see that the inmates are obeying the rules of quarantine. At each visit he fills out and sends to the department of health a report (Form 10). When the patient is well, the attending physician sends to the department his termination card (Postal Card Form 2). The medical health officer is then sent to take cultures from the throat and nose of the patient, and if found positive he waits three days and returns for another culture, and so continues until a culture shows negative, in which case he returns the following day and takes another culture and at the same time takes cultures from the throats of all contacts. If they all prove negative, he fills out blank (Form 11), stating that the premises are ready for disinfection, and mails it to the department. A disinfector is then sent who disinfects and removes the warning placard. The disinfector, after disinfecting the premises, fills out and mails postal card (Form 12) to school, Sunday-school and factories which were previously notified of the case, stating that restrictions placed on the family have been removed.

If a positive culture is found in a diphtheria contact, the quarantine is continued until a negative is obtained. One negative culture is required from contacts and two negative cultures made on two consecutive days are required from the patient.

Scarlet fever is quarantined in the same manner as diphtheria, except that no cultures are taken unless mixed infection is suspected. Quarantine is more prolonged in scarlet fever than in diphtheria. Four to six weeks, and in some cases longer, should be the quarantine period in scarlet fever. The instruction card (Form 13) and circular of information for scarlet fever are similar to that for diphtheria, only differing in some details to meet the requirements of this disease.

Measles cases are placarded and children in the house are kept from school and from visiting other children. No visitors are allowed in the house. The adults, if they have had measles, are allowed to go about their necessary work but are not allowed to go to church or other public gatherings. The period of quarantine should be three weeks or more. A circular of information on measles is given the family (Circular Form 4).

A warning card is posted for whooping-cough. The same rules of quarantine apply in cases of whooping-cough as in measles except the period of quarantine is eight weeks, or until the spasmodic stage has passed.

All cases of chicken-pox should be visited by a diagnostician unless the doctor reporting the case says that the subject has a successful vaccination. No warning card is posted for chicken-pox, but the patient is kept in for two weeks.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Mumps is important only because it may get started and break up a school. Patients and those exposed should be excluded from school for three weeks. No warning card is posted.

When typhoid fever is reported to the department of health, a medical health officer visits the home from which the case is reported to learn, if possible, the source of the infection, and to instruct the attendants how to destroy typhoid contagion and prevent communicating the disease to others. He inquires into the water, milk and other food-supplies and learns if the patient has been away from home just preceding the attack, and other information required to fill out the report. He fills out report blank 14 and mails it to the department of health. A milkman's warning card (Placard Form 2), previously mentioned, is placed on the rear door and a circular of information on typhoid is given to the family and verbally explained (Circular Form 5). If screening against flies and proper treatment of discharges from patient are not practiced, the patient is ordered to a hospital. At the termination of the case, disinfection with chlorid of lime and formaldehyd is performed when conditions are such as to require it.

In the event of the milk-supply being suspected, a dairy inspector is sent to the farms in the country from which the milkman receives his supply, to look for possible sources of infection. If the source is located on any farm, shipment of milk from that place to the city is prohibited.

When a suspected case of contagious disease is reported, no warning card is posted until a diagnosis is made. The physician reporting has the family take all precautions and makes a second report as soon as the diagnosis is made.

The work in the schools done by the physician and nurse is conducted as follows:

At the beginning of the school term, the school doctor and nurse visit the school and make a rapid inspection to determine if any are seeking admission who show evidence of a contagious disease. This preliminary inspection is conducted in the following manner:

The doctor and nurse visit each schoolroom, stand with their backs to the window and have the pupils file past, exposing to view palms of hands and wrists. With the finger, the pupil pulls down the eyelid, exposing the conjunctiva, opens the mouth and puts out the tongue. Skin diseases, eye diseases and convalescent cases of scarlet fever can in this manner be detected. This preliminary examination is completed in a day or two and the school term is under way with the pupils found to have contagion about them excluded. They are excluded if on inquiry they are found to be coming from a house where a contagious disease exists. From that time on the school physician and nurse visit the school daily. The nurse makes routine daily inspections for evidence of contagious and parasitic diseases and refers all suspicious cases to the school physician for examination.

All pupils absent from school for three or more consecutive days and all suspicious cases found by principal, teachers and nurse are sent to a room to await examination by the school physician before they are allowed to go to their class rooms.

If a case of diphtheria is found in school or if such case was in a class room and is found to have diphtheria the school physician takes cultures from the throats of all pupils in the class of which the sick pupil was a member. If a positive culture is found in any pupil, he is sent home and quarantined as a carrier of diphtheria germs, though there may be no evidence of sickness. A special quarantine placard is used (Placard Form 3) and a circular of information (Circular Form 3) is handed the family.

In Chicago, nine carriers of diphtheria were found in one class room, eleven in another, thirteen in a third, and the highest number found and quarantined was twenty-three in a class of twenty-seven.

In every instance in which an outbreak of diphtheria was found among the school pupils this practice of quarantining the carriers promptly and completely eliminated diphtheria from the school. There was very little opposition to this quarantine. We encountered the most opposition from physicians. With the department circular in their hands the parents of the child generally complied with the requirements of quarantine with little complaint. Complaints against the quarantine were usually the result of the information furnished by the physician called in by the parents. Physicians quite frequently protested against quarantining carriers. The opposition by physicians against this practice has continually grown less and now is quite infrequent.

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REPORT OF COMMITTEE ON METHODS OF CONTROL OF SMALL-POX *

I. CONTROL OF SMALL-POX IN A CITY WITH A MILLION INHABITANTS

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The one agency, vaccination, is sufficient to absolutely prevent small-pox in cities large or small if this remedy is universally and intelligently applied. But there are always those in a community who oppose anything which was not created by themselves. I have never known an antivaccinationist who has had any experience with small-pox. One case in the family of an antivaccinationist has always cured him of his antivaccination views.

A small-pox hospital is a reflection on the intelligence of some of the citizens of a city. The burden of supporting such a hospital should fall on those who oppose vaccination. It is a needless expense and those who are careful to keep themselves immune from small-pox by vaccination should not be taxed to support hospitals for the care of a disease which is absolutely preventable by a universally known simple remedy.

The same methods for preventing small-pox in large cities are applicable to small cities, but large cities present difficulties not met with in small cities. The constant influx of cases from the surrounding country menaces the large city to a greater extent than the small city. The areas of congested population, the numerous centers of foreign-speaking population in large cities who mistrust our ways makes it more difficult to control disease among them than is the case where but few such people are found. In large cities there is more opportunity for concealing cases of small-pox. There is less respect for law and the rights of others in the large city. One of the greatest obstacles in a large city is the fact that the per capita tax for contagious diseases is lower than in smaller cities. A small town will spend one to five dollars per capita in a few months to suppress an epidemic of a contagious disease, while a large city like Chicago would never think of spending even fifty cents per capita to keep contagious diseases out of the city. By expending large sums of money, a small city can secure vaccination of nearly all and get small-pox under control in a few months, even after the disease has been introduced, but it takes a large sum of money to do it.

In a large city, if vaccination is neglected until small-pox is introduced at numerous points, the chances of preventing an epidemic becomes small. When an epidemic is well started in a large city full of susceptibles no effort that is likely to be put forth will eradicate the disease in less than two years. If everybody were vaccinated the disease would cease at once. This seems a simple matter, but in a city of two million, if we were to set one million the task of vaccinating the other million, the task would not be completed in a year. To vaccinate and keep vaccinated a large population requires persistent and aggressive work all the time.

The decisions of the courts that say vaccination can be enforced only in the presence of an epidemic, is not based on the true nature of epidemics of small-pox in relation to vaccination. The requirements are that a community must be made and kept immune if epidemics of small-pox are to be avoided. It is too late to prevent disaster if we wait until

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

small-pox is present. The community must be kept immune from this disease and there is no way to bring about this result except by compulsory vaccination. To wait until small-pox is present before enforcing vaccination is as foolish as it would be to wait until a building is on fire before enforcing the building ordinance which requires fire-proofing. In the meantime, when small-pox comes every case must be hospitalized and wholesale vaccinations begun.

The following directions to medical health officers in a large city have proved successful:

When notified of a suspected case of small-pox, the medical health officer goes to the case forthwith. An hour's delay may result in many needless exposures.

The following suggestions as to conduct in the presence of small-pox are observed so far as the circumstances of the case will permit with safety, the health officer being required to supply any deficiency in instructions which the individual case may demand for public safety:

When entering a house in which there is a suspected case of contagious or infectious disease, do not remove your hat or overcoat; keep the overcoat buttoned.

Do not shake hands with any one in the house. Do not sit down or touch anything in the house, and especially avoid touching the patient or bed-clothing. To expose the patient for examination, call on the patient or some one present to remove the patient's clothing for you. When leaving the house, have some one open the door so as to avoid touching an infected doorknob.

Except to vaccinate the inmates of the house, it is not necessary to touch anything about the premises, excepting the floor, with the soles of your shoes.

If these precautions are observed there is no danger of carrying the disease to others.

When it is determined the case is one of small-pox, fill out the history blank provided for the purpose, telephone the information to the department and promptly mail the filled blank to the chief of the bureau of contagious diseases.

Telephone instructions as to the disposal of the case, whether an ambulance or a carriage is needed, the amount of disinfecting to be done and the number of vaccinators needed.

In filling out the blank, secure a list of all who have been exposed in any way to the contagion since the first day of the sickness; learn if letters or laundry have been sent out from the house; if so, where and to whom sent; give the vaccinal status of those exposed, so far as you can.

It is the duty of the medical health officer to vaccinate, or see that some other officer vaccinates, all who are known to be exposed to the infection. Do not leave or allow this duty to be done by the family physician. It is the duty of the health officer to secure the consent of the patient or family for the removal of the patient to the isolation hospital. Do not leave this duty to the ambulance driver.

Until the ambulance comes, the case must be made safe. If it is necessary to police the house to secure safety, do so. After securing the prompt vaccination of all exposed persons it is the health officer's duty to see the exposed every other day for fifteen or twenty days. If the first vaccination does not take, repeat until it does take.

If there be doubt as to the diagnosis, vaccinate the inmates of the house, make the case safe to others and see the patient later.

A medical health officer must be courteous and tactful in carrying out the department regulations in cases of small-pox. He should be complete master of the situation, able to dispose of complications and duties as they arise. He should secure compliance with the ordinance without force, if possible, but if necessary use police power.

After the patient is removed to the hospital, the premises are disinfected. All who have been exposed must be kept where they can be seen by a health officer every other day for twenty days. If the exposed keep in touch with the health officers as indicated above, they can go about their business. No quarantine is needed for those exposed until symptoms of the disease are noticed. After the twelfth day following exposure, they should remain in the house until it is certain they have escaped the disease.

When a case of small-pox is discovered it is our custom to vaccinate every one within two blocks of the infected house in each direction. If the case is found in a lodging house, the lodging-house population of the city must be vaccinated and kept under close watch. Nightly visits must be made to these houses to vaccinate new arrivals. Those who die of small-pox are buried by the department officials in any cemetery designated by the relatives.

II. CONTROL OF SMALL-POX IN RURAL DISTRICTS AND SMALL MUNICIPALITIES

H. M. Bracken, M.D.
Secretary and Executive Officer, Minnesota State Board of Health
St. Paul, Minn.

The control of small-pox in the rural districts and in the smaller municipalities is to be secured in the same way as in the larger municipalities, viz., through vaccination. Small-pox cannot be controlled without vaccination.

The public demands quarantine for this disease largely because it is a loathsome and disfiguring disease. We should not mislead the public by catering to their unjust demands. Public sentiment may be humored to a certain extent but those who are responsible for the control of this disease have no right to yield to the extent of misleading the people. The people should know that quarantine alone will never control this disease. Further, we have no right to throw a heavy expense on a municipality by quarantine of small-pox in an attempt to do that which we know cannot be accomplished. Isolation is necessary to a certain extent but to give the public a sense of satisfaction or confidence in attempting to control the disease by isolation alone is a mistake. There are always a sufficient number of unrecognized mild cases, or concealed cases to keep the disease going, if we were depending for its control on quarantine or isolation rather than vaccination.

It is a common opinion that the infection of small-pox is air-borne for a considerable distance. This is a mistake. Like most other infections, this infection may be carried by articles of clothing, etc., but if the infection is to be passed from individual to individual there must be quite close and somewhat prolonged exposure. It is also a common opinion that the disease is carried by a second or intermediate person to a third person. This is not true. Individuals living in a house with a small-pox patient but not ill with the disease themselves will not spread the infection to others unless they have been in such close and prolonged contact with the patient as to have had a certain amount of the infectious agent attached to their clothing. In fact, the spread of small-pox by a second to a third person may be treated as a negligible quantity in a well-vaccinated community. Public opinion is ready to demand great inconvenience for many individuals and great expense for the community, in order to prevent the spread of small-pox, when, as a matter of fact, the disease may be controlled by the personal expense of vaccination only, or even no expense, for vaccination should be free to all those who wish to take advantage of the public vaccinators.

It is absurd for those of us who are entrusted with the education of the people in matters pertaining to preventable diseases to advise or even condone the use of illogical or unscientific methods in their control. Quarantine is a relic of barbarism. It accomplishes nothing unless carried out in a most inhuman way and at great expense. One has but to recall the old shotgun methods used in attempts to prevent the spread of yellow fever before other means of controlling this disease were known, to realize the difference between quarantine and scientific control of disease. With our knowledge of vaccination, there is no more reason for trying to limit the spread of small-pox by quarantine than there is for continuing the shotgun method of controlling yellow fever now that we know the disease can be controlled by simpler methods.

I presume there are few, if any, present who do not believe in the preventive influence of vaccination against small-pox. Why then is vaccination not universal? Simply because ignorant or misinformed individuals have sufficient influence with many state legislators to prevent the passage of compulsory vaccination laws or to secure their repeal when they already exist.

The leaders in the antivaccination movement have much to say about sore arms as the result of vaccination. We must admit that there are some sore arms following vaccination, but these are the result of infection, not of vaccination, and this infection, instead of furnishing argument against compulsory vaccination should be one of the strongest arguments in favor of it. Why? Because the more perfect the vaccination the less the liability of infection. Infection is due to the following: (1) impure vaccine; (2) faulty technic on the part of the vaccinator: (3) imperfect care of the vaccinated arm or leg after vaccination. With proper compulsory vaccination laws, all of these possibilities would be reduced to a minimum.

We often vaccinate in emergency—that is, when there is a small-pox scare—or we vaccinate just before the opening of school in the fall, the very worst time of the year. A great part of our vaccination is done, therefore, under the most undesirable conditions. If we had compulsory vaccination laws, any state could determine very closely the amount of vaccine that its public vaccinators would need each year, for this would be governed by the number of births, and the production of vaccine would then be carried on under the most favorable conditions. When vaccine producers do not know how much of their product will be needed they may be short in their supply when the heavy demand is made on them in emergencies, and then be compelled to produce vaccine for rush orders or in hot weather. If we had compulsory vaccination, the children would be vaccinated at the most advantageous period of life, viz., the cradle age, instead of during the school age. In the countries having compulsory vaccination laws there is no active vaccination carried on during the two or three hottest months of the year. In our country, where we try to secure vaccination through the vaccination of school children, we do the greater part of the work in September, one of the most undesirable months of the year so far as the vaccine is concerned and one of the months which is most conducive to arm infection after vaccination because of the heat and dust. If we had compulsory vaccination laws, with well-trained vaccinators to take care of the poor, we would not run so great a risk as we do now of having sore arms.

Although the influence of demagogues and misguided individuals is often greater with legislators than is that of scientific leaders, the need of educating the people as to the control of small-pox by vaccination rather than by quarantine is imperative, and it seems to me the method adopted in Minnesota in 1908 is worthy of consideration. This consists in (1) placing a premium on vaccination by allowing the vaccinated privileges not granted to the unvaccinated, and (2) refusing to endorse the expenditure of considerable sums of money in an attempt to control the disease by rigid quarantine. It is well known that certain communities that have tried to control small-pox by quarantine have failed, and have been compelled to go back to the old system of vaccination as a means of protection. Vaccination is a small expense to the individual.

I wish to emphasize the fact which I have already stated, that quarantine is simply a relic of barbarism. There are only a few diseases that are now under quarantine regulations and most of these are diseases in which quarantine was chosen as the means of control before anything was known as to the cause of the disease. Fortunately, in most instances in which the cause of the disease has been discovered, scientific methods for its control have been adopted and rigid quarantine abandoned. Take yellow fever as an example. A few years ago an outbreak of yellow fever demoralized commerce and interfered with the carrying out of the general intercourse of the community, but when it was found that the infected mosquito was the only means of transmission the old system of quarantine was thrown down.

New diseases come up and we study them carefully. Take epidemic anterior poliomyelitis as an example. In the olden days undoubtedly the public would have demanded that health officials establish a rigid quarantine. At present the people ask the public health officials about the probable danger and are given advice. Instead of establishing a rigid quarantine, it is sufficient to point out the lines of probable infection and establish a system of isolation, similar to that used in Minnesota under the regulation that reads as follows:

> Every case of epidemic anterior poliomyelitis shall be reported to the local health officer at once. The patient shall be isolated for a period of two weeks from the onset of symptoms. All other children, teachers or others having to do with children residing in the affected household shall be kept under observation for a period of three weeks from the date of last exposure within the household; they shall not attend during this period day school, Sunday school or any public or private gathering whatever. Residence, boarding or lodging in a household during isolation therein of a patient suffering from anterior poliomyelitis shall constitute exposure. The discharges from the nose, throat and mouth of the patient must be received on cloths and burned at once. After death or termination of isolation all personal clothing and bedding of the patient, together with the contents of the room and the room itself, must be thoroughly disinfected under the personal supervision of the local health officer. In case of death a public funeral or viewing of the remains of the deceased is forbidden. Every doubtful case of anterior poliomyelitis shall be classed as of epidemic type and cared for accordingly until proved to be otherwise.

I think I have said enough to show that the control of small-pox is no different in the country districts and the smaller municipalties from what it is in the larger centers.

In January, 1908, the Minnesota State Board of Health put into effect the following regulations:

> The local health officer having knowledge of, or having reason to suspect the existence of small-pox, shall investigate and at once place on the house where small-pox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a small-pox patient as having recovered he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. The patient must not leave the house until after the removal of the warning card.
>
> The apartments occupied by a small-pox patient shall be deemed infected, and when vacated by death or removal of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer.
>
> Every physician shall immediately report to the local health officer, in writing, the name of every small-pox patient under his care, the state of his or her disease, and his or her place of residence. A report must be made for each case as it occurs in a family or household.
>
> Every physician shall report, in writing, to the local health officer the death of any small-pox patient under his care within twelve hours thereafter.
>
> The local health officer of any city, village or township must report within twenty-four hours to the secretary of the Minnesota State Board of Health all cases of small-pox occurring within his jurisdiction, and the date of removal of the warning card.
>
> Following an exposure of small-pox, every individual who cannot show evidence of a recent successful vaccination or a recent attack of small-pox must be vaccinated (within three days of the first exposure) or placed under the same isolation restrictions as small-pox patients.
>
> If small-pox prevails in a community, or if the disease appears in a school, all unvaccinated teachers and pupils must be excluded from school for a period of three weeks unless vaccinated within three days of first exposure. Failing to comply with this requirement, the school must be closed for a period of three weeks.
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> If small-pox appears in any class in any college in Minnesota, all unvaccinated teachers and students in the class must be excluded from recitations for a period of three weeks unless vaccinated within three days of the first exposure. Failing to comply with this requirement, the classes attended by such teachers or students must be discontinued for a period of three weeks.
>
> All persons having been ill with small-pox must have their clothing disinfected and take a disinfecting bath before being released from quarantine.

These have proved quite satisfactory. They call for the isolation of the patient without a quarantine on the premises. They place restrictions on the unvaccinated but grant privileges to the vaccinated; in other words, they penalize the unvaccinated and put a premium on vaccination. Through these regulations Minnesota, a state without compulsory vaccination laws—in fact, a state with antivaccination laws—has secured a fair degree of vaccination, for the people realize that they must protect themselves both from the disease and from the inconvenience of restraint in the event of exposure.

ABSTRACT OF DISCUSSION

ON REPORTS OF DRS. SPALDING AND BRACKEN

DR. E. STUVER, Fort Collins, Colo.: I am highly pleased that so distinguished an authority as Dr. Bracken takes the stand that he does on the question of quarantine. The world has been scourged with small-pox; between the years 1700 and 1800, one hundred millions of people died in Europe from small-pox; and Macaulay tells us that at one time scarcely a person could be found in London who was not marked or disfigured by that disease. Since Jenner discovered vaccination, no one who does not want small-pox need have it. What does quarantine do? It gives us a wall behind which the antivaccinationists can hide; they cry to the public, "Isolate cases of small-pox"; and they can shoot into the scientific world with the material that they collect from all sources and keep up a battle of that sort; whereas, if we turned our small-pox patients loose, we would soon see those people taking to the woods. They would get vaccinated. As shown by the epidemic in England, and especially when the thing came very close home, the antivaccinationists got vaccinated, and they didn't take small-pox.

Swallowing the virus does not work out in the presence of real danger. It will do when the small-pox is in some other county. The principal thing that we want to impress on our communities is the fact that vaccination does prevent small-pox. We had an epidemic in our small town last spring; our health officer made a report in April that at that time we had had fifty-eight cases of small-pox: fifty-three patients had never been vaccinated at all, and the remaining five persons who contracted small-pox had not been vaccinated within fifteen years. No person in the community who had been properly or efficiently vaccinated took small-pox. People will come to the physician and try to argue the question of vaccination. I tell them: "I don't care whether you get vaccinated or not: it is a good deal more in my pocket if you don't get vaccinated. As far as myself and my own family, and people whom I have to look after, are concerned, I vaccinate them. You can use your own judgment. It is your great American privilege to be vaccinated or not; do as you please." They yield gracefully in nearly every case. If you argue the matter they will keep you tired for a week, and probably then not be vaccinated.

The question of sore arms, I believe, depends on the person one is dealing with. I have explained it something like this: Some are absolutely immune against the disease. Vaccination will not "take" on them under any circumstances. There is another class who are highly immune. They have mild sores; the manifestations are mild and they soon recover. There is the ordinary case, that runs an ordinary course; there are no severe symptoms and the person soon recovers. There is a fourth class, who have quite a strong susceptibility to the vaccine poison; and those persons get quite sore arms and become quite ill from vaccination. A large percentage of this latter class would die from small-pox. In the fifth class are persons who are exceedingly susceptible to the poison of small-pox, and when attacked they die. An explanation of that kind made to the public sometimes clears up the atmosphere and shows that the reason some people have very sore arms is because they are exceedingly susceptible to the small-pox virus, and if they took small-pox they would surely die from it.

Dr. J. N. Hurty, Indianapolis: I heartily agree with Dr. Bracken in every respect except one. He said that quarantine and isolation (I don't know the exact differentiation or distinction between the two) are barbarisms.

Dr. H. M. Bracken, St. Paul, Minn.: Quarantine only.

Dr. J. N. Hurty, Indianapolis: Quarantine only is a barbarism. Well, perhaps it is; but I would advocate very strict isolation of a certain class of diseases (with which you are all acquainted), if not quarantine; yet we permit their victims to run loose in this world uncontrolled in any way whatsoever. I refer to tuberculosis and the venereal diseases. We are inconsistent in the way in which we conduct our affairs, both public and private; and this is one of the most glaring inconsistencies that I know of—that we should permit persons infected with the most terrible leprous diseases to go about unchallenged in any particular whatsoever. They are more dangerous than small-pox victims, a thousand times more dangerous. Yet we are all aroused, ready to pay great sums of money for the quarantine and isolation of the small-pox person but not for the other. So I would advocate the retention of quarantine and isolation to some degree, because such methods are not barbarisms entirely. Then there is another point in regard to small-pox which Dr. Bracken did not mention. Shall we any longer class it as a dangerous disease? It is less dangerous in my state than measles. We have reported at this time about 300 cases of small-pox every month and not a single death. Inquiry was made into the reports for three months, and none of the cases was severe. Physicians everywhere were disputing whether it was small-pox or not. I think it was; but it was so mild that the element of danger did not enter into it.

Dr. H. M. Bracken, St. Paul, Minn.: A distinction should be made between quarantine and isolation. By quarantine we should mean rigid restraint of infected individuals and those associated with them. Isolation means only the separation of the patient with little or no restraint on the movements of other members of a family. I believe thoroughly in the isolation of many diseases, such as measles, epidemic anterior poliomyelitis, typhoid fever and small-pox; and I would be glad to see the day when certain other diseases now in the quarantinable group were put into the group of diseases for which isolation is recognized as sufficient. In Minnesota the death-rate from small-pox is less than 0.5 per cent. I do not remember the exact death-rate for measles and scarlet fever, but it is considerably higher than that for small-pox.

PUBLIC HEALTH EXHIBITS FOR PERMANENT INSTALLATION *

Frank B. Wynn, M.D.
Director of the Scientific Exhibit of the American Medical Association
INDIANAPOLIS

Certainly no one will deny the assertion that man's greatest fund of information concerning the world about him is gained through the sense of sight. The objects seen are but so many exhibits. Furthermore, knowledge thus gained is more readily acquired and better retained than through the spoken word. It seems strange, therefore, that the exhibit method of instruction should not be more generally employed in the education of the young. How little is done in our public schools to develop a critical faculty of observation! Children are trained along abstract lines. They grow to maturity with eyes, which should be their greatest aids, and yet see not.

The earliest employment of the exhibit principle of instruction in educational work came through the museum. Art was first to profit largely by the application of the exhibit method. In recent times the commercial and educational world, through expositions and fairs, have made extensive use of the idea. These, however, have been transient in character and wanting in continuity of educational effect.

Health authorities have abundantly demonstrated that exhibits constitute the most effective means thus far used in educating the public on health problems. As ordinarily employed they are cumbersome, expensive in their initial cost and in their maintenance; they are shown only in the larger cities and towns, presented for a day or two, and not again for a long period. I would not be understood for a moment as decrying the usual methods now employed; they are most valuable and should be continued. My appeal is to supplement these efforts by permanently installed health exhibits, which will teach the lessons of hygiene and sanitary science day by day. The evangelical stage of health propaganda has been passed; let such agitation be followed by preaching and practicing a health religion in the daily life. Systematic and continuous instruction should constitute the second stage in the evolution of health methods; best accomplished through colleges, the high school and the public schools; and for the work-a-day citizen, permanently installed exhibits.

It is not the intention at this time to consider school methods of instruction on health matters, a phase of elementary education greatly neglected. It is only the exhibit aspect of the question that is now offered for consideration. The up-to-date teacher sees to decoration of the schoolroom walls with pictures of persons or things relating to the subjects taught. Frequently one may note the pictures of Shakespeare, Bryant or Emerson in illumination of literature; that of Washington, Jefferson and Lincoln in exemplification of war and statesmanship; but whoever saw the pictures of Jenner, Pasteur or Koch as great heroes and benefactors of mankind?

Until the curricula of our public schools include competent instructors on health matters, is there not something which health authorities may inaugurate which will leave a permanent impression on the child?

A compact sanitary exhibit, such as devised through the Scientific Exhibit of the Association, seems to me a step in the right direction. The exhibit shown at Los Angeles and previously described[1] contains thirty metallic leaves, easily removable, on which are mounted sixty pages of pictures, charts and

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Wynn, Frank B.: Public Health Exhibits Under the Supervision of the American Medical Association, The Journal A. M. A., Jan. 28, 1911, p. 294.

data. In this particular exhibit the subject of tuberculosis only is treated. Let such exhibits be placed in school buildings. Groups of these leaves might be removed at pleasure by health authorities and others substituted on a health topic of interest in the community. At one time a campaign might be waged on food adulteration; at another, on the evils of self-medication, "patent medicines," etc.; or the local situation might call for agitation on the subject of typhoid prevention. There are endless ways in which a public health bulletin of this character could be used by efficient health officers for systematic instruction on health subjects.

Other places in which the same type of exhibits might be installed permanently are notably, court-houses, city halls, railway stations and other public places where people congregate and find the opportunity to look and read. They would be especially adapted to villages and towns where large migratory health exhibits do not go.

The American Medical Association could engage at this time in no work of greater practical value to the public health than in the standardization of data and material for small exhibits of this character, making the product so cheap that it would be available for remote rural as well as urban districts.

ABSTRACT OF DISCUSSION

Dr. A. J. Reed, Battle Creek, Mich.: I was very much interested in this ingenious device that Dr. Wynn has presented, because it seems to me that it is really very practical. It is true that people waiting in railroad stations have time to kill; and, unfortunately, their idleness and ignorance endanger the health and lives of human beings. They are killing their neighbors for want of knowledge. The laity are wonderfully ignorant about the simplest principles of health. The suggestion of following up timely health subjects, such as typhoid, epidemics of small-pox and general health instruction in this manner, I believe will be very helpful and I hope that it will be remembered by those in attendance and put into practice. I believe that there is a moral obligation resting on the profession to educate the people on the prevention of disease and the preservation of health. We should not leave this opportunity to be used by quacks and fakers. I don't know how some of us can do any better missionary work than by investing a few cents in similar attractive, modern devices for our own towns and counties and installing these silent messengers which are constantly at work, enlightening the people. The inroads which preventable diseases are making in spite of our best efforts, demand that we do more in the future than we have in the past for the physical salvation of our communities.

Dr. E. Stuver, Ft. Collins, Colo.: I would like to inquire of Dr. Wynn where those leaves can be procured and at what cost.

Dr. S. A. Knopf, New York: I think this is a most excellent and admirable scheme. It is particularly good to have a leaflet containing the antispitting ordinances; but in my experience it is utterly useless to say: "Don't spit." People will spit. Now, I believe it would be a good idea if, instead of our negative command, we would make a positive one, and say: "Spit here!" and with it provide a proper receptacle. I don't mean to say that all people spit; but some have colds and some use tobacco, etc. It is just as injurious to swallow the expectoration as to put it where it can infect others. There should be no railway station nor railway car without a proper and sensibly constructed spittoon. Those now in use in most Pullman cars are only fancy articles. They are so planned that the sputum in them always dries; and I pity the poor porter who has to clean them. For railway stations, public places and health resorts I believe in the automatic self-cleansing spittoons. We ought to have them everywhere in sufficient numbers, since we now know that tuberculous sputum is the main cause of infection from man to man. Spitting on the sidewalk should be prohibited; but on the other hand, I don't believe we should say don't spit at all. We should say don't spit on the sidewalk, don't spit where people walk. We might then induce people on the street, where there are no proper receptacles, to spit in the gutter. This would be an improvement on existing conditions.

Dr. Frank B. Wynn, Indianapolis: This exhibit and three other models have been developed as part of the Scientific Exhibit. Prizes were offered two years ago with the view of developing compact and durable exhibits. These have been the outcome and have the endorsement of the Council on Public Health. There are three models. This one relating to tuberculosis sold at $15.00. There is a size a little larger that costs $20.00; and there is a wall kind that folds and lets down, containing the same data, and also large placards, which sells also for $15.00. Considerable reduction in prices over those given may be secured if the exhibits are purchased in quantities. These can be bought through the Council on Health and Public Instruction of the American Medical Association, at the Chicago office, or of Clark & Roberts of Indianapolis, who have been the manufacturers thus far.

THE PSYCHOLOGIC ASPECT OF REFRACTION *

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While refraction is a science based on mathematical principles and theoretically very exact, yet there are other questions involved besides that of measuring the radius of curvature, finding the far and near points, range of accommodation, etc.

What I shall have to say in this short paper will not be new to many, but it is a phase of refraction about which very little has been said or written. Hence my excuse for presenting this paper.

Has psychology any practical bearing on the subject of refraction? In many cases perhaps very little, while in other cases quite a good deal. If all brains were of the same quality, all minds trained to think alike, all nervous systems equally well balanced, every individual reared in a pure atmosphere with proper and healthful environments, refraction would in a measure be reduced to the simple question of accurate observation and correct measurements. It would be largely mechanical. But as such conditions do not and cannot exist, we are bound to recognize the right of psychology to a place in refraction. We must in every case consider the individual with all his idiosyncrasies and eccentricities. Refraction to the beginner is a fascinating subject. It appeals to him because of its exactness. It presents problems which he can work out for himself, and he can prove the correctness of his conclusions. He is therefore liable to underestimate the gravity of the subject, and to overlook one of the most vital features of it; that is, the individuality of the patient, as well as that of the examiner. I shall not attempt to go into the philosophy of mental suggestion or to discuss the various theories of psychic phenomena, because it is not necessary or expedient to do so, and the field is too broad.

We are compelled to admit that there is a psychologic phase to every situation in which two minds are brought in close relationship; where the personality of the one appeals to that of the other, and where a motive exists for the obtaining of a sympathetic relationship between the two. To have a strong personality, or to be possessed of what is usually termed personal magnetism, is a very necessary element of success in any calling in life, and it is worth as much to the refractionist as to any other. In fact, the refractionist who does not possess a reasonable amount of the faculty is handicapped.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The fitting of glasses to presbyopes, in a large percentage of cases, does not call for any great skill or an extensive knowledge of scientific refraction, but does require a reasonable amount of common sense and a good knowledge of human nature. These patients are not hard to please, as a rule, and are satisfied with vision which enables them to read ordinary print without much effort. This assertion applies, of course, to the rank and file of those who have accepted the portion of senility, who have worn off the wire edge of enjoyment and have resigned themselves to the simple life. I have seen patients with decided astigmatism plodding along contentedly with a very indifferent pair of spherical lenses, in frames set all askew. A person of this class of humanity is easily imposed on by the unscrupulous spectacle-vender, and can usually fit himself if you will furnish him with a few pairs of glasses from which to select. There are others, however, who have very decided ideas of the dangers which may come from the wearing of glasses incorrectly fitted and who would be very unhappy if they had been fitted by one in whom they had not the utmost confidence. And still, they may not be unreasonable in their requirements and need only to be assured that they have had a proper refraction and that their glasses are correct.

There are others, however, who are skeptical and disposed to find fault. They are never quite sure of anything; are afraid to admit that they see any better with one lens than another, lest they make a mistake and mislead the refractionist. They will hesitate as to the relative clearness of two lenses, trying first one, then another; then they will go back to the first again, and so seesaw back and forth until the refractionist has exhausted his stock of patience and nervous energy, and the patient is in such a state of uncertainty that he cannot render any intelligent assistance. Perhaps the most sensible thing to do in this case would be the postponement of the work to another day. This gives the refractionist time to take the measure of this patient and plan his campaign, when, perhaps, by bringing to bear a large amount of his own personality the patient may be made to accept a correction. A patient of this class is likely to give the physician more or less trouble later, for having a doubting disposition he will do some testing on his own account and return from time to time with his grievances. Whether the grievance be real or otherwise does not much matter, for he thinks it is a real one and the case must be given some attention. If the refractionist feels sure that he has given a proper correction, then it becomes a question of dealing with the mental attitude of the patient. Confidence must be established and ghosts of imaginary evil and preconceived ideas of dire calamity must be dissipated. With this class of patients there is a fertile field for the exercise of a strong personality and psychologic influence.

Much more might be said along this line, but I wish to discuss briefly another phase of humanity, one of the most troublesome types with which we have to deal; i. e., the man (or woman) who thinks that glasses would in some way or other be an advantage to him. He has diagnosed his own case by introspection or reading quack advertisements, or else he thinks that glasses will lend a certain appearance of respectability or intellectuality, and insists on having them. The individual of this particular type is usually ignorant and could get on just as well without glasses as with them, even if he should happen to have a small amount of ametropia, but he wants them and will very frequently deceive the examiner—unintentionally, perhaps. His anxiety to obtain the glasses will lead him to say that he sees better when he really does not, and nearly any lens placed before him is good. His replies cannot be depended on at all as to how well he sees. The only sure test is to make him call the letters, if he knows them. Sometimes, however, he will say that a certain lens is an improvement, not from any intent to deceive, but because he is led on by mental suggestion to say that he sees better or worse. He is impressed with the idea that he is expected to see better, and answers the question accordingly, but when called on to read the letters he stumbles as badly or even worse than before.

While I do not approve of suggestive therapeutics or hypnotism as practiced by the ill-advised or the charlatan, I do recognize that much can be done with individuals of this type by mental suggestion. They have very plastic, impressionable minds. They are credulous and more or less superstitious and easily imposed on, and are the legitimate prey of the unscrupulous. Still this same unexplainable something which we call personality, this power to impress and inspire confidence, is a very potent one, and the refractionist who is lacking in it will experience great difficulty in leading the patients along lines of least resistance to correct conclusions. It is also necessary to be a good judge of human nature, to be able to interpret mental attitudes of a patient, to recognize elements of hysteria and detect symptoms of remote reflexes and neuroses, to be able to say to your patient that, with the restoration to a normal condition mentally and physically, all eye symptoms will pass away. More than this, it is necessary to carry conviction to the mind of the patient and furnish a substitute for all his preconceived ideas. Sometimes it seems advisable to compromise with him and give glasses when one is convinced that there is no real need for them. Some of these patients come to recognize in time that they get on just as well without their glasses, and lay them aside, while others continue to wear even plain glasses with a great deal of confidence and will stoutly maintain that their eyes soon grow tired and give trouble when the glasses have been left off.

So the glasses have served a good purpose and the end has justified the means in a measure. With the conscientious physician the bringing to bear of all of these faculties and forces, if the interest of his patient be subserved, is a perfectly justifiable procedure; it is honorable and legitimate. But with a refractionist who is looking only to the monetary side of the question, or with the quack spectacle-vender, whose mission is to sell glasses regardless of the requirements of the case, the exercise of this faculty becomes a means of perpetrating fraud, and cannot be too severely condemned.

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: Psychology has a great deal to do with refraction. How to make the psychologic impression is the question we should ask ourselves and we want to be able to answer it. In the first place we will need no psychology if the patient has only one eye and there is no inflammatory trouble in that eye. To make a proper psychologic impression on the patient a thorough examination should be made, not only as to the refractive error, but also as to the condition of the ocular muscles. A patient with hyperphoria even of half a degree is going to complain if this is not corrected. If he is told that he has it and that you are going to correct it the effect follows, not only from the psychologic impression, but also from the prismatic power of the lens. Many times I have gone over the refraction of patients who had been to my confrères and found absolutely no necessity for a change of lenses except as to prismatic correction of a hyperphoria of low degree. If in giving a prism it is placed before the hyperphoric eye there is always relief. If there is exophoria in the near and your patient has a hyperopia and you attempt to give full correction without paying attention to the exophoria in the near, then you are going to get into trouble, psychologic effort or not. If there is esophoria in the near with hyperopia and you fail to give full correction then you are going to have trouble and no suggestive effort will avail. If an astigmatic patient needs plus cylinders with axes diverging, these will make a rectangle look broader at the bottom and he will feel that he is walking up hill for a few days. But the patient can be told this beforehand and the mental impress does good. He or she can be assured that this annoyance will vanish shortly and no complaints will follow. But plus cylinders having their axes converge above will make the patient walk down hill (the rectangle will be broader at the top) and that condition will last four to ten times longer than the other trouble. If you tell the patient this beforehand you make a psychologic impression and he patiently becomes accustomed to his glasses. Another fact which should be told the patient that makes a good psychologic impression is that a straight line should always pass through the four joints of the spectacle frame, and that his lenses must be level before his eyes.

Dr. C. D. Wescott, Chicago: Just one word with regard to the treatment of our presbyopic patients. It seems to me that the decade in which we should be most careful is between 45 and 55. It is certainly the time of life when I use cycloplegia with the greatest care and in which I make the greatest effort to correct low grades of astigmatism. I have one patient, a physician 66 years of age, who will not accept a cylinder unless the eye is under the influence of a cycloplegic. Under homatropin and cocain he accepts half a diopter cylinder and is more comfortable both in reading and for distance. It has been my practice for years to use atropin, in the absence of any contra-indication, in all patients under 40, who are not comfortable in glasses prescribed under homatropin, and in patients over that age I use homatropin and cocain, 2 per cent. each, a half dozen drops in each eye at intervals of five minutes, waiting an hour and fifteen minutes before making the tests. I use it up to 70. Frequently I do not use the full dosage, but I use it in practically all patients in whom there is no contra-indication.

Mark D. Stevenson, Akron, O.: I think one of the most important things, aside from the refraction, is to outline to the patient the difficulties in becoming accustomed to the lenses and their proper use. Years ago I had a large envelope printed stating the reasons why patients would not at first be satisfied with their lenses, although proper. An assistant also very thoroughly explains, with suggestions from me, why at first they will have difficulty. I feel that this is of very great importance from the psychologic standpoint. In addition to this a thorough explanation is made of how to wear the lenses. If this is not explained to patients their control will be more difficult. I think if we can foresee probable difficulties and explain that these often occur in a patient correctly fitted, and must be expected, that it is of the very greatest importance from a psychologic standpoint. I think one of the chief reasons for using atropin instead of homatropin under 45 or 50 years of age is that it assists the patient in quickly becoming accustomed to his lenses and is not merely used to find the static refraction. It also gives the patient's eyes a rest.

Dr. Edgar S. Thomson, New York: I think it is very important indeed to prepare the patients for just what they are going to experience. In the first place the action of the eyes is a matter of the coordination of a number of different muscles, and delicate acts of coordination must always be subconscious in order to be perfectly easy. There is a very decided analogy, to my mind, in becoming accustomed to new conditions in coordination of the eyes, to learning a new passage on a musical instrument, say the piano. It must be carefully drilled into the memory first of all and then it must be played without thinking of the individual action of the fingers; in other words, the coordination must be in the subconscious mind. Now, if patients get a lot of unexpected symptoms that disturb them when they first put on the glasses they immediately begin to try to pull around them, and try to adjust themselves to them, which is just what they should not do. Therefore it is important in any change of refractive conditions to have them prepared so that they will drift with the tide instead of fighting it.

Dr. W. E. Lambert, New York: All this is a tempest in a teapot. Most of the people we have to deal with cannot understand these details. We presume of course that any man who attempts to fit glasses knows his business and makes a thorough examination, but the subjective tests may show up somewhat differently, and he has to use his common sense in dealing with the different patients. This applies to fitting glasses, giving medicine or anything else, and to my mind that is what Dr. Ledbetter tried to bring out in assuming scientific knowledge. He says it is a fascinating subject. I have not found it so. Refraction is a tiresome and tedious thing. It reminds me that we must at times be all things to all men. It is quite legitimate to dissemble if we do it for the benefit of the patient. A woman had a pain in the back of her head. I said, "That is a matter for your family physician and I should like to consult with him about your case." She said, "I have none; I am a mental scientist." I said, "By an extraordinary coincidence so am I. I thoroughly believe in bread pills when they are indicated, but I also believe in calomel when it is indicated. Now your condition is not for mental science or for bread pills." We must deal with these people according to their mental caliber.

INTRA-UTERINE OPHTHALMIA NEONATORUM

W. A. NEWMAN DORLAND, A.M., M.D.
CHICAGO

The development of gonorrheal ophthalmia in a fetus *in utero* is so extremely rare that it becomes almost obligatory to place such a case on record. The textbooks in almost every instance fail to mention the condition, even as a possibility. A communication, recently received from Dr. F. Park Lewis, Chairman of the American Medical Association's Committee on Prevention of Blindness, states that, while it is a very unusual occurrence, intra-uterine ophthalmia has been recognized for some time. The condition was first noted by Quellmalz in 1750. Demours,[1] Guthrie,[2] Hilsenburg and Hasse[3] were among the earliest to report cases. They were followed by others, and more recently, by Queirel,[4] in 1902, and finally by Sydney Stephenson[5] in 1907, who tabulated 90 cases collected from literature and encountered in his own experience. In all literature to date about 100 cases have been recorded. Some interesting facts are to be noted, as follows: Not only the gonococcus, but the pneumococcus, colon bacillus and other germs may be the causative agent; the gonococcus, however, is by far the most common cause. In only a little over one-third of the cases was premature rupture of the membranes noted. In the other two-thirds (63 per cent.) the membranes ruptured at some time within twenty-four hours of the birth of the child, too late to permit of antenatal development taking place. A few cases of fully developed ophthalmia have been recorded of children born in a caul. Other cases are reported in which the ophthalmia had apparently run its course *in utero*, leaving damaged corneas or atrophic eye-balls. Beyond controversy the increased temperature of the conjunctival sac *in utero* enhances the virulence of the causative microorganism, and this, together with a lack of resisting power on the part of the infant, results in the extremely acute course of these cases. Placental transmission has been suggested as a method of infection *in utero*, but Stephenson believes that most of the cases are to be explained by the theory of a local intra-uterine infection—penetration of the intact membranes by the germs. Infection in the case I am about to report undoubtedly took place because of a premature rupture of the membranes.

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[1] Demours: Traité des maladies des yeux, ii, 146.

[2] Guthrie: Lond. Med. and Phys. Jour., January, 1829, p. 5.

[3] Hasse: Neue Ztschr. f. Geb., 1838, vii, 439.

[4] Queirel: Leçons de Clinique Obstétricale.

[5] Stephenson, S.: Ophthalmia Neonatorum.

Mrs. X, aged 24, the wife of a medical student, was admitted to Jefferson Park Hospital on the morning of Jan. 13, 1911, well advanced in the first stage of labor. The bag of waters had ruptured spontaneously seven days before, while the patient was engaged in her usual household affairs, but there had been no labor pains until the midnight before her admission to the hospital. Labor was easy and uneventful, without complication, other than a trivial fourchet tear. When the nurse attempted to instil the silver solution in the baby's eyes they were found to be the seat of an advanced gonorrheal ophthalmia. A greenish pus was exuding in large quantities from each eye, and the conjunctivæ were deeply injected, presenting a vivid red appearance. So virulent was the case, that, in order to prevent the remotest possibility of infection of the other babies in the hospital, the child and mother were immediately removed to the Illinois Charitable Eye and Ear Infirmary, where prompt and energetic treatment of the eyes was instituted. Notwithstanding the excellent care the baby received at this institution, one eye became perforated the following day and was destroyed, and the other showed almost complete corneal opacity from ulceration. The mother passed through a normal apyretic convalescence.

The points of interest in this case are the early rupture of the bag of waters, one week prior to the onset of the labor pains; the apyretic course of the mother's case in the presence of a virulent vaginal infection; and the infection of the child's eyes during the week subsequent to the rupture of the membrane while the fetus was still *in utero*. It is interesting to conjecture how the gonococci gained entrance to the uterine cavity, since the mother denied all vaginal douching prior to the delivery of the child. The freedom of the mother from gonorrheal puerperal fever was due to the fact that the infection had occurred within the amniotic sac and had been thereby limited to that cavity without penetration to the decidual tissue.

1422 West Jackson Boulevard.

THROMBOSIS OF THE MESENTERY CAUSING GANGRENE OF THE ILEUM

R. W. WAKEFIELD, M.D.
BAR HARBOR, ME.

I report the following case for two reasons; first, because thrombosis of the mesentery is rarely seen and never diagnosed except at operation or post mortem; and second, because this patient made an uninterrupted recovery from this surgical affection which is usually attended by a very high mortality.

History.—W. T. H., a white man, married, aged 60, was a merchant. Family and personal history were negative. For the past twenty-five years he had suffered occasionally from so-called "bilious attacks," in which he would be taken suddenly with nausea, vomiting and epigastric pain after some indiscretion in diet. Attacks would last from a few hours to two or three days, after which time the patient would feel perfectly well again; was never jaundiced. Two and one-half years ago he suffered from bronchopneumonia but made a good recovery. Since convalescing from pneumonia he has enjoyed good health until present illness. Two weeks before illness came on he took a long horseback ride but felt no inconvenience from the exertion, except general muscular stiffness which soon disappeared. On the morning of July 8, 1911, the patient was in his usual health until 10 a. m. when, while riding in his carriage, he was suddenly taken with severe abdominal cramps, nausea, vertigo and faintness. In a few moments vomiting began.

Examination.—His family physician, Dr. George Neal, found patient prostrated, vomiting frequently, mostly mucus and water; complained of severe pain in epigastrium, chilliness and frequent desire to go to stool. Pain was paroxysmal but not colicky; patient complained that pain would rise in throat, choke him and make him feel faint. Countenance was cyanotic, pulse 90, feeble and intermittent. Palpation over abdomen showed no particular point of tenderness, but whole abdomen was distended and greatest pain seemed to be in epigastrium.

Course.—A high enema was given with small result. Patient's bowels had moved normally at 7 a. m. Distress was so great that ¼ grain of morphin was given. At 5 p. m., pain had ceased and patient felt comfortable, with pulse 90, regular. At 9 p. m., distress and vomiting returned and continued at intervals during the night.

July 9, 10 a. m., pulse 110; abdomen was distended and tympanitic; there was an area of dulness at McBurney's point; diffuse tenderness. At 12 a. m., vomitus was of coffee-ground character; a high enema of salt solution came away almost clear. At 2 p. m., stercoraceous vomiting began. Pulse 120, feeble; temperature 100. In spite of the administration of calomel, salines and high enemas, constipation was complete.

I saw the patient at 6 p. m. Face pallid and expression anxious; breath foul. Mental condition normal. Found a few coarse râles at the base of both lungs; lungs otherwise normal; pulse, 120; heart sounds weak; abdomen moderately distended, right side more than the left; recti muscles very rigid. A distinct tumor about 2½ inches in diameter could be palpated at McBurney's point. There was marked tympany over abdomen everywhere, except at site of tumor. Note over tumor was dull but not flat. Temperature 100 2/5 F. A diagnosis of acute intestinal obstruction was made and the patient was hurried to the Bar Harbor Hospital, 18 miles distant.

Operation.—At 11 p. m. right rectus incision was made over most prominent part of tumor. Peritoneum was very dark in color; when opened, a large quantity of serous fluid escaped. Ileum immediately presented itself in the wound, black in color; gangrenous for about 30 inches. Mesentery was gangrenous for about half its depth, and all the vessels were thrombosed. No other lesion was found. The gangrenous bowel and its mesentery were quickly resected and anastomosis made with Murphy button. The abdomen was closed with through-and-through silkworm gut sutures without drainage.

Recovery.—Patient suffered but slight shock from the operation and reacted well under treatment. Murphy button was recovered on tenth day. The patient made an uninterrupted recovery and feels perfectly well one month after operation.

I want to acknowledge my indebtedness to Dr. Neal for the privilege of reporting this case.

16 High Street.

The Sacred Disease.—In the time of Hippocrates the Greeks called epilepsy the "divine ill" or the "sacred disease." Cullen says that it was so called because the ignorant thought it the result of divine punishment. Some of the old books say that the Sibyls rendered their answers in the midst of epileptiform convulsions. That the entire nation was not so densely ignorant nor superstitious regarding its origin, however, is proved by this remark by Hippocrates: "It appears to me to be in nowise more divine or more sacred than other diseases. Men regard its nature and cause as divine from ignorance and wonder because it is not like other diseases."—E. L. Hunt in *Medical Record.*

the mail-order quacks, the main ingredient of which is thyroid. This drug is so much more effective as a fat-reducer than any of the older ones that it has practically replaced the latter. But like most effective drugs it has its dangerous side. A few years ago when Germany placed strict restrictions on the sale of thyroid it was common gossip that this action was accelerated by the fact that some of the first ladies of that country had had an experience similar to that reported from Newport.

Thyroid is stated to be used more extensively as an antifat than for any other purpose. It is used as such and, as some of the Washington officials have found, as an ingredient of many patent medicines. It would be well for physicians to make inquiries on this subject when consulted by obese patients complaining of sleeplessness, nervousness, palpitation, gastric disturbances, etc.; patients are not very likely to volunteer the information that they have been taking thyroid and still less that they have been patronizing some mail-order house. In fact, we have heard of patients who recognized that their troubles were due to a drug of this class and who thought it "a joke on the doctor" because he had not suspected it.

The use of thyroid in obesity is not only accompanied by a certain degree of danger, especially if the patient is not under constant medical supervision, but it is in most cases an illogical form of treatment. It is now recognized that it is unsafe to make any material reduction in the diet, except in the fat, during a course of treatment; otherwise there will be a loss of body protein as well as of fat, and a loss of protein seems to be closely associated with the untoward symptoms often observed. In other words, in a safe reduction cure by thyroid more food than the body needs is taken; this excess and some of the body's own fat is burned up under the influence of the thyroid. The organs are thus forced to do an unnecessary amount of work.

In diet cures, on the other hand, as Chittenden for example has shown, the diet may be greatly restricted (even to two-thirds of the body's requirements) and a considerable amount of fat lost without any danger to the body protein.

Although in most cases of obesity, treatment by thyroid is essentially illogical and treatment by diet and exercise logical, there will always be patients who will refuse to follow instructions as to the latter; in such cases and in certain others which do not yield readily to a diet-cure (cases of "constitutional obesity"), thyroid may be used, but it should never be placed in the patient's hands without careful supervision. Patients should also be warned that the fat will promptly return after the thyroid treatment unless they learn to regulate their diet and exercise properly, and emphasis should be laid on the fact that in almost every case the obesity is due simply to over-eating or to lack of exercise or to a combination of these.

VEGETABLE JELLIES AND MUCILAGES AS FOODS

The food-value of various mucilaginous and gelatinous plant substances has been highly appraised by the layman and by most physicians for untold years. In some countries, notably Japan, Turkey and Hawaii, such substances are staple articles of diet; in Scotland and Ireland the dulse is a favorite food. Clinicians have frequently tried various articles of this class, especially as substitutes for starches and sugar in diabetes; and Iceland moss is found in drug-stores as a standard article of commerce, being sometimes used as a delicacy for consumptives, who are expected to secure much benefit from its digestibility and its reputed high nutritive value. The United States Dispensatory itself goes on record to the effect that the mucilaginous extract of slippery elm bark, and also the Turkish salep, are highly nutritious. It is strange that, in spite of the prevalence of the use of lichens, algæ, and other gelatinous or mucilaginous vegetable substances as food, their real nutritive value has not received previously any serious investigation; hence a recent extensive study of ten articles of this class by Dr. Mary D. Swartz[1] is all the more to be appreciated.

Most of the carbohydrates of the vegetable substances under consideration belong to the hemicellulose group: that is, they are not converted into sugar by diastase, but are readily hydrolyzed by dilute acids. According to the sugars they yield on hydrolysis they are designated as pentosans, dextrans, mannans, galactans, etc. Thus agar-agar is a galactan, since it is composed of molecules of galactose united through dehydration and readily separated by hydration with acids; Irish moss also contains a galactan, while Iceland moss contains chiefly dextrans, dulse is rich in pentosans, and the gelatinous material of salep is a mannan. Cellulose itself is a dextran, and were it as readily hydrolyzed by the digestive enzymes as the starches it would be just as good a food. Unfortunately, at least from an economic standpoint, the human organism does not seem to be provided with enzymes capable of disintegrating cellulose, and so we rely on the hydrolysis by strong acids in the works of the glucose trust to render the fibrous cellulose into its assimilable sugar.

Only recently has the therapeutic importance of the utter indigestibility of some of the hemicelluloses been recognized, and whereas formerly agar-agar and similar substances were put on the market as "vegetable gelatins" of great value as foods, now the same things are sold as laxatives because they are not assimilated at all, and hence greatly increase the bulk and softness of the feces. Of the ten varieties of hemicellulose foods studied by Dr. Swartz, dulse and salep showed the highest utilization, both of these disappearing entirely from the contents of the alimentary tract. Irish moss, however, was passed out in the feces almost entirely, and the other preparations were recovered to the extent of 40 to 90 per cent. The partial utilization observed must be ascribed to alteration through bacterial action, since no good evidence could be obtained of the presence of diastase capable of digesting these hemicelluloses, and the several varieties disappeared from the intestine in direct ratio to their susceptibility to bacterial decomposition. Whether bacterial disintegration of hemicelluloses yields sugars or products which are utilized by the human body is still another question, to be determined only by careful study of respiratory exchange. In any case these investigations of the food-value of hemicelluloses indicate that most of the forms commonly used for food can give but little nourishment; possibly some varieties have a certain value, but it will be entirely unsafe to rely on one of them for any considerable part of the dietary of either sick or well, until careful investigations have established its actual food-value. With due appreciation of the limits of their nutritive value, they may, of course, be used as gelatinous or mucilaginous bases of food or drink, and as laxatives or as vehicles for drugs under proper conditions.

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[1] Tr. Conn. Acad. Arts and Sciences, 1911, xvi, 247. In more accessible medical literature are two other articles from the same laboratory, viz.: Mendel, L. B.: Das Verhalten einiger unverdaulichen Kohlehydrate in Verdaunngstrakt. Zentralbl. ges. Phys. u. Path. d. Stoffw., 1908, No. 17. Mendel, L. B., and Swartz, Mary D.: The Physiological Utilization of Some Complex Carbohydrates, Am. Jour. Med. Sc., March, 1910.

ERGOT AND THE MANUFACTURER OF PHARMACEUTICALS

Last week we commented on a bulletin just issued by the Public Health and Marine-Hospital Service on the standardization of ergot; this week, under "The Propaganda for Reform" we print the conclusions of this bulletin as they relate to the examination of a number of commercial preparations. Comments on these results are scarcely needed. They show again how little reliance can be placed on the statements of the "great manufacturing houses" in regard to their so-called "ethical" proprietaries and pharmaceutical "specialties." Of course, these houses will raise vigorous objections, doubtless similar to those raised to the reports on epinephrin and digitalis. Some "didn't know"; but they should have known before making such positive claims. All will doubtless complain that the preparations examined were few in number and were old. The preparations were few in number, as the authors state, but it is suggestive that not one of them approached the strength claimed. Possibly some were old, but they are claimed to be "permanent"; at any event they were obtained in the open market, under exactly the same conditions as those under which physicians obtain them every day. Some firms may even go to the length (or depth) that Parke, Davis and Co. did a year or two ago when the Hygienic Laboratory reported on one of their digitalis preparations—digitalone; a physician forwarded to THE JOURNAL a letter from this firm in which they said: "We have reason to suspect that these old samples were purposely selected for the test." On that occasion, as on this, the preparations were bought through the regular purchasing departments of the University of Michigan and of the Hygienic Laboratory, and there is certainly no reason for believing that these institutions would receive worse preparations than would a physician.

The plain truth is that although these large firms are perfectly able financially, and probably scientifically, to prepare trustworthy preparations, or if not, are able to learn how to do so, they show an indifference as long as they can sell their products. This strongly suggests that the biologic laboratories maintained by them are mainly for advertising purposes. Surely after several decades of experience they should have learned that their products are not "permanent" and should have adopted the simple and honest expedient of stating the date of manufacture on the label and the period during which the preparations could reasonably be expected to be of therapeutic value; they could have learned the conditions under which the preparations deteriorate and if these were controllable pharmacists could have been instructed accordingly. Yet the facts are that one of the chief claims made for practically all the proprietary preparations of ergot is that of permanency! As usually happens in such cases, the firms which lay the greatest stress on some particular quality of their proprietary preparations are the very ones whose products are found to be most lacking in that particular quality. So, in this instance, the firms whose claims for the permanency of their preparations are most conservative are the ones whose products come nearest to measuring up to the desired standard; while those concerns whose proprietaries are the least dependable are the ones that make the most vociferous claims for permanency and reliability.

The Council on Pharmacy and Chemistry was organized to help physicians discriminate between trustworthy and untrustworthy drugs, and manufacturers who had preparations which they were willing to have submitted to examination, for inclusion in New and Nonofficial Remedies, were invited to submit them to the Council. These studies again justify the distrust with which many of the better-informed physicians regard products which are not in New and Nonofficial Remedies.

Unfortunately the Food and Drugs Act in its present form does not permit the government to proceed against firms or individuals who place on the market misbranded drugs of this character; hence physicians are dependent on the work which their representatives on the Council on Pharmacy and Chemistry, in the Association Laboratory, and in the Hygienic Laboratory, can do for them. The Association proposes to continue this work; it also trusts that the Hygienic Laboratory will continue to help the physician and public by further work of this character and that its activities will not be hampered by lack of appropriations and by the kind of red tape which has temporarily almost paralyzed the Bureau of Chemistry of the Department of Agriculture.

Current Comment

INVIDIOUS COMPARISONS BY THE BORAX PEOPLE

The borax trust is still spending a good deal of money sending out letters through its press-agent, "H. L. Harris." At this time it is trying to offset the splendid tributes which the American press has paid to Dr. Wiley in the last few weeks. If this "Harris" letter went no further than to damn the Bureau of Chemistry and its chief, we should not take the trouble to refer to the borax people again. But incidentally it panegyrizes the Bureau of Animal Industry, the department that has charge of examining the meat-supplies of the country. And now comes the *National Provisioner* of New York, also unfriendly to Dr. Wiley, with a long editorial criticizing the chief of the Bureau of Chemistry and praising the Bureau of Animal Industry. The argument seems to be that while Dr. Wiley's bureau has not had a placid and uneventful career, the Bureau of Animal Industry runs on "without friction." As the public loves Dr. Wiley for the enemies he has made, so it will regard the Bureau of Animal Industry with suspicion on realizing who are the friends of that bureau. As a general proposition, any government department which stands between organized greed and the public health will inevitably develop "friction" if it works in the interest of the public. Conversely, when such a piece of governmental machinery is working without friction it behooves the public to inquire closely into the source that is furnishing the lubricant. It is not altogether true that the Bureau of Animal Industry has been free from criticism. It will be remembered that a year or so ago some ugly charges were preferred against some of the government officials in this department relative to the inefficient way in which the meat-supply at St. Louis was inspected. In this case, however, the criticism was not that the government was hurting "business interests," but that it was not giving the public the degree of protection against diseased meat for which that bureau is supposed to exist! All things considered, any invidious comparisons between the Bureau of Chemistry and the Bureau of Animal Industry will be likely to react to the detriment of the latter, whose chief may be tempted to cry: "Save me from my friends!"

THE TREATMENT OF RHUS POISONING

The publication in The Journal[1] of several communications on the treatment of ivy poisoning, and the inefficacy of the methods currently employed for the alleviation of this distressing condition, may justify reference to the properties of the toxic agent and a rational procedure to eliminate its effects. The leaves and flowers of the poison ivy plant yield a poisonous tar which is soluble in both alcohol and ether and has been extensively investigated by Acree and Syme[2] in Baltimore. The familiar method of treating the skin eruption consists in the use of an alcoholic solution of acetate of lead. This is most unsatisfactory, as Acree and Syme have pointed out, because the action of the remedy "consists in depositing an unstable lead salt of the poison in the skin, where the conditions of moisture and temperature are favorable for its decomposition, liberating the poison with all its irritant properties." There is great difficulty in reaching the poison which has permeated the skin (hence the presumable efficacy of the vigorous "scrubbing" advocated in one of the communications to The Journal[1]). One must assume, despite the reports alluded to, that the use of both alcohol and ether solutions is to be avoided, because they act as solvents and may thus serve to spread the poison over large areas—unless perhaps they are used in sufficient quantities to wash away the dissolved poison. A correspondent in this issue suggests the use of rubber gloves to avoid spreading the poison. Acree and Syme have found that potassium permanganate completely oxidizes the poison. This has furnished the basis for a rational method of treatment repeatedly tested and found by them to effect a speedy cure. The part affected is immersed in, or bathed with, a solution of potassium permanganate as hot as can easily be borne. Where the skin is broken, dilute solutions (1 per cent.) should be used; otherwise the concentration may be varied according to the location and condition of the eruption. A little dilute alkali or sulphuric acid is advantageously added to the permanganate solution; the oxidizing power is greater in the acid solution. In rare instances, when the poison is present deep in the skin, it should be exposed to the action of the permanganate for a considerable time. The dark stain produced by the permanganate will wear off or can be removed by vigorous scrubbing with soap; or it can be dispelled at once by a warm solution of oxalic acid (with due precaution). The extremely rare cases of systemic intoxication through entrance of the poison directly into the circulation obviously require special constitutional treatment.

WILL ILLINOIS BE EASY?

S. R. Chamlee, M.D., is a cancer-cure faker whom Samuel Hopkins Adams characterized as "a scoundrel who endeavors to frighten women into taking his treatment by advertising in the papers, 'in woman's breast any lump is cancer.'" For some years Chamlee carried on his nefarious trade at St. Louis, Missouri. Nemesis, in the form of post-office fraud order, finally overtook him and closed the mails to him.[1] He attempted to evade the law by changing the name of his business to the "St. Louis Sanitarium Company" and by instructing his prospective victims to send their money "through an express company" and not by post-office money order, because he could not cash the latter. The post-office extended its fraud order to the "St. Louis Sanitarium Company" and this irrepressible quack assumed another name, the "United Specialist Cancer Cure Company." The post-office, in time, still further extended its order. All this happened in the latter part of 1909. For a year or more the magazines and newspapers have been free from Chamlee's advertisements. Within the last month or two, however, Chamlee has again commenced advertising. But he has changed his headquarters; instead of operating from St. Louis he is now in Chicago. The advertising matter, "form letters," pamphlets, etc., that Chamlee now uses are apparently identical with those which he used in St. Louis. Chamlee has no license to practice in Illinois—although, we believe, he is licensed in Missouri and Iowa. For this reason, in order to keep within the law, it is necessary for him to employ some renegade physician who is licensed. This, apparently, he intends to do, for the following advertisement appeared in the Chicago *Tribune* a week ago:

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[1] The Journal A. M. A., Sept. 30, 1911, p. 1151; Oct. 14, 1911, p. 1304.

[2] Acree and Syme: Jour. Biol. Chem., 1907, ii, 547.

[1] This case was referred to in The Journal A. M. A., Jan. 15, 1910, and a full account appears in "Nostrums and Quackery," page 31.

> PHYSICIAN — FINE LOOKING, NO OTHER, NO smoker; must be quite gray and move to Oak Park. Write fully with new photo, or call 36 W. Randolph St., Dr. Chamlee, Room 308.

Oak Park is a suburb of Chicago and, while Chamlee's mailing address is in the down-town district of Chicago, he sends out his "literature" from Oak Park. Chamlee is apparently just as big a fraud to-day as he was two years ago. The question arises: Will the federal authorities make things as interesting for him in Illinois as they did in Missouri?

NEWSPAPER ETHICS

The *Daily Tribune* is the name of a newspaper published in Goldfield, Nevada. A few days ago the *Tribune* received a letter from a notorious quack of Portland, Oregon, one T. J. Pierce, asking for quotations on two classified advertisements to appear in the personal column. One of the advertisements was of "Sexoid—a marvelous cure for weakness in men;" the other was for "Sanderson's Cotton Root Pills—safe and sure cure for delayed periods." Pierce doubtless imagined that in a mining community like Goldfield "everything goes" in the way of advertising; and he must have been surprised to learn from the business manager of the Goldfield *Tribune* that "the advertising in question does not conform to the policy of this newspaper in its advertising department." We commend the advanced and enlightened attitude of the Goldfield *Tribune* to several Eastern newspapers whose claims to culture are as pretentious as their business morality is inferior.

THE RIGHT OF SOCIETIES TO REGULATE MEMBERSHIP

In another department[1] appears an abstract of a recent decision by the Supreme Court of the State of New York, in the case of Ewald against the Medical Society of the County of New York, in which the court holds that a member of a medical society cannot by injunction prevent the society from trying him on charges preferred against him. In this case, after the charges were preferred, and before the trial, the plaintiff sent in his resignation, but as the by-laws of the society provided that no resignation could be accepted from a member under charges, the court held that the defendant society had a right to ignore the resignation and to proceed to discipline its member according to its by-laws. The court further says that a member joining a professional society assumes an obligation not only to conform to the rules of the society, but also to observe its standard of professional ethics, and that, having voluntarily become a member of such an organization, he is bound by his act to submit to its rules and conform to its standards. Practically, the decision in this case amounts to an affirmation of the right of a professional organization to enforce its professional standards, and to discipline its members, so long as it acts in accordance with its own by-laws and proceeds in a legal and orderly manner.

A NATIONAL DEPARTMENT OF HEALTH

In the Medical Economics Department of The Journal appears an extract from a recent editorial in *La Follette's Weekly*. The daily press, for several days past, has contained dispatches from Washington, regarding the efforts to be made at the coming session of Congress to secure the passage of Senator Owen's Senate Bill or some similar measure providing for a national department, or an independent bureau, of health. It seems fitting, at the present time, to call attention to a few errors into which, apparently, some persons and organizations have fallen regarding this proposed department of health. 1. The American Medical Association is not a "medical trust." To intelligent and thinking people, such a statement is not necessary. It is a national professional organization of scientific men, endeavoring to be of service to the people and to elevate the standard of medicine. It could not "establish a monopoly" of healing if it desired to do so, and it would not if it could. It would limit the right to care for the sick to those who have sufficient knowledge of the human body to assume such a responsibility with safety to the patient and the public. And in this aim it should have the support of all right-thinking people. 2. A national department of health would exist for the study and prevention of human diseases, and not for the treatment of individual patients. Many sincere but misinformed persons have opposed such action on the part of the federal government because they have not distinguished between disease and the person afflicted with the disease. A national department of health would study diseases, their cause, method of transmission and prevention, just as the Department of Agriculture investigates seeds, soils, crops and animal and vegetable diseases. It would have no more authority over the individual invalid than the Department of Agriculture now has over the individual farmer. 3. One of the favorite arguments made against a national department of health is that it would establish a "state school of medicine" and would limit the practice of medicine to a certain class. This argument, of course, is absurd. The establishment of a Department of Agriculture has not resulted in a state school of agriculture, nor has the establishment of a Department of Commerce and Labor brought about a state school of business or labor. Furthermore, every competent lawyer knows that the regulation and restriction of the practice of medicine, like that of any other profession or calling, is a function of the individual state and not of the national government. Congress has no right to say, and could not say, who shall or shall not practice medicine in Illinois or New York or California. Each state must settle this question as it sees fit. 4. The American Medical Association is not responsible for the bills recently introduced into the senate; they were prepared by Senator Owen, on his own initiative. The American Medical Association is naturally in favor of such a bill and will do all in its power to secure its passage, but the credit of originating it is due to Senator Owen. The American Medical Association has urged such legislation for over twenty years. It will continue to urge it and to do everything it can to secure it, now and in the future, until Congress shows the same regard and gives the same care to human life that it now gives to that of the animal, to crops and produce, to banks and business concerns, and to the innumerable material interests of the people which the federal government now safeguards. The objections urged against this measure are either figments of the imagination, held by sincere but misguided and prejudiced persons, or specious and fallacious objections raised by those having a selfish interest in the perpetuation of existing conditions. The misguided must be enlightened and the selfish objectors must be exposed. The more discussion there is on this important subject, the better. The more thoroughly the plan is understood, the clearer will its advantages be seen, and the sooner will it become a reality.

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[1] Medicolegal Department, p. 1316, this issue.

Medical News

ALABAMA

New Throat Clinic.—A free clinic for examinations of the throat will be held on Tuesday and Thursday afternoons from 2:30 o'clock, by Dr. William Grace Harrison, Birmingham, in charge of that branch of the work of the Birmingham Antituberculosis League at the dispensary of the league, Room 424, Chamber of Commerce Building. The dispensary is also open for the examination of tuberculosis patients on Mondays, Wednesdays and Fridays, from 1:30 to 2:30 p. m.

CALIFORNIA

Bubonic Plague Near Ripon.—M. E. Sawyer of the State Board of Health and Dr. George W. McCoy, U. S. P. H. and M.-H. Service, are said to have verified the diagnosis of the local physicians in the case of Angel O. Bianchi, suffering with bubonic plague, on the Brown ranch near Ripon.

Donation to Medical Library.—Announcement has been made by the board of trustees of Leland Stanford, Jr., University, Palo Alto, of a gift of $10,000 made by Dr. Adolph Barkan, San Francisco, professor emeritus of the medical school, for the establishment of a special library dealing with diseases of the eye, ear, nose and throat. A gift of $5,000 from Charles G. Stanford for medical library purposes was also announced.

Personal.—Dr. Eleanor C. Seymour, resident physician of the Pacific Hospital, Los Angeles, has been appointed bacteriologist in the state hygienic laboratory, Berkeley.——Dr. M. Antoinette Bennette, San Bernardino, superintendent of nurses at the Los Angeles County Hospital, has resigned.——Dr. Emil O. Jellinek, San Francisco, has returned from Europe.——Dr. Irving R. Bancroft, assistant health commissioner of Los Angeles, has resigned to become physician of the board of education.

COLORADO

Personal.—Dr. Mary E. Phelps, Canon City, has returned after a year abroad.——Dr. Frank B. Stephenson, Marble, has moved to Denver, and Dr. Minerva M. Knott, Canon City, has returned to her former location at Sedalia, Mo.

Milk Consumers Protected.—Milk consumers in Colorado will be protected by the publication of names of owners who refuse to have their cattle tested for tuberculosis. There is no law in the state providing for the condemnation of diseased animals.

Public Drinking-Cup Removed.—The State Board of Health has ordered the removal of public drinking-cups from public school buildings in the state.

ILLINOIS

Personal.—Dr. Carl J. F. Rochow, Rock Island, has returned from Europe.——Dr. James Harry Pittman, Camp Point, while hunting, accidentally shot off one toe of his right foot.——Dr. Samuel M. Barnes, Fairbury, who is ill in St. Luke's Hospital, Chicago, is reported to be in critical condition.——Dr. John E. P. Butz, Potomac, who recently underwent a surgical operation at the Augustana Hospital, Chicago, is reported to be convalescent.

State Board Exhibit at State Fair.—The Illinois State Board of Health had an interesting and instructive exhibit at the state fair last week; a large electric sign in front of the booth which read as follows: "Every time a light goes out, some one in the civilized world dies from consumption—2 every minute, 120 every hour, 2,880 every day, 1,000,000 every year," and emphasized by the automatic extinguishment every thirty seconds of the red electric lamps which bordered the sign, conveyed graphically to visitors the frequency of deaths from tuberculosis. This was still further emphasized by the use of a doll changing into a skeleton every half minute. The exhibit also showed the contrast between sanitary and unsanitary rooms, the right and wrong way of disinfecting houses after contagious diseases, microscopic specimens, the means of transmission of typhoid fever, diphtheria, etc.

Chicago

Personal.—Dr. Anna Dwyer has been reelected high medical examiner of the Women's Catholic Order of Foresters.——Dr. and Mrs. Eugene S. Talbot and Dr. Harry Jackson have returned from Europe.

County Board Buys Hospital Site.—The Cook County Board on October 3 decided to purchase for an emergency hospital the property at 4431-33 South Halsted Street, improved with a three-story brick structure about ten years old.

"Typhoid-Carrier" Freed.—Miss Rosie E. Pell, the alleged typhoid-carrier, on October 2 was given a permit by the Chicago Health Department to return to the house of her stepfather, Gilbert Boersma, a dairy farmer at Mount Greenwood, who sells milk in Chicago. She goes back to the farm on the understanding that she is to have nothing to do with the handling of milk.

KANSAS

Personal.—Dr. W. L. Gleason has succeeded to the practice of Dr. Charles F. Kyser, Conway Springs. Dr. Kyser is reported to be seriously ill in St. Francis Hospital at Colorado Springs, Colo.——Dr. John D. Horne, Coffeyville, is confined to his home, as a result of cerebral hemorrhage.——Dr. George H. Matchette has been elected a director of the McPherson Hospital.——Fire in Greenleaf, September 5, destroyed the office of Dr. Z. Hosea Snyder, who suffered a loss of $5,000.——Dr. William W. Minick has been elected mayor of Wichita.——Dr. James Stewart has been appointed city physician of Topeka.——Dr. Ansel M. Edison, Topeka, has retired from practice and will make his home in La Porte, Tex.——Dr. Mortimer Marder, police surgeon of Kansas City, has resigned.

MARYLAND

Herter Memorial Meeting.—The medical faculty of the Johns Hopkins University and other friends met October 5 to commemorate the life and work of the late Dr. Christian A. Herter, New York City, who with his wife founded the Herter lectureship.

Baltimore

Home from Europe.—Drs. James J. Mills, William S. Thayer, Joseph E. Gichner and Lewellys F. Barker have returned from Europe.

Typhoid Vaccin Adopted.—Typhoid vaccin is to be used in the state institutions by decision of the state board of health published October 5.

Kossel Entertained.—At the conclusion of the Herter lectures Dr. Albrecht Kossel was entertained at dinner at the Maryland Club by Dr. William H. Welch. About twenty members of the faculty of the Johns Hopkins school were present. Dr. and Mrs. Kossel will sail for Europe October 24.

Personal.—Dr. James H. Bay has been appointed by the postoffice department as examining physician to the civil service board of examiners for Havre de Grace.——Dr. Eugene Wright has succeeded Dr. Don P. Peters as superintendent of the Church Home and Infirmary.——Dr. J. George Schmetzer is ill with typhoid fever at the Union Protestant Infirmary.——Dr. George J. Heuer has succeeded Dr. Charles M. Remsen, resigned, as resident surgeon at Johns Hopkins Hospital.——Dr. H. Ross Coppage has been appointed a member of the public bath commission.——Dr. B. Merrill Hopkinson, after twenty-one years service as soloist and choirmaster of Brown Memorial Church, has resigned. He was given a purse of gold by the congregation as a testimonial.

MASSACHUSETTS

Ether Day.—The sixty-fifth anniversary of Ether Day will be celebrated by appropriate exercises at the Massachusetts General Hospital, Boston, October 16. The address of the occasion will be delivered by Dr. Simon Flexner, New York City.

Personal.—Dr. George G. Bailey, Ipswich, has been appointed medical examiner of Essex County.——Dr. Ernest B. Emerson, superintendent of the North Reading State Sanitarium, has been appointed medical director of the state farm at Bridgewater, vice Dr. Alfred Elliott, retired.——Dr. David F. Atwater, Springfield, is said now to be the oldest alumnus of Yale College.

Council Meets.—At the stated meeting of the Council of the Massachusetts Medical Society, October 4, Drs. Charles F. Caney, Greenfield, and Justus G. Hanson, Northampton, were appointed delegates to the Vermont State Medical Society, and Drs. Lyman A. Jones, North Adams, and Richard S. Benner, Springfield, delegates to the Medical Society of the State of New York, and Dr. Percy E. Brown, Boston, was appointed a delegate to the Medical Society of Virginia. Dr. Horace D. Arnold, Boston, presented the report of the delegates to the American Medical Association and Dr. Harold C. Ernst, Boston, reported for the committee on state and national legislation the contemplated efforts to raise the standard of applicants for registration in medicine and hoped thereby that "Massachusetts may be lifted from its deplorable condition in this matter, in which it is so far behind, practically, almost all the states in the Union."

MINNESOTA

Personal.—Dr. Robert O. Earl, St. Paul, has returned from Europe.——Dr. John J. Eklund, Duluth, has resigned as a member of the State Board of Visitors.

Rush Alumni Meeting.—In connection with the annual meeting of the State Medical Association in St. Paul, the alumni of Rush Medical College, resident in Minnesota, held a meeting at which Dr. Bertram W. Sippy, Chicago, was the guest of honor. Dr. William H. Rowe, St. James, was elected president; Dr. T. C. Masters, Sauk Center, vice-president, and Dr. Bayley, Lake City, secretary.

State Medical Association Meeting.—The annual meeting of the Minnesota State Medical Association was held in St. Paul, October 4-6, and the following officers were elected: Dr. Haldor Sneve, St. Paul, president; Drs. Olaf T. Sherping, Fergus Falls, and William F. Wilson, Lake City, vice-presidents; Dr. Thomas S. McDavitt, St. Paul, secretary, reelected, and Dr. Richard J. Hill, Minneapolis, treasurer, reelected. It was decided to hold the next annual meeting at Duluth, Minn.

MISSOURI

Personal.—Dr. William S. Saunders, Clarence, is reported to be seriously ill.——Dr. John H. George, Leeds, has succeeded Dr. Addison M. Harrison, Lees Summit, as superintendent of the Jackson County Poor Farm.——Dr. John J. Farrell, Hannibal, has been elected secretary of the Marion County Board of Health.——Dr. and Mrs. George S. Drake, Jr., St. Louis, have returned from Europe.——Dr. Heine Marks, St. Louis, who has been seriously ill with septicemia, is reported to be improving.

St. Louis

New Milk Ordinance.—The Civic League has prepared an ordinance creating the position of chief milk inspector with a corps of assistant inspectors giving them power to inspect all dairies that furnish milk for consumption in St. Louis; providing for a system of licensing dairies by the board of health; and establishing a standard of ingredients. The proposed ordinance was of course vigorously opposed by the milk dealers, they claiming that it would give too much authority to the inspector and would compel a rise in the price of milk to 12 cents a quart. The bill in its present or a modified form will be introduced in the municipal assembly by the board of health.

NEW YORK

Personal.—Dr. Arthur J. Bedell, Albany, has returned after a trip from Japan, Siberia, Russia and England.——Dr. Roy L. Leak of the Ogdensburg State Hospital has been appointed second assistant physician at the Matteawan State Hospital and Dr. William J. Tiffany, who has been on temporary duty in that institution, has returned to the Binghamton State Hospital.

District Society Meeting.—At the annual meeting of the Eighth District Branch of the Medical Society of the State of New York, held in Dunkirk, September 26 and 27, the following officers were elected: president, Dr. Henry A. Eastman, Jamestown; vice-presidents, Dr. Arthur G. Bennett, Buffalo, and Dr. Carl G. Leo-Wolf, Niagara Falls; secretary, Dr. Carl S. Tompkins, Buffalo, and treasurer, Dr. Charles A. Wall, Buffalo.

State to Teach Hygiene.—The New York State Health Department has completed plans for giving a series of public health lectures in every important city and town in the state. Lectures on the following subjects will be included in the course: tuberculosis, typhoid fever, diphtheria, smallpox and vaccination; rabies, the value of vital statistics; carriers of disease; preventable diseases; the sanitation of a country home; sewage disposal; water filtration, and oral hygiene.

New York City

New Laboratory for Hospital.—A new research laboratory is to be added to the Roosevelt Hospital through the munificence of Mrs. E. H. Harriman. The laboratory will do special work in physiologic chemistry. Its erection will be under the charge of Dr. Lewis R. Morris.

New York University Debt Free.—On October 2 the last $20,000 was paid on a mortgage of $175,000 on the medical school of the New York University, thus leaving the property of the university debt free. The payment of this indebtedness was made possible by the bequest of John S. Kennedy.

Secret Division of Fees.—At the stated meeting of the New York Academy of Medicine, held October 6, it was unanimously carried that the secret division of fees was an evil; if any member of the Academy of Medicine was found guilty of this practice it should furnish sufficient grounds either for a demand for his resignation or to make him liable to expulsion.

Low Death Record.—The number of deaths reported in New York City during the nine months ended September 30 was 58,144, equivalent to a death-rate of 15.56 per 1,000, which compares favorably with the corresponding period of 1910, when the death-rate was 16.27. The average number of deaths for the first nine months of the preceding thirteen years was 18.77 per 1,000. The reduction in the death-rate of infants under 1 year of age was most marked during this period, as 11,733 deaths were reported, or 124.6 per 1,000 as compared with 12,922 deaths, or a rate of 142.3 per 1,000 during the corresponding period of last year. This is equivalent to a reduction of 17.7 per 1,000, or a saving of 1,667 lives of infants during the first 9 months of the year.

Health Day at the Budget Show.—October 5 was health day at the city budget show and much interest was shown in the exhibit of the department of health. In his address on this occasion the health commissioner stated that he was going to ask for $1,564,178 additional for his department next year. It is his intention to establish seventy-three milk depots in the city instead of the fifteen now operated by the department. He also intends to increase the corps of school nurses and to establish six school clinics, to provide additional dentists, and to extend the inspection of school children for contagious diseases and physical defects to all free schools, bringing under the supervision of the department nearly 900,000 children. The interest shown in the budget exhibit has made it seem advisable to install a permanent exhibit open at all times to the public in the new building of the health department at Center and Walker streets.

OHIO

State Health Authorities to Meet.—The Ohio State Board of Health announces that its thirty-first conference with representatives of local boards of health will be held October 19 and 20.

Refuses to Contribute.—The board of Stark County Commissioners, Canton, it is said, has refused to appropriate $7,976, its additional share, necessary for the completion of the tuberculosis hospital at Springfield Lake. Other counties in the compact have agreed to the increased cost, and the five-county tuberculosis hospital board has entered suit to compel the commissioners of Stark County to make this appropriation.

Personal.—Dr. Howard H. Herman, Dayton, has returned from Europe.——Dr. Carl H. Lund, Marietta, formerly a member of the medical staff of the Queen Copper Company, Douglas, Ariz., sailed for Europe, September 28.——Dr. John W. Clark, physician to the state penitentiary, Columbus, will hereafter attend to the duties formerly performed by Dr. A. J. Shoemaker, day physician.——Dr. Robert D. Gibson, Youngstown, is reported to be seriously ill at Mercy Hospital, Canton, as the result of an automobile accident.——Dr. George P. Buffett has been appointed ward physician of Cleveland, vice Dr. Frank W. Hickin, resigned.

Cincinnati

Personal.—Dr. Ernst Gustav Zinke was elected secretary of the American Association of Obstetricians and Gynecologists, at its twenty-fourth annual meeting, September 28.——Dr. and Mrs. Derrick T. Vail and family have returned from Europe.——Dr. Clayton B. Conwell, superintendent of the Ohio State Sanatorium for the Cure and Prevention of Tuberculosis, Mount Vernon, has resigned.

OREGON

New Faculty Members.—Announcement is made by Dr. Simeon E. Josephi, president of the medical department of the University of Oregon, Portland, of the following additions and changes in the faculty of the department: Dr. Franklin C. McLean of Chicago has been made professor of materia medica and pharmacology; Dr. Richard Dillehunt, also of Chicago, is to be lecturer in anatomy. Dr. Oscar T. Roberg, at present professor of anatomy, has been appointed professor of pathology, succeeding Dr. Robert C. Yenney, Portland, who has been made professor of clinical medicine.

Personal.—Dr. Thomas W. Ross, Astoria, has gone to Europe.——Dr. Cortez H. Wheeler has been reappointed health officer of Portland, and Dr. Samuel M. Gellert, assistant.——Dr. Ferdinand H. Dammasch, assistant health officer of Portland, has gone to Europe.——Dr. Otis C. Hollister, Portland, was run down by an automobile recently and was seriously injured.——Dr. Theodore Fessler, Portland, has been elected great sachem of the Improved Order of Redmen for Oregon, vice Dr. Frank H. Vincil, Rosenburg, great chief of records, who has temporarily filled the position.——Dr. George S. Whiteside, Portland, secretary of the state medical association, was seriously injured in a polo game, September 18.——Dr. A. E. Rockey, Portland, who was operated on eight weeks ago for appendicitis, has recovered and resumed practice.——Dr. J. Chris O'Day, Portland, has returned after a brief vacation in the Cascades.

PENNSYLVANIA

Personal.—Dr. Samuel N. Traver, Steelton, sailed for the Mediterranean, September 30.——Drs. Luther B. Kline, Catawissa, and Milton H. Fussell, Philadelphia, were elected delegates to the American Medical Association by the Medical Society of the State of Pennsylvania at its recent meeting.

Relief for Flood Sufferers.—A letter has been received by The Journal, suggesting that a relief fund be opened for the benefit of the medical men who have suffered damage or destruction of their property by the recent flood at Austin. The secretary of the Medical Society of the State of Pennsylvania states that contributions for this purpose may be sent to Dr. Owen M. Shreve, Erie.

New Work for Assistant Secretary.—At the meeting of the House of Delegates of the Medical Society of the State of Pennsylvania, September 25, an amendment to the by-laws proposed by the committee on permanent location was adopted whereby the assistant secretary is henceforth to carry out all business details incident to the annual sessions of the society, under the advice and direction of the board of trustees.

Philadelphia

Election of Officers.—The new officers of the Medical Society of the Woman's Hospital for 1911-12 are: president, Dr. Florence E. Kraker; vice-president, Dr. Mary Buchanan; secretary, Dr. M. Louise Diez, and treasurer, Dr. Mary Thomas Miller.

Pediatric Joint Meeting in New York.—A joint meeting of the New England Pediatric Society, the Section on Pediatrics of the New York Academy of Medicine and the Philadelphia Pediatric Society, will be held in New York City on November 9. The entire day will be spent in visiting New York hospitals and a scientific meeting will follow at which three papers will be read, one by a member of each society.

Personal.—Dr. Andrew H. Woods, assistant neurologist to the Philadelphia Hospital, has been made vice-president of the Canton Christian College in China.——Dr. Marcus A. Franklin has returned from Europe.——Dr. Joseph Leidy, Jr., will sail for Europe on October 18.——At a meeting of the College of Physicians, October 5, the Alvarenga prize, valued at $180, was awarded to Dr. Francis D. Patterson for his thesis on "Parathyroid Glandules."

Tuberculosis Day Camp to Remain Open.—The results of the Tuberculosis Day Camp on the Delaware River front have been so gratifying that it will be kept open during October and very probably November also. The regime at the camp conforms strictly to that of a sanatorium and suitable cases, namely indigent tuberculosis patients, not requiring absolute rest in bed, may be referred by any physician and remain under his care, but must apply for a card of admission to the Tuberculosis Dispensary of the State Department of Health. The camp is a philanthropic enterprise, the funds for its support having been raised in response to an appeal sent out last spring by Dr. Joseph S. Neff, the honorary director, Mr. Edward B. Smith, treasurer, and Dr. Albert P. Francine, director.

GENERAL

Ohio Valley Physicians to Meet.—The thirteenth annual meeting of the Ohio Valley Medical Association will be held at Evansville, November 8 and 9, under the presidency of Dr. William D. Haines, Cincinnati.

Child-Savers to Meet.—The American Association for the Study and Prevention of Infant Mortality will hold a meeting at Hotel La Salle, Chicago, November 16 to 18, when the results of the recent European tour of investigation of Prof. Charles R. Henderson, of the University of Chicago, will be given.

Hookworm Conference.—The second annual conference on hookworm was held in Nashville, Tenn., September 15 and 16, and Little Rock was decided on as the place for the next conference in 1912. Dr. John A. Ferrell, Kenansville, N. C., was elected president, and Dr. William W. Dinsmore, Decatur, Ala., secretary of the conference.

Railway Surgeons Meet.—At the seventeenth annual meeting of the Big Four Railway Surgeons, held in Indianapolis, October 3, the following officers were elected: president, Dr. John H. Miller, Pana, Ill.; vice-presidents, Drs. William J. Means, Columbus, O.; John C. Sexton, Rushville, Ind., and John C. Epperson, Kansas, Ill.; and secretary-treasurer, Dr. Leonard A. Ensminger, Indianapolis (reelected).

Personal.—Captain John S. Lambie, Jr., M.C., U. S. Army, who was operated on at Johns Hopkins Hospital, September 22, for appendicitis, is reported to be doing well.——Colonel William W. Gray, M.C., U. S. Army, medical supply officer at the Presidio, San Francisco, was thrown from his horse in Golden Gate Park, September 16, fracturing several ribs and sustaining internal injuries.——Dr. Mary Eddy, medical missionary in Turkey, who has established two sanatoriums for consumptives, one near Beirut, and the other on Mount Lebanon, is making a two months' visit and lecture tour of the United States, to endeavor to secure medical supplies and funds to increase the scope of her tuberculosis work in Turkey.

Mississippi Valley Medical Association.—The annual meeting of the Mississippi Valley Medical Association, to be held in Nashville, October 17 to 19, promises to be one of the most interesting from a scientific standpoint of any in the history of the organization. Dr. Joseph D. Bryant, New York City, is to deliver the address on surgery, and Dr. James C. Wilson, Philadelphia, the address on medicine; the presidential address by Dr. Robert H. Babcock, Chicago, will be on "Medical Tendencies." The surgeon general of the U. S. P. H. & M.-H. Service has detailed Assistant Surgeon R. M. Grimm to attend the conference and present a paper on pellagra, and Surgeon William Colby Rucker to describe the work done by the public health service in the stamping out of bubonic plague. There is also to be a symposium on visceroptosis, which will be considered from all standpoints. In this Drs. Cornelius W. Suckling and William Billington of Birmingham, England, will participate. The entertainment provided for the association includes an automobile excursion to the Hermitage, the home of General Jackson, with an address by Dr. John A. Witherspoon, Nashville, Tenn., on "Old Hickory."

Appeal for John Morgan Monument.—A committee consisting of Edgar Fahs Smith, Ph.D., Dr. S. Weir Mitchell, Philadelphia, Sir William Osler, and Drs. William Pepper, Clarence Payne Franklin, and Swithin Chandler, Philadelphia, has been appointed to take up the project of erecting a fitting monument to John Morgan, founder of the first medical school in the United States, and director general of the hospitals and physician-in-chief of the American Army during the revolutionary war. He received his A.B. degree from the University of Pennsylvania in 1757, his M.D. from the University of Edinburgh; and later became L.R.C.P., Lond., and F.R.S. He was one of the founders of the College of Physicians of Philadelphia. In 1765 he persuaded the trustees of the College of Philadelphia to organize the first medical school in America, and in this institution he was a professor for three years. He died Oct. 15, 1789, and is buried in St. Peter's Church, Philadelphia, but no monument marks the place where his remains repose. The committee hopes that the medical profession in general in the United States, and all who, directly or indirectly, have owed anything to medical education, will heartily approve of this movement, to honor the name of John Morgan by an appropriate monument, marking his last resting place.

FOREIGN

Original of Sherlock Holmes Dies.—Dr. Joseph Bell, eminent surgeon of Edinburgh, said to have been the original of Sir Arthur Conan Doyle's famous character, Sherlock Holmes, died at his home in Midlothian, October 4, aged 74. Dr. Bell was formerly president of the Royal Medical Society of Edinburgh and of the Medico-Chirurgical Society, consulting surgeon to the Royal Infirmary, and Royal Hospital for Sick Children; demonstrator of anatomy in the university, and was for twenty-three years editor of the *Edinburgh Medical Journal*. He was an enthusiast in the study of mysterious crimes and gave to his student Conan Doyle his first insight into the wonderful possibilities of arriving at facts by the so-called deductive method.

LONDON LETTER

(From Our Regular Correspondent)

London, Sept. 23, 1911.

The National Insurance Bill and the Question of Friendly Society Control

The national insurance bill is still in committee stage in the House of Commons. The passage of amendments of its medical part, rendering it more acceptable to the profession, has been described in previous letters to The Journal, but the struggle is by no means over. The British Medical Association is continuing to organize the profession to fight injurious proposals. The representative body of the association has determined to postpone decision as to the attitude the profession should be recommended to take as regards consenting to work under the bill, until the proceedings in the committee of the House of Commons have been completed, and the bill as amended can be considered as a whole. In the meantime, the collective effect of the amendments already passed is being carefully examined and a report on the whole subject will be issued to the profession. Since the adjournment of parliament, the position has become acutely critical with respect to two of the most important principles for which the profession has been contending, namely, the free choice of physicians by patient and the freedom from friendly society control, and it is considered urgent that the profession should be put on its guard. The passing, by an overwhelming majority, of the amendment by which control of the administration of medical benefit was placed solely in the hands of local health committees, and the passing of the chancellor of the exchequer's amendment providing for free choice of doctor by patient, were received by the public as notable victories for the profession. But the British Medical Association warns the profession not to overvalue such success as has been gained since strenuous efforts are necessary to make the position secure. At conferences of friendly societies held after the conclusion of the committee proceedings in the House of Commons, resolutions hostile to the professional position have been carried and the desire has been manifested by the societies to retain control of what they call "their own doctors." Certain societies are endeavoring to rally to their support the physicians who hold appointments from them and to separate them from the general mass of their professional brethren. Attempts are being made to induce them to sign declarations in favor of the present system of appointment of medical officers by clubs, as against giving each member the choice of his own doctor. The British Medical Association has issued a circular to the whole profession asking physicians to appreciate the true bearings of the matter before signing to support the association by every possible means in preventing the perpetuation and extension, in connection with the national insurance bill, of the worst abuses of contract practice.

Hygienic Progress in Ireland

The Women's National Health Association of Ireland has done remarkable work in educating the people in the elements of hygiene and has played a great part in the antituberculosis movement in that country. It has taught the people to keep their windows open and has organized exhibitions and lectures all over the country. So ingenious have been some of its methods that they have been copied in England. The success of this movement is largely due to the indefatigable efforts of the president and the countess of Aberdeen, the Vicereine of Ireland. To mark their appreciation of her work the recent Congress of the Royal Institute of Public Health, held in Dublin, appointed her president—a position never before held by a woman.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 22, 1911.

Assistance to Physicians' Families

The Oeuvre Parisienne de Secours immédiat et d'assistance à la famille médicale (The Journal, Feb. 12, 1910, p. 548) has been organized to give aid to all of the members of any physician's family in misfortune. The membership fee has been reduced to one franc, and all the members of physicians' families are invited to cooperate. Non-medical persons who wish to show recognition to the medical profession are also invited to take part in the work, but the direction of the association is to be exclusively in the hands of physicians.

A Meeting for the Study of Abnormal Childhood

At the time of the twelfth Congrès français de médecine, which will be held at Lyons, October 22 to 25, a special independent meeting under its auspices will be held under the presidency of Dr. Beauvisage, professor in the Faculté de médecine de Lyon and president of the Oeuvre de l'Enfance anormale, to study the subject of abnormal childhood. All persons interested in the subject—professors, physicians, psychologists, instructors—may take part. No fee is demanded, the expense of the meeting being borne by the Congrès de médecine. The papers read will be published in medical, psychological or pedagogical journals as may seem most appropriate. Visits will be arranged to the psychopedagogical laboratories of the Oeuvre de l'Enfance anormale and to the medico-pedagogical laboratories of Villerubanne and Meyzieu.

Death of a Centenarian Physician

Dr. J. C. Boulle, whose centennial was celebrated March 3, 1910, has just died at Saint-Valérien in his one hundred and second year.

The High Cost of Living and the Public Charities

The municipality of Paris is greatly concerned over the increase in the cost of living, due to the epidemic of foot-and-mouth disease and to the unusual drought of the past summer. M. Felix Roussel, president of the municipal council, has just sent a letter to the presidents of the syndicats of the various food-supply industries expressing the desire to cooperate with them in lessening the expenses of living during the coming winter. The effect of this increase in the cost of foodstuffs is shown already in the budget of the Public Charities by a supplementary expenditure of about $190,000 (995,000 francs) for food. M. Mesureur, director of the Public Charities, has announced that when the municipal council meets again, he will be obliged to ask for additional funds with which to balance his budget.

Has a Physician the Right to Inject an Unauthorized Serum?

Under this title I described the prosecution of Dr. Lorot of Paris (The Journal, May 6, 1911, p. 1340) who injected his patients with a serum of his own make called "toxyline" which had not been legally recognized. This doctor was released in the first instance on the plea that the injections were a part of the treatment. The court of appeals of Paris confirmed the decision of the lower court, but the *cour de cassation*, to which the case was carried on appeal, has declared that a physician has no right whatever to make professional use of an unauthorized serum.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 21, 1911.

Personal

Professor Friedrich of Marburg has accepted the position of director of the surgical clinic at Königsberg.

Professor Veit of Halle has received the honorary title of doctor from St. Andrew's University, Glasgow, Scotland, on the occasion of the quincentenary of that institution.

A Medical Director for the Prussian Medical Bureau

It is a circumstance of unusual significance that the person who has hitherto occupied the office of director of the medical bureau having resigned on account of advanced age, Dr. Kirchner has been appointed in his stead. In this way the long-standing custom of appointing a lawyer as chief of the medical bureau, as of most departments, has been departed from and the wish of the Prussian medical profession, often expressed, to see a physician at the head of the medical bureau is fulfilled. This appointment was facilitated, or rather only made possible by the fact, which I have previously reported, that the medical bureau has been transferred from the department of education to that of the interior. In the department of education there was no inclination, on account of long custom and for other reasons, to make such a change.

Surely the prestige of the medical profession of Prussia will be enhanced by this appointment and there can be no doubt that our interests will be attended to with greater intelligence and cordiality by a man who has come from our own ranks than by a lawyer. Privy Councillor Kirchner is the oldest of the members of the bureau and for this reason was the only one considered in the appointment. But he has rendered good service in public health matters, particularly in framing the contagious diseases law. Kirchner is a pupil of Robert Koch and stood in intimate personal relations with him.

International Congress on Infant Protection

In the second week of September, the third international congress for protection of infants was held here. As the empress had assumed the protectorate and the imperial officials took a great interest in its organization (the president of the imperial health office was at the head of the committee on organization), it is easily understood that the affair came off in grand style. There were quite 1.000 participants present, among them men and women from all countries. The presidency as in all the international congresses of a philanthropic nature that have recently occurred in Berlin was filled by a prince, in this case the hereditary prince of Hohenlohe-Langenberg, formerly undersecretary in the imperial colonial office. The congress was opened September 11 in the presence of the empress. The proceedings were carried on in several sections which were under the direction of prominent investigators.

INFANT PEDIATRICS IN THE MEDICAL CURRICULUM

In the first section the chairman, Professor Heubner, delivered an address on the physiology and pathology of infancy in university instruction. He showed as the result of a question blank sent out that this branch is insufficiently provided for in the medical curriculum in most countries. He concluded with an appeal to the representatives of the various nations to direct a memorial to their governments, like the petition presented by the German pediatrists, asking for better facilities for instruction in this line. In the discussion of this theme Professor Marfan of Paris called for obligatory instruction to medical students in the hygiene and diseases of infancy in order to reduce infant mortality. Every children's clinic should have a special department for infants, with an infant cousultation department for healthy and sick infants, which gives opportunity to receive the infants with the mothers. All students ought to attend this department for at least two months and pass a special examination in the care of infants. For the head of a crèche or a station for the care of infants, only such physicians should be selected as have had special experience and are able to show a certificate for the same.

Privat-docent Dr. Berend of Copenhagen expressed the desire that either the physiology and pathology of infancy be taught in a special elective, or that in the compulsory pediatrics course these subjects, as well as the hygiene of infants, should receive special attention. As the physiology and pathology of metabolism have special applications to the modern treatment of infants, it would be very appropriate to teach these subjects as an immediate continuation of the courses in physiology and pathology. Professor Koplik of New York called attention to the activity of American physicians during the last twenty-five years in furthering infant hygiene. He expressed a wish for a separation of the study of infancy from that of later childhood, the play and the school age, and the establishment of separate chairs for the hygiene of the child and for the study of children's diseases. Professor Medin of Stockholm gave a historical review of instruction in pediatrics in Sweden, where already in 1845 a professorship for pediatrics was established, and in 1850 a special children's clinic was founded in Stockholm. The number of students taking the compulsory course in the pediatric clinic ought not to exceed twenty-five, in order to promote practical training as much as possible.

TRAINING IN THE CARE OF INFANTS

The education of the nursing force for institutions, families and communities brought out a greater discussion. Professor Feer of Zurich required for women who are willing to devote themselves to the profession of infant nursing, in addition to good physical health, a specially good education and intelligence, which must be in many respects greater than that required for other nurses, as the infant cannot express its sensations. The duration of instruction should be at least one year in a sanatorium or hospital for infants, and the subjects for instruction should be anatomy, physiology, nutrition, hygiene and social care, and they should be taught partly theoretically and partly practically at the bedside of the healthy and the sick infant by a physician and by the head nurse. It is desirable that a four to six weeks' course should be given in a lying-in hospital in order that the nurse may also be able to care for the mothers. Pupils younger than twenty years should not be received, as they are not capable of the efforts of the instruction period. After a successful period of instruction the pupil should receive the title of graduate trained infant nurse (*diplomierte Säuglingspflegerin.*)

The well-known pediatrician, Privy Councillor Taube (who has established model infant hygiene in Leipsic), reported on communal infant hygiene. He called attention to the importance of a municipal control of the construction and character of dwellings, as, especially in the smaller dwellings, the condition of infants is endangered by the overheating as a result of insufficient ventilation. Female officials experienced in the care of infants should be installed as inspectors of dwellings. Municipal lying-in homes for the reception of needy women and girls should be erected and breast-feeding should be encouraged by municipal arrangements (nursing premiums, stations for the care of infants and nursing rooms). A better training in the care of infants should be required of the midwives licensed by the municipality. Of especial importance is a law for providing a cheap milk that is unobjectionable on the ground of health. Illegitimate children need special oversight through the establishment of municipal general guardianship. The speaker described in detail the conditions in Leipsic, where a municipal pediatrician stood at the head of the entire public infant welfare system. Nathan Straus of New York, an official delegate from the United States, spoke of the progress which had been made in the care of infants in America, in connection with which he went extensively into the favorable effect of pasteurized milk, for the introduction of which he himself, as is well known, has spent millions.

MOTHERHOOD INSURANCE

Dr. Bruno, the president of the propaganda society for insurance of motherhood in Heidelberg, gave an address on this important subject. He held that the heavy expenses of motherhood insurance necessitated its support by the state more than any other branch of insurance. There can be no protection of infants without a sufficient care for the mother, as in Germany in a year 1,500.000 women were found to be without sufficient protection before, during and after birth. These efforts for the protection of motherhood should be directed toward an imperial legal regulation, similar to the legal conditions already provided, for the protection of lying-in women in the wage-earning classes and for an amplification for the same. As indispensable requirements for state-aided obligatory insurance, the following are important: compensation for wages, to the extent of a full day's wage, for ten weeks, four weeks before and six weeks after delivery; compensation for the cost of the midwife, physician, medicines and for necessary care at home or in the hospital, and nursing premiums or assistance in the nutrition of the infant. Inasmuch as this imperial regulation of the matter is not probable in the immediate future, the method of self-help and of private-insurance must be adopted. This can be made possible by propaganda societies for motherhood insurance, which collect the means for founding motherhood clubs of which the chief function is the encouragement of breast feeding. Private motherhood societies make it possible for all women without reference to trade, religion or social status, whose income is under $760 (3,000 marks) to secure proper assistance at the time of confinement by the payment of small sums, and thus to preserve the health of the mother and child. The propaganda society provides suitable care in the last four weeks of pregnancy, and in return for a small payment provides in case of need for the care of the house and for the delivery of the insured. The private motherhood insurance aims at purely economic and hygienic ends, and refrains from one-sided ethical, political or sectarian activity.

STATISTICS

Dr. Falkenburg in the section for statistics made an address on the morbidity, mortality and birth-rate in different countries, illustrated by numerous graphic representations. While the birth-rate has fallen very markedly in all European countries with the exception of Roumania, Bulgaria and Russia, the reduction in the general mortality is notably greater in all countries with the exception of Ireland and France, but the infant mortality remains relatively high. The German nation has taken an unfavorable position among the European states. So far as sufficient statistics on morbidity are available, it must be said that disturbances of digestion are the chief cause of the diseases and mortality of infants. In the discussion, Professor von Mayr of Munich asserted that the theory of the survival of the fittest (*Auslesetheorie*) with reference to infant mortality must be looked on as obsolete. The connection between the birth-rate and mortality is to be assumed, as indicated by the fact that the mortality rate increases with the birth-rate. This connection was also emphasized by Szana of Budapest. Even the very active efforts for hygiene have not been able to do away with this parallelism. Knczynski of Schöneberg asserted that it was extremely difficult to demonstrate such a parallelism, as well as to refute it.

OTHER TOPICS DISCUSSED

I cannot enter into the consideration of the other addresses. On the third day of the congress a consideration of existing arrangements for the care and protection of infants occurred in the various groups. At the final session the general secretary, Professor Keller, laid before the congress the suggestions made in the various sections; thus the assistance of states and societies in instruction of wider circles of the population in the protection and care of infants was advocated; further, the representatives of various countries were requested to urge their governments to provide new institutions for instruction in the university. It was further advocated to collect uniform international statistics on the entire subject of infancy. The necessity of the development of international relations of guardianship and legal protection in the care of infants in general (more protection than previously for illegitimate children, etc.) was strongly emphasized. In connection with this, the establishment of an international information bureau for all legal questions in regard to the protection of children was proposed. The next congress will occur four years hence at The Hague in Holland. Eight years hence it will presumably meet at London.

Marriages

James D. Dodrill, M.D., Webster Springs, W. Va., to Miss Mabel I. Harford of Richwood, W. Va., at Charleston, W. Va., September 26.

Lee J. Ernstberger, M.D., Oklahoma City, Okla., to Miss Lasetta S. Smodell of Louisville, Ky., at Vincennes, Ind., August 9.

John H. Steenbergen, M.D., Huntingdon, W. Va., to Miss Jessie Johnson Fitch at Fairmont, W. Va., September 20.

James William Huffman, M.D., Poland, Ind., to Miss Stella Kinland of Bismarck, Mo., at St. Louis, September 30.

Claude Jackson Martin, M.D., Clarksburg, W. Va., to Miss Edith Claire Riall of Baltimore, September 13.

Edwin W. Patterson, M.R.C., U. S. Army, to Miss Mary Laura Kriedler of Georgetown, D. C., September 6.

William Henry Best, M.D., Brooklyn, N. Y., to Miss Mary Anderson Kinsley of Philadelphia, September 29.

Edward Jonathan Klopp, M.D., Philadelphia, to Miss Emma Rille of Johnstown, Pa., September 27.

John Ross Beiter, M.D., to Miss Euretta Pamelia Kingsbury, both of Norwalk, O., September 30.

Edwin Janss, M.D., Los Angeles, Cal., to Miss Florence Cluff of San Francisco, September 12.

Henry James Reynolds, M.D., Chicago, to Mrs. Caroline W. Reid of Ottawa, Ill., October 4.

John Arthur Turner, M.D., Waukegan, Ill., to Miss Hazel Irene Kline of Chicago, October 5.

Deaths

Henry Gibbons, Jr., M.D., for many years dean of Cooper Medical College, San Francisco; died at his home, September 27, from senile debility, aged 71. He was born in Wilmington, Del., the son of Dr. Henry Gibbons, and was graduated from the Medical Department of the University of the Pacific, San Francisco, in 1863; for two years thereafter he served as acting assistant surgeon, U. S. Army at the General Hospital, Washington; he returned to San Francisco in 1870, became dean and professor of materia medica in Cooper Medical College; and in 1882 was made professor of obstetrics, gynecology and diseases of children; from 1870 to 1873 he was health officer of San Francisco; a member of the board of health from 1880 to 1883, and of the board of education from 1889 to 1890; he was a member of the American Medical Association; a charter member and once president of the Medical Society of the state of California, and the San Francisco Medical Society. Dr. Gibbons was one of the most prominent and progressive men on the Pacific Coast, and a practitioner and administrative officer of marked ability.

Robert Edward Doran, M.D. Albany (N. Y.) Medical College, 1893; a member of the American Medical Association and American Medico-Psychological Association; assistant physician at the Craig Colony for Epileptics, Sonyea, N. Y. from 1901 to 1903; first assistant physician in the Willard State Hospital from 1895 to 1901, and later superintendent of that institution; appointed state medical inspector for the lunacy commission in May, 1910; and a year later appointed superintendent of the Long Island State Hospital; an alienist of great merit and an administrative officer of ability, efficiency and energy; died at his home in Brooklyn, September 23, from heart disease complicated by laryngitis, aged 40.

Arthur L. Osborn, M.D. Western Reserve University, Cleveland, 1873; a member of the Ohio State Medical Association and National Association of Railway Surgeons, and once president of the Huron County Medical Society; a veteran of the Civil War; for twenty years major-surgeon of the Sixteenth Infantry N. G. Ohio, and surgeon of the Sixth N. G. Ohio during the Spanish-American War; a member of the board of U. S. pension-examining surgeons of Norwalk; local surgeon for the New York Central Lines and Wheeling and Lake Erie Railroad; died at his home in Norwalk, September 18, aged 64.

Zane Bland Taylor, M.D. Medico-Chirurgical College of Philadelphia, 1893; a member of the Medical Society of the State of Pennsylvania; formerly physician to the Huntingdon County Home, Shirleysburg; for many years a member, and at the time of his death president, of the school board of Orbisonia; formerly a member of the council and burgess; died at his home, September 18, aged 61.

Merton Oliver Edwards, M.D. Medical School of Brunswick, 1881; a member of the Maine Medical Association; from 1906 to 1908 a member of the state legislature and in 1910 state senator; postmaster of Monmouth for four years; for many years a member of the staff of St. Mary's General Hospital; died at his home in Lewiston, September 22, from nephritis, aged 59.

George R. Vernon, M.D. University of Pennsylvania, Philadelphia, 1875; for several years a lecturer at his alma mater; president of the Upper Darby (Pa.) Board of Health, and formerly president of the Clifton Heights Board of Health and a member of the school board; died at his home in Clifton Heights, September 16, from cerebral hemorrhage, aged 64.

Charles Edward Denhard, M.D. New York University, New York City, 1874; a member of the Medical Society of the State of New York and New York Academy of Medicine; a member of the staff of Bellevue, Charity and Park hospitals, and one of the founders of the German Poliklinik; died at his home in New York City, September 22, aged 71.

John Archibald Wilder, M.D. Albany (N. Y.) Medical College, 1895; of Denver; a member of the Colorado State Medical Society, American Climatological Association and National Association for the Study and Prevention of Tuberculosis; professor of pathology of the University of Denver, and pathologist to St. Luke's and St. Joseph's hospitals; for two years assistant at the Saranac Lake Sanatorium; died at the home of his mother at Hoosick Falls, N. Y., September 14, from pulmonary tuberculosis, from which he had suffered for fifteen years, aged 40.

Walter H. Peters, M.D. Medical College of Ohio, Cincinnati, 1886; a member of the American Medical Association, and for twenty years a specialist on diseases of the eye, ear, nose and throat, of Lafayette, Ind.; an expert analytical chemist and toxicologist; a member of the staff of St. Elizabeth's Hospital; died at his home in Lafayette, September 28, from cancer, aged 52.

George Titus Howland, M.D. Bellevue Hospital Medical College, 1886; formerly health officer of Washington, D. C., and a leader in the crusade for the improvement of sanitary conditions in dairies; for the last nine years a practitioner of Norwich, Conn.; died in a hospital in Boston, September 24, a day after an operation for appendicitis, aged 50.

Alva Leroy Paul, M.D. Long Island College Hospital, Brooklyn, 1875; of Ottawa, O.; a member of the Ohio State Medical Association; local surgeon for the Detroit, Toledo and Ironton Railroad, and a member of the local board of pension examining surgeons; died at a hospital in Cleveland, September 18, from heart disease, aged 63.

Samuel S. Kilvington, M.D. University of Buffalo, N. Y., 1883; a member of the Minnesota State Medical Association; formerly health commissioner of Minneapolis; a veteran of the Riel Rebellion; died at his home in Minnetoka Mills, Minn., September 25, from cerebral hemorrhage, aged 69.

James Alfred Pettit, M.D. University of Virginia, Charlottesville, 1896; of Roseland, Va.; a member of the governor's staff; was shot and instantly killed in front of a hotel in Lovingston, Va., September 25, aged 45. The cause of the shooting is said to have been an ancient grudge.

Joseph Westerfield Dodds, M.D. Miami Medical College, Cincinnati, 1888; a member of the Ohio State Medical Association, and for many years a district physician of Cincinnati; died at the home of his father-in-law in Hamilton, O., September 25, from nephritis, aged 51.

John J. Cannan, M.D. College of Physicians and Surgeons, Baltimore, 1892; a member of the Medical Society of the State of Pennsylvania, attending physician to the Bradford Hospital; died at his home in that city, September 23, from pneumonia, aged 43.

Uriah Davis Thomas, M.D. Botanico-Medical College of Ohio, Cincinnati, 1875; a charter member of the Minneapolis Writers' League and a poet of more than local reputation; died at his home in Minneapolis, September 16, from senile debility, aged 83.

Absalom Winfield Jones, M.D. University of Michigan, Ann Arbor, Mich., 1878; a member of the American Medical Association, and Columbus Academy of Medicine; died suddenly at his home in Westerville, O., September 21, from heart disease, aged 64.

Isaac M. Witmer, M.D. Jefferson Medical College, 1881; a member of the Lancaster County (Pa.) Medical Society, and coroner of the county for nearly thirteen years; died at his home in Lancaster, September 22, from cerebral hemorrhage, aged 60.

Lewis Eugene Beauharnais Sanborn, M.D. College of Physicians and Surgeons, New York City, 1867; a veteran of the Civil War; deputy health officer of New York City from 1879 to 1908; died at his home in Machiasburg, Me., September 24, aged 73.

Almon Ward Hill, M.D. Boston University School of Medicine, 1887; of Concord, N. H.; a member of the New Hampshire legislature in 1903 and 1905; died in the Homeopathic Hospital, Boston, September 17, after a surgical operation, aged 47.

John J. Harlan, M.D. University of Alabama, Mobile, 1872; probate judge of Tallapoosa County, Ala., from 1898 to 1904, and later a banker of Stamford, Tex.; died at the home of his son in Alexander City, Ala., August 26, aged 64.

James M. Davis, M.D. University of Louisville, Ky., 1871; secretary of the board of health of Greenville, Ind., and a member of the Floyd County Medical Association; died at his home, June 14, from cerebral hemorrhage, aged 78.

Alfred E. Sherwood, M.D. University of Pennsylvania, Pa., 1873; of Union City, Pa.; local surgeon to the Pennsylvania System; and member of the board of health: consulting physician to the Corry Hospital; died at his home, September 24, aged 62.

Napoleon B. Nevitt, M.D. University of Maryland, Baltimore, 1857; a member of the Medical Society of Virginia; surgeon in the Confederate service during the Civil War; died at his home in Accotink, September 25, aged 81.

David H. Davis, M.D. University of Vermont, Burlington, 1891; a member of the Medical Society of the State of New York; health officer of East Worcester; died at the home of his daughter in Schenevus, September 23, aged 54.

Luther M. Zimmerman, M.D. University of Maryland, Baltimore, 1864; surgeon in the Federal service during the Civil War; for several years postmaster of Myersville, Md.; died at his home in Hagerstown, September 13, aged 71.

Frederick G. Trowbridge, M.D. University of Buffalo, N. Y., 1883; a member of the Jefferson County (N. Y.) Medical Society; died at his home in Watertown, September 20, from cerebral hemorrhage, aged 53.

William T. Eikner, M.D. Milwaukee Medical College, 1901; proprietor of a hospital and sanitarium in Mason City, Nev.; was shot and killed in an altercation in a hotel in Mason City, September 19.

J. B. Humphrey (license, West Virginia, 1881); for many years a practitioner of Harrison County; died at the home of his daughter in Wilsonburg, September 7, from senile debility, aged 80.

Ada Benton Morgan, M.D. Hahnemann Medical College of Chicago, 1894; died at her home in Ridge, a suburb of Chicago, September 23, three days after an operation for appendicitis, aged 52.

William Acrill Fort (license, South Carolina, years of practice), a Confederate veteran and a practitioner since 1870; died at his home in Gaffney, September 21, from heart disease, aged 69.

Joseph G. Hodgkinson, M.D. St. Paul (Minn.) Medical College, 1886; of South St. Paul; died at Luther Hospital, St. Paul, September 16, from arteriosclerosis, aged 66.

Nelson W. Shugert, M.D. College of Physicians and Surgeons, Baltimore, 1885; died at his home in Tidioute, Pa., September 12, from heart disease, aged 51.

Nettie G. Gray, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, 1896; died at her home in San Antonio, Tex., September 15, aged 45.

G. G. Hubbard, M.D. State University of Iowa, Iowa City, 1865; died at his home in Munfordville, Ky., September 23, from carcinoma of the stomach, aged 77.

Harvey L. Hensley, M.D. Physio-Medical College of Indiana, Indianapolis, 1907; died at his home in Oakwood, Ill., September 19, from typhoid fever, aged 37.

Sophus A. E. Johnson, M.D. Chicago Homeopathic Medical College, 1893; died at his home in St. Louis, September 17, from heart disease, aged 54.

G. W. Rofelty, M.D. Medical College of Ohio, Cincinnati, 1876; died at his home in Los Angeles, Cal., Dec. 21, 1910, from valvular heart disease.

Alexander M. Smoot, M.D. University of Tennessee, Nashville, 1889; died at his home in Knoxville, Tenn., August 30, from nephritis, aged 59.

Louis W. Heydrich, M.D. Western Reserve University, Cleveland, 1885; of Toledo; died in Erlangen, Germany, September 15, aged 51.

Austin Shuey, M.D. Eclectic Medical Institute, Cincinnati, 1890; died at his home in Prospect, O., June 30, from acute gastritis, aged 51.

F. A. Brickley, M.D. St. Louis College of Physicians and Surgeons, 1886; died at his home in De Soto, Mo., September 14, aged 80.

John F. James, M.D. Lincoln (Neb.) Medical College, of York, Neb.; died at a hospital in Lincoln, September 20, aged 40.

Edward D. Crispell, M.D. Eclectic Medical Institute, Cincinnati, 1866; died at his home in Leadville, Colo., September 12.

Charles C. Cage, M.D. Tulane University of Louisiana, New Orleans, 1861; died at his home in Monroe, La., aged 86.

Minot G. Jenison, M.D. Howard University, Washington, D. C., 1882; died recently at his home in Hollywood, Cal.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE PHYSIOLOGIC STANDARDIZATION OF ERGOT

Reference was made editorially in The Journal October 7 to a study of the question of the physiologic standardization of ergot by Edmunds and Hale, in which they review the various methods employed in the standardization of the drug and give the results of their own work with proprietary and pharmacopeial preparations of various manufacturers.

Their report is a highly interesting document and it is presented here in order that physicians may know how much reliance is to be placed in the preparations of manufacturers and what serious discrepancies exist between the claims made for permanency, strength, etc., of their special products and the facts as brought out by experiment. A summary of their conclusions as to the method of standardization is also given.

"From the standpoint of both practicing physician and patient an interesting part of this research relates to the activity of various ergot preparations as they are obtained on the open market. Similar work has been reported on by various writers from time to time, but even their results show some interesting discrepancies which seem to be dependent partially at least on the special method of assay employed. The examination of these specimens by us was not the prime object of the work, but only an incidental part, as it was mainly concerned with an examination of the different methods of assay in general use.

"Dixon, using the blood-pressure method, reported that among six samples of ergot he found two moderately active, two very feeble, and two worthless. Edmunds and Roth, by means of the cat's uterus, found that in a series of fluid extracts six were of nearly the same activity, one about half strength and one apparently inactive. Kehrer reports on about twenty-five ergot preparations which he assayed in the course of his investigations on the isolated uterus. Goodall, in his work already referred to, reports on the examination of a large number of ergot preparations. Among these he found that almost 60 per cent. showed themselves to be very poor when judged by the blood-pressure standard, but that only 34 per cent. failed to cause satisfactory contractions of the uterus. Wood and Hofer seem to have had the most discouraging experiences with fluid extracts, as they found among eleven preparations only two which came up to their standard of activity as determined by the effect on the blood-pressure.

"Our own results obtained in this research showed that the six fluid extracts which were obtained in the open market possessed considerable variation in activity, some being four times as strong as others, as is seen in the following table. Only one of the entire number approached in strength the fluid extracts made from the Spanish and Russian ergot.

"Relative activity of preparations of ergot examined. Results of July and December assays.

Spanish ergot	5*
Cornutol (H. K. Mulford Co.)	5
Russian ergot	6
Nelson, Baker & Co., fluid extract	6
Ergone (Parke, Davis & Co.) Sample 2	8
Wyeth purified ergot	8
Parke, Davis & Co., sample 2, fluid extract	9
Sharpe & Dohme, fluid extract	10
Ray Chemical Co., fluid extract	11
Ergotole (Sharpe & Dohme)	15
Parke, Davis & Co., sample 1, fluid extract	20
H. K. Mulford, fluid extract	20
Ergone (Parke, Davis & Co.), sample 1	?

"As it is so generally known that the fluid extracts of ergot deteriorate quite rapidly, the fact that some preparations on the market which are made according to the pharmacopeia may be found very weak need not be considered a reflection on the manufacturer, as it may be merely the result of aging or other causes. It would seem very desirable, however, on account of this deterioration with age that bottles of ergot should be stamped with the date of the manufacture.

"With preparations of ergot other than those made according to pharmacopeial directions, the condition is quite different. These are prepared according to some private formula and are represented as being superior to the official preparations, either on account of greater strength, permanence, or some other suggested superiority. With these it is therefore of importance to see whether they possess any advantage over the cheaper official preparations and whether they actually conform to the standard claimed.

PREPARATIONS EXAMINED

"Cornutol appears at the head of these non-pharmacopeial preparations, and our sample seemed to be equal in activity to the Spanish ergot fluid extract. This preparation is made by H. K. Mulford Co., Philadelphia, from 'selected Spanish ergot and contains what is active separated from inert matter,' and is said to be assayed so as to contain 0.15 gram cornutin in 100 c.c. The specimen we examined was a thick greenish-brown fluid with a very unpleasant odor which suggested putrefaction. The most interesting point in connection with our sample of cornutol was that while it was found to be equally active with a good fluid extract, it should have been much more potent as it is claimed to be two and a half times as strong, each minim according to the label being equal to 2½ grains of ergot. We must conclude, therefore, that it, like the official preparations, had undergone deterioration.

"The 'ergot purified' made by John Wyeth & Bro., Philadelphia, made up with 25 per cent. alcohol, was a clear Burgundy red, and possessed the characteristic ergot odor. It required a dose about 50 per cent. larger than a good fluid extract in order to produce equal effects, and yet according to the makers it is a 'concentrated purified solution of active constituents of ergot, physiologically tested and standardized.' The method of assaying is not stated, but if we can judge by the copy of tracing enclosed, the preparation is tested by the blood-pressure method. Here again, as with cornutol, the only explanation we have to offer as to the difference in strength between that indicated on the label and what we found on examination is that it must have deteriorated very considerably.

"Still more interesting is 'ergotole,' made by Sharpe & Dohme, Baltimore. One specimen was found to be about one-third as strong as our Spanish fluid extract, while according to the makers it should be two and one-half times stronger, as each cubic centimeter is said to be equal to 2.5 grams select Spanish ergot. Our first thought would be that this remarkable discrepancy could be explained as in the other cases by the effect of age on the preparation, but this is evidently a mistake, as the firm's literature positively states that ergotole is a 'permanent solution,' that 'it does not change with age,' and is 'therefore always reliable.' Confronted by these statements, we are entirely at a loss for an explanation and must leave the subject with the mere statement of facts. Further, this preparation is assayed by the cornutine of Keller which the makers have found to be a 'trustworthy guide as to the therapeutic strength of the drug.' The evidence in regard to this relation we discussed at another point. A statement which occurs in the literature of the firm is that ergotole contains all the active principles of ergot in an 'unchanged condition' and 'in their natural combination.' The question might be raised as to whether this is not rather a strong statement and one which would be hard to prove.

"'Ergone,' Parke, Davis & Co., appears in both our series of assays, as the results obtained with it in July were so unfavorable that we decided to examine it again in December. According to the manufacturers, it is of the same strength as the official fluid extract, is non-alcoholic, sterile, active, permanent, and physiologically tested and standardized. The December samples we examined compared very favorably with the fluid extract made by the same firm whether the comparison was made on the cock's comb or the uterus. It apparently was slightly stronger, but not over about 10 per cent. However, both were much weaker than the Spanish fluid extract, being not much more than half as active. If the fluid extract had deteriorated (as might be expected), it would look as if ergone must have deteriorated also, as they are both standardized. But how can ergone deteriorate, being a permanent solution? Either they were both weak to start on, or they have deteriorated. The latter view probably is correct if we may judge by the findings in the samples used in the July series of assays. This specimen when tested on the cock's comb produced no cyanosis whatever, even when it was given in 4 c.c. and 6 c.c. doses. An extract from our records on one cock will show very plainly its lack of activity.

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* The numbers represent the amounts of the various ergot preparations that were required to produce a given degree of cyanosis in a cock's comb. For example: While five parts of Spanish ergot produced the required degree of cyanosis, it took ten parts of Sharpe & Dohme's fluid extract and twenty parts of Parke, Davis & Co.'s fluid extract to produce the same effect.—Ed.

"Cock: Weight, 1,285 grams. Aug. 26, 1910. Injected 1 c.c. Spanish fluid extract. Distinct cyanosis. Same intensity as 3 c.c. ergotole injected to-day. Aug. 29, 1910. Injected 6 c.c. ergone. No action. Aug. 31, 1910. Injected 1.5 c.c. Spanish fluid extract. Distinct cyanosis.

"This protocol shows the cock was reacting well to other preparations, so that the failure to react must have been due to the ergone. This same specimen of ergone when administered in 1 c.c. doses to a cat called forth uterine contractions which were not as strong as were being produced by 0.1 c.c. doses of Spanish fluid extract. Clearly then the ergone was nearly inactive and must have deteriorated greatly.

"An interesting point in connection with the assay of ergone is the effect it produced on the blood-pressure. By reference to the tables [for which the *Bulletin* must be consulted.—Ed.] it will be seen that in both series it is very weak when measured by this standard. This is especially noticeable in the sample used in December, which was quite active when tested on the cock's comb and uterus, yet it raised the blood-pressure only 9 per cent., in comparison with the 38 per cent. increase produced by Parke, Davis & Co.'s fluid extract. This lack of activity on the blood-pressure is probably explained by a relatively small quantity of putrefactive amines, as ergone is said to be made under aseptic conditions.

"Chemical methods for the assay of ergot show little relation to biologic methods, and the latter should be used as a means of insuring those who require this drug a remedy both potent and of uniform strength.

"For this purpose, the method using the cock's comb is recommended on practical grounds rather than that using the uterus.

"Ergot preparations should be marked with the date of manufacture.

"The fluid extracts of ergot examined varied in strength greatly, some being only about one-fourth as strong as a preparation freshly made from Spanish ergot. Non-pharmacopeial preparations showed even greater discrepancies between the strengths claimed and those actually found.

"Until more reliable methods of manufacture are found makers of ergot preparations would be wise to exclude the phrase, 'ergot in permanent solution,' from their advertising literature. They may thus avoid misbranding."

QUININ TANNATE

Report of the Council on Pharmacy and Chemistry

The following report was adopted by the Council and its publication authorized. In accordance with the recommendation, the description of quinin tannate, appearing in New and Nonofficial Remedies department of this issue, requires a quinin content of not less than 29 per cent. and lists, as brands which comply with this standard, the products sold by the Mallinckrodt Chemical Works, the New York Quinin and Chemical Works and the Powers-Weightman-Rosengarten Company.

W. A. Puckner, Secretary.

Quinin tannate, being almost insoluble in water, is practically tasteless and therefore adapted for administration to children in the form of mixtures (suspensions). Although the absorption of this quinin salt is claimed to be somewhat uncertain and its tannin content is an objection, the Council decided to describe it in New and Nonofficial Remedies because of its general availability and its rather general recognition. But in view of the common unreliability of little used substances, the actual description of quinin tannate in New and Nonofficial Remedies was postponed until the market supply could be examined and standards for the preparation formulated.

An exhaustive and critical search of the literature, as well as a chemical investigation of this substance, has been made in the Association's chemical laboratory. The results of this investigation were reported by W. A. Puckner and L. E. Warren in a paper read before the Scientific Section of the American Pharmaceutical Association, and to be published in the Annual Reports of the Chemical Laboratory. In brief the findings are:

Quinin tannate is official in most foreign pharmacopeias, but not in that of the United States. In some of them methods for preparation are given and the official product in all cases is required to contain not less than 30 per cent. of anhydrous quinin alkaloid. The methods prescribed by these pharmacopeias, however, were found in the Association's laboratory to yield products which did not contain the stated amount of alkaloid. As a result of considerable experimentation and consultation with the manufacturers of quinin tannate in this country, a simple method of making the substance was worked out, which will enable anyone at all familiar with pharmaceutical operations to make a preparation of good quality.

Four commercial brands of quinin tannate were examined with the results shown in the accompanying table. From these findings it appears that the quinin tannate of the New York Quinin and Chemical Works is of good quality and contains more than 30 per cent. quinin. The products of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents) and the Powers-Weightman-Rosengarten Co. are satisfactory except that their quinin content is somewhat low. The Merck brand contains about 9 per cent. of free quinin, is bitter and is, therefore, not fit for use. The poor quality of this brand is a further illustration of the need of controlling the quality of medicines, particularly when these are not of much commercial importance.

Inasmuch as the authors have shown that quinin tannate with more than 30 per cent. quinin can readily be made, a preparation with less alkaloid should not be permitted. However, as two brands approach this standard and, as the interested firms will not find it difficult to meet the proposed standard, the referee recommends a temporary standard of not less than 29 per cent. quinin, which standard is to be increased so as to require a quinin content of not less than 30 per cent. by Jan. 1, 1913. It is recommended that the description of quinin tannate submitted be accepted for inclusion with New and Nonofficial Remedies and that the product of the New York Quinin and Chemical Works, of the Brunswick Chemical Works (Mallinckrodt Chemical Works, selling agents), and of the Powers-Weightman-Rosengarten Co. be listed as brands which meet the requirements of this description. It is further recommended that, beginning with 1913, a quinin content of from 30 per cent. to 35 per cent. be required.

In order that physicians may know the facts in the case, it is recommended that publication of this report be authorized.

Number or Brand.	Water (Loss at 100°).	Anhydrous Quinin.	Ether-Soluble Matter.†	Sulphate.	Chlorid	Taste of Filtrate.
P. W. R.	7.88	29.30	0.10	Distinct turbidity	Noticeable opalescence	Noticeably bitter.
Brunswick (M. C. W.).	6.50	29.51	0.19	Absent	Very marked opalescence	Noticeably bitter.
N. Y. Q.	8.05	33.36	0.36	Distinct turbidity	Noticeable opalescence	Noticeably bitter.
Merck	9.06	33.97	9.02	Very faint opalescence	Very faint opalescence	Very bitter.

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† In general, the values given in this column should indicate the presence of uncombined alkaloid, but quinin tannate is slightly soluble in anhydrous ether; hence the test must be carried out under arbitrary conditions and the residue obtained tested for uncombined alkaloid. The three specimens in which the ether-soluble matter amounted to less than 0.4 per cent. contained no uncombined alkaloid.

EDITORIAL COMMENT

In order that pharmacists might be in a position to dispense a good quality of quinin tannate, the examination of the Association's chemical laboratory above referred to was presented to the American Pharmaceutical Association at its recent annual meeting in Boston. While the very simple directions for its preparation which were worked out should make it possible for every pharmacist to prepare his supply of this drug, it was feared that the pharmacist would continue to place his faith in the drug as found on the market and hence the quality of the several available brands was also given in the report. This would have enabled the pharmacist to give preference to those brands which were shown by examination to be of a satisfactory grade. Unfortunately for the pharmacist, as well as for the physician and his patients, those interests which are not in sympathy with the Association's policy of giving publicity to the makers of worthless or adulterated drugs, appear to have been in control when the paper was read and were able to carry a motion that the names of manufacturers be omitted from the paper when it should appear in the American Pharmaceutical Association's publication. In view of this, physicians who use quinin tannate should, in their prescriptions, take the precaution to specify a brand of the drug which was shown to be reliable or, perhaps better still, indicate that they want a brand which corresponds with the standards established by the Council, by appending the letters N. N. R., thus "Quininæ tannas, N. N. R."

Correspondence

Treatment of Rhus Poisoning

To the Editor:—I read with interest the communication of Dr. Robert T. Morris of New York on the treatment of rhus poisoning (The Journal, Sept. 30, 1911, p. 1152). There is no statement as to the date of discovery by Dr. Berryhill, U. S. N., of the soap-suds treatment, but the method is familiar to many clinicians in the Boston hospitals, and I myself have used and recommended the same remedy since 1902. I have never before seen any reference to it in the literature, but I admit that I never looked for it.

C. S. Oakman, Detroit.

To the Editor:—In his 1911 edition Pusey quotes, from The Journal, March 17, 1906, Balch's treatment of ivy poisoning, which is substantially the same as that ascribed to Dr. Berryhill by Dr. Morris in The Journal, September 30. I have tried the treatment with soap-suds scrubbing and alcohol and find it very effective, giving immediate relief.

J. L. Buttner, New Haven, Conn.

To the Editor:—In the *Journal of Biological Chemistry*, 1907, ii, No. 6, S. F. Acree and W. A. Syme relate the results of an exhaustive study of rhus poisoning in a paper entitled "The Composition of Toxicodendrol." They found that the poisonous principle was neutralized by permanganate of potash, used preferably in warm 2 to 4 per cent. watery solution.

For nearly twenty years I was regularly a sufferer from ivy poisoning; and on two occasions the condition was alarming. None of the usual remedies had any effect, except to mollify the extreme distress. Permanganate this year and last gave almost instant relief, checking the disorder even when started on the face.

From experience and observation I have formulated the following treatment: No scratching. No ointments in the acute stage. No bandages, for these tend to spread the poison to the surrounding skin. If any protector is needed, let it be a loosely applied dressing of cotton and gauze, kept moist at all times with a mild alkaline solution, and changed at frequent intervals. Frequent and copious washings with lukewarm water and an unirritating soap. Occasionally, after the parts are washed, a 2 per cent. watery solution of permanganate of potash. If treatment has been begun late, and a condition of eczema exists after the activity of the poison has ceased, then soothing ointment may be permitted.

Permanganate of potash stains the skin a deep brown color, but this is a small price to pay for the relief it affords. A 5 per cent. solution of oxalic acid will remove the discoloration, but caution must be exercised in applying it. Alcohol is a solvent of the poisonous principle, but its use tends to spread the trouble. In handling the inflamed surface, it is best to use rubber gloves.

Addison W. Baird, New York.

To the Editor:—Please revise Dr. Hemmeter's formula for bismuth subgallate ointment given in his communication on the treatment of rhus poisoning. To a careful reader the transposition of quantities is evident, but many will use the formula as printed.

William Crawford Johnson, Frederick, Md.

Comment.—The subject of ivy poisoning is commented on editorially in this issue. In regard to Dr. Hemmeter's formula, Dr. Johnson is correct. We therefore repeat the formula with corrected quantities:

Bismuth subgallate	ʒi
Solution epinephrin (adrenalin chlorid) 1-1000...	100 ♏
Lanolin	ʒv
White petrolatum q. s.......................ad	℥i

The Introduction of the Ophthalmoscope into the United States

To the Editor:—I wish to correct the statement with reference to the introduction of the ophthalmoscope into this country, made by Dr. A. D. Williams, of Bedford, Ind., in The Journal, July 29, 1911, p. 408. The credit is due neither to Dr. E. Williams, of Cincinnati, in 1855, nor to Dr. Herman Knapp, of New York, in 1868, but to Dr. Christopher Johnston, who on his return from a prolonged stay in Europe, early in 1854, brought the instrument back with him to this city. In a report made by him to the Medical and Chirurgical Faculty of Maryland, on June 7, 1854 (Transactions for 1854), he exhibited and described it. He had made himself thoroughly familiar with it by studies in Berlin, with von Graefe, and in Paris with Desmarres. Dr. Johnston's report is accompanied by two ophthalmoscopic drawings and it is "highly probable that the very first colored drawings of the background of the eye, published in America, were those which he prepared" (Theobald, Samuel: "The Evolution of the Ophthalmoscope and What It Has Done for Medicine," *New York Med. Jour.*, June 22, 1901). The only article on the ophthalmoscope published in this country prior to Dr. Johnston's report, so far as I am aware, is a translation, somewhat condensed, of Helmholtz's original tract, by Dr. W. R. Sanders, which appeared in the *American Journal of the Medical Science*, July, 1853, and was copied from the English *Monthly Journal of Medical Science*, July, 1852.

Dr. Johnston was a highly accomplished scientist as well as physician, and held in the University of Maryland successively the chair of anatomy (1864-66) and that of surgery (1869-81).

Eugene F. Cordell, M.D., Baltimore,
Professor of History of Medicine, University of Maryland.

Anesthetic Records

To the Editor:—For a number of years I have been collecting anesthetic records with the object in view of being able some day to present to the profession what might possibly be accepted as a standard chart—at least as to contents. With this in view I have written to many hospitals for copies of the charts they use, and have been gratified at the number of responses which were received. In order now to reach my colleagues who have their own private blanks, I must have recourse to this general request. I would ask those who are interested in this subject kindly to send me four copies, one for the Long Island Society of Anesthetists, one each for the King's County and the New York Medical libraries, and one for my own collection. I shall be glad to correspond with any one on this matter and to send our chart (the Long Island College Hospital) in return.

A. F. Erdmann, Brooklyn.
458 Ninth Street.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TRYPTOPHAN TEST FOR CANCER

To the Editor:—Please give the technic of the test for cancer of the stomach with bromin, referred to in THE JOURNAL, Sept. 9, 1911, p. 928.
W. W. SCOTT, M.D., Walhalla, N. D.

ANSWER.—The tryptophan test referred to depends on the power of ferments present in the cancer juices to break down proteins into amino-acids. Tryptophan is an amino-acid which is split out of the protein molecule by trypsin and by the autolytic enzymes of tissue cells, whether they be normal or cancer cells; but the pepsin of normal gastric juice does not disintegrate proteins as far as the amino-acids, and hence tryptophan is not found in normal stomach contents. When disintegrating cancer-tissue is present in the stomach, autolytic enzymes may be present in the gastric contents and may set free tryptophan from the digesting protein. If it has not been already formed, it is necessary to add a compound of tryptophan, glycyl-tryptophan, to the filtered stomach contents and incubate for twenty-four hours before testing. During incubation the glycyl-tryptophan is split into glycin (amino-acetic acid) and tryptophan.

The test for tryptophan is made by adding bromin water to the suspected liquid. Bromin water is obtained by shaking distilled water with bromin or letting it stand in a closed bottle, in the bottom of which a small amount of bromin is placed. The bromin water should be added cautiously, drop by drop, as an excess of bromin may easily obscure the characteristic color. The addition of a few drops of bromin water to 3 or 4 c.c. of the incubated stomach contents, to which a few drops of 3 per cent. acetic acid have been added, will give a reddish violet color if tryptophan is present.

The tryptophan reaction is not characteristic of cancer unless the possible presence of the proteolytic ferment of the pancreas or intestine is excluded.

PLOMBIERES METHOD OF COLONIC IRRIGATION

To the Editor:—Please give a short description of the Plombières method of colonic irrigation or tell me where I can find an article in English giving the method. H. L. WILDER, Glen Rose, Texas.

ANSWER.—Dr. Bottentuit, consulting physician at Plombières (*Brit. Med. Jour.*, June 27, 1903), gives, in addition to dietetic and medicinal treatment, directions for using the waters at Plombières. He recommends baths highly, especially when given with the water. In addition he recommends enemas of this water, which should be given at a temperature of from 100.4 to 113 F. (38 to 45 C.) and from a vessel at a height of from 16 to 20 inches (40 to 50 cm.) above the patient's bed. He usually injects a pint at a time. Care must be used to inject it slowly and cause the patient to change position so as to bring it in contact with all parts of the colon. The enemas are best given after the bowels have moved, and after the first pint is rejected the patient should rest a short time and then receive a second enema. In an article on membranous colitis, Michael G. Foster (*Edinburgh Med. Jour.*, 1901) states that the hot alkaline baths at Plombières are often beneficial, their value depending more on their method of employment than on the chemical composition of the water.

HAIR DYES

To the Editor:—In answer to a correspondent (THE JOURNAL, Aug. 26, 1911, p. 757), you speak of eruptions due to hair dye. In one week this year I had three cases, one caused by eau-sublime, and two by "Empire Hair Regenerator." One of the patients asked me for a harmless hair dye. Can you suggest one?

E. HOCHHEIMER, New York

ANSWER.—All hair dyes are harmful. Probably the following, recommended by Kaposi, are as safe as any:

To obtain a black color;

℞	Gm. or c.c.		
Argent. nitrat.	1		gr. xv
Ammon. carb.	1 5	or	gr. xxij
Unguent. adipis	30		℥ j
M			

Or,

℞			
Argent. nitrat.	4		ʒ j
Plumb. acetat.	1	or	gr. xv
Aq. Cologn.	1		gtt. xv
Aq. ros.	ad 90		ad f ℥ iij
M			

ACID FRUITS MAY BE TAKEN AFTER CALOMEL

To the Editor:—Is there any scientific basis for the popular prejudice against eating acid fruits or other acids after a dose of calomel? If so, please explain.

LINDSAY PETERS, M.D., San Juan, P. R.

ANSWER.—1. Calomel is not acted on to an appreciable extent by non-oxidizing acids, such as hydrochloric or the fruit acids, except that it is affected by very concentrated boiling hydrochloric acid. It is converted by nitric-acid and by other oxidizing acids from a mercurous into a mercuric compound which may produce irritating or poisonous effects. The tendency to this change is in proportion to the concentration of the acid. Probably little change would be effected by therapeutic doses of diluted nitric acid, when taken into the stomach. Calomel is changed in the presence of soluble iodids or bromids, and, to some extent, when in contact with concentrated solutions of chlorids, into metallic mercury and a mercuric compound.

The fear of an action of acids or acid fruits on calomel in the stomach is, therefore, quite unfounded and the same is probably true of the administration of chlorids in ordinary concentration following calomel. The simultaneous use of nitric acid, iodids or bromids should be avoided.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Oct. 7, 1911.

Gunckel, George I., reported for duty at Columbus Barracks, Ohio.

Bewen, A. S., lieut., left San Antonio, Texas, en route to Fort Snelling, Minn.

Wadhams, S. H., major, returned to Fort Slocum, N. Y., from leave of absence.

Casper, Joseph, lieut., returned to Fort Du Pont, Del., from sick leave and departure Sept. 28, 1911, en route to Manila, P. I.

Reynolds, C. R., major, returned to Washington Barracks, D. C., from leave.

King, Charles T., lieut., assigned to duty as surgeon of the transport *Sherman*, with station at San Francisco.

Darby, Taylor E., lieut., left Fort Sam Houston, Texas, en route to Manila, P. I.

French, S. W., lieut., M.R.C., reports for temporary duty at Fort Hancock, N. J.

Bernheim, J. R., dental surgeon, left temporary duty at Columbus Barracks en route to Fort Sheridan, Ill.

McAlister, John A., dental surgeon, on completion of temporary duty at Camp E. V. Sumner, Cloudcroft, N. M., ordered to Fort Bliss, Texas, for temporary duty.

Ford, Clyde S., major, returned to Fort W. H. Harrison, Mont., from leave of absence.

Kirkpatrick, Thomas J., major, reported for duty at Fort Adams, R. I.

Phalen, James M., captain, reported for duty at New York City as attending surgeon.

Fox, James S., lieut., left Fort Sam Houston en route to Philippine Islands for duty.

Edie, Guy L., lieut.-col., orders so amended as to assign him to duty at headquarters, western division, San Francisco, pending departure of transport to Philippine Islands, about Nov. 6, 1911, instead of Oct. 5, 1911.

Bierbower, H. C., lieut., reports arrival at Fort Robinson, Neb.

De Quevedo, F. G., M.R.C., relieved from active duty in Medical Reserve Corps.

Bernheim, J. R., dental surgeon, reports his arrival at Fort Sheridan, Ill., from Columbus Barracks.

Smith, L. L., captain, reports departure from army medical school on four months' leave.

Richard, Charles, reports his arrival at Walter Reed General Hospital, for duty as commanding officer

Smith, lieut-col., left Fort Sam Houston for Fort Snelling, Minn.

Hart, W. L., lieut., granted two months' leave of absence, to take effect about Oct. 12, 1911.

Bartlett, W. K., captain, leave of absence granted him Sept. 25, 1911, is extended one month.

Geddings, E. F., major, reports his arrival at Fort Snelling, Minn., for duty.

Appel, D. M., colonel, reports his arrival at Fort Sam Houston, Texas, from leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Oct. 7, 1911

Hayes, O., A. A. surgeon, appointed acting assistant surgeon from Sept. 29, 1911.

Hathaway, G. S., P. A. surgeon, detached from the naval station, Olongapo, P. I., and ordered to the *New Orleans*.

Allen, D. G., asst. surgeon, detached from the *Elcano* and ordered to duty at the naval hospital, Canacao, P. I.

Bass, J. A., asst. surgeon, detached from the *Saratoga* and ordered to the naval station, Olongapo, P. I.

Hart, S. D., asst. surgeon, detached from the *Barry* and ordered to the *Elcano*.

Traynor, J. P., surgeon, detached from the navy-yard, Boston, and ordered to the *Dolphin*.

McLean, N. T., P. A. surgeon, detached from the *Dolphin* and ordered home to await orders.

Curl, H. C., surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the naval hospital, Mare Island, Cal

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

A NATIONAL DEPARTMENT OF HEALTH

In a recent issue of *LaFollette's Weekly*, the personal organ of Senator Robert M. LaFollette, appeared an editorial on "Government Care of Public Health," a part of which is reprinted for the benefit of readers of The Journal.

"The speech of Senator Works of California from the standpoint of a Christian Scientist in opposition to the bill so ably championed by Senator Owen, has attracted wide attention to the subject of establishing a national department of public health.

"We must concede that if one believes there is no such thing as sickness or disease, then all scientific research into cause and prevention, quarantine and sanitation laws, and crusade against carriers and sources of contagion, must appear useless.

"But if we believe disease and sickness deplorable facts in human life, just as we believe health and vitality desirable conditions, then we must be anxious that the work done by our government for these objects should be encouraged, correlated, and brought to the highest efficiency.

"If we want pure food, cold storage conditions regulated, mosquitoes, flies, rats and other carriers of fever and plague exterminated; if we want the spread of tuberculosis, meningitis, and children's diseases stopped; if we want child labor laws, limitations of hours of women's work, proper health conditions in our public schools, then we should favor a national department of health.

IMPURE MILK
AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
C Batchelor

"I DRINK TO THE GENERAL DEATH OF THE WHOLE TABLE"

"Scattered through all the various departments, State, Army, Navy, Interior, Agriculture, these subjects are now being considered in various ways. I pick up at random from my desk a report of the Marine Hospital. It relates to plague prevention work—cholera, leprosy, small-pox. It publishes municipal ordinances, pertaining to public hygiene, care of milk, protection of foodstuffs, garbage collection, sanitary and plumbing code. One report of the Department of Agriculture is a treatise on the extermination of hydrophobia; another relates to 'How Insects Affect Health in Rural Districts.' The latest report from the Bureau of Education is a volume on schoolhouses in their relation to health.

"It seems to me a reflection on our national intelligence and a commentary on our commercialism that the nations of Europe should have departments of health and education and we should be content to have these great fundamental subjects scattered about in different bureaus, as though they were of secondary importance in our national life.

"The opinion seems to have gained wide credence that the department is to be organized to promote some school of medicine. Nothing could be more erroneous. Mr. George H. Shibley, a resident of Washington in high standing, devoted to public interest, whose wife is one of the ablest osteopathic physicians in the country, made this statement to the Senate committee holding hearings on the bill:

"'It being a settled fact that the control of the licensing system is in the states, and there being in the states no tendency to surrender that power, it follows that the osteopathic physicians, the homeopathic physicians, and the eclectic physicians, whose occupations are licensed under state laws, are in no danger from a national health department. . . . The need for the establishment of a national health department is most pressing. The people are less protected from disease and death than are their cattle and hogs. A properly conducted department of health can do for the people in general what the Department of Agriculture is doing for the farmers. All of the people are vitally interested in the proposed department, while only about one-half of them are directly interested in the Department of Agriculture.'"

GRADUATE COURSE

Second Month — Second Weekly Meeting

Fractures of Vault of Cranium

Varieties: Fissured, fragmented, comminuted, perforated, simple and compound. Fracture of inner or outer table alone. Depression, central and peripheral.

Mechanical principles involved "bending" and "bursting" fractures. Lines of fractures.

Prognosis: Depends on brain injury and infection. Extent of injury, area of brain involved, degree of depression, simple or compound fracture. Remote effects, headache, epilepsy and insanity.

Treatment: (1) Fracture without depression and without cerebral symptoms, (2) with depression, (3) with cerebral symptoms, (4) compound fractures.

Fracture of Base of Cranium[1]

Pathology: Usual points of impact, beginning points of fracture, line of fracture, transverse, longitudinal, diagonal, circular. Effects of bilateral and unilateral compression. "Counter-stroke."

Diagnosis: (1) History of character of blow or injury, site of impact, etc. (2) Ecchymoses—In eyelids, about eyes, mucous membrane of pharynx, mastoid region, post-cervical region. Time of appearance. Differentiate from local injuries. (3) Flow of brain tissue, blood and serous fluid—In external auditory canal. From nose. From pharynx. Significance of each. Differentiate in case of hemorrhage. (4) Disturbance in function of cranial nerves. Forms of injury. Sites of injury.

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[1] Rawling: Lancet, April 9, 1904. Crandon and Wilson: Annals of Surgery, December, 1906. Progressive Medicine, March, 1905, 1907 and 1910. Phelps: Annals of Surgery, Vol. 1, Nos. 3 and 4, 1909.

Treatment: Disinfection of aural and nasal cavities. Drainage. Removal of fragments. Rest.

Differential Diagnosis of "Concussion" and Compression of Brain: (1) Onset of symptoms, (2) special senses, (3) respiration, (4) pulse, (5) nausea and vomiting, (6) bowels, (7) bladder, (8) deglutition, (9) voluntary muscles, (10) pupils, (11) prognosis.

Society Proceedings

COMING MEETINGS

American Association of Railway Surgeons, Chicago, Oct. 18-20.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Society of Virginia, Richmond, Oct. 24-27.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.

MICHIGAN STATE MEDICAL SOCIETY

Forty-Sixth Annual Meeting, held at Detroit, Sept. 27-28, 1911

The President, Dr. C. B. Burr, Flint, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. D. Emmett Welsh, Grand Rapids; vice-presidents, Drs. Guy L. Connor, Detroit; Neal S. McDonald, Hancock; George C. Hafford, Albion; George D. Carnes, South Haven; secretary-editor, Dr. Wilfrid Haughey, Battle Creek; delegate to American Medical Association for two years, Dr. E. T. Abrams, Dollar Bay; alternate, Dr. Arthur D. Holmes, Detroit.

Resolutions were adopted expressing satisfaction and pride in the work of Dr. Wiley and commending the action of President Taft in supporting him.

Paranoia and Certain Paranoid Conditions in Their Relations to the Public and the Profession

Dr. C. B. Burr, Flint: The identification of paranoia as a distinct form of insanity marks a psychiatric advance. It has been a useful classification, but like many others subserving an important end has been very much overloaded. While thirty years ago the term was not in frequent employment even among psychiatrists, it is now commonly used by everyone, and its definition is stretched to cover a multitude of faults of disposition, eccentricities, and temporary or permanent departures from conventional standards of thinking, feeling and acting. It has been found a convenient cloak to shield from punishment, and it seems important that a clear understanding of its fundamental character should be presented to the medical profession, the members of which themselves often employ the term loosely and without regard to consistency.

Briefly, this is a non-dementing form of disease of slow and insidious development. It is the outgrowth of a morbid personality, and evolution of a crooked stick. Its delusions are logically evolved from false premises, and in their defense the individual is sagacious and shrewd. Its life history is consistent and its progress marked by certain well-defined epochs. There are: first, the incipient period; second, the persecutory period; third, the period of developed and logical delusions. In contrast with this form of disease is the paranoid form of dementia præcox. The existence of dementia præcox implies early reduction of brain force and hereditary tendency—the neuropathic organization—is an important factor in its development.

There are included in the designation dementia præcox, various forms of disease described under old-time classifications, as the insanity of pubescence, insanity of masturbation, ovarian insanity, katatonia and stuporous melancholia. Perception and memory may be acute, but reasoning and judgment are not correspondingly developed. These patients are in infancy erratic, hysterical, impulsive, and lacking in inhibitory control. They are subject to headache and frequently break down under school pressure. There are not infrequently encountered among alcoholic cases those showing delusions of suspicion, or persecution, or extravagance. The overweening self-confidence, a marked quality of the habitual tippler, goes over with no lack of readiness into an absurd self-appreciation and extravagance of thinking and doing. Ideas of persecution develop, and it is not difficult to believe that the individual's self-criticism is a basal fact in the impression that the outside world is censorious. Similarly the connection of certain manifestations in these cases with sexual wasting is readily established.

A paranoid condition from alcoholism is differentiated from the foregoing insane state by: 1. The presence of a definite provocative factor—alcoholic indulgence. 2. The existence of delusions of persecution and infidelity, possibly also those of an expansive character, all quiescent under abstinence from drink, lighted into extreme activity by the inebriating. 3. The tendency toward recovery under well-directed treatment.

Problems in the Diseases of the Thyroid

Dr. Charles H. Mayo, Rochester, Minn.: Disease due to lessened secretion of the thyroid is brought about by a thinning of the secreting epithelium in the presence of colloid or other retained secretion, even though the actual size of the gland may be increased enormously. In operating on such glands it is advisable to leave some of the tissue next to the capsule, for the tissue on the surface of the gland retains its powers of producing the internal secretion. Frequently thyroids which have been in this state of lowered secretive power suddenly become hyperactive, and often symptoms of Graves' disease develop. This is brought about by a development of epithelial gland cells growing into the colloid filling the ascini in the gland. Such sudden development of exophthalmic symptoms is usually attributed to some recent occurrence such as a fall from a horse, or a severe shock. The accident may have something to do with the sudden development of the symptoms, but the patient has been in a state where the body was barely able to take care of the extra secretion, and the exophthalmic symptoms were only awaiting a chance to light up.

In the case of patients in too poor physical condition for operation, I advocate the tying of one or more of the thyroid arteries. This is not a harmless operation, for I have lost three patients out of thirty-seven following this operation.

After tying the vessels, there is a discharge of thyroid secretion (internal) which almost overwhelms the patient. As soon as the diarrhea and other severe symptoms are over—about a week—the gland should be removed, for then the patient is in the best condition. The gland is empty of internal secretion, and the operation is much safer than if one waits until the gland has an opportunity to recover from the first active discharge. Practically all the thyroid cases, outside of those between the ages of fifteen and twenty-three, or during pregnancy, are surgical. During these two periods of a woman's life it is natural for the thyroid to enlarge somewhat.

In all other cases the surgeon should be consulted early. Graveyards are filled with people who have been treated medically and then rushed to the surgeon as a last resort. In such cases, if blood has been drawn, the patient "died of an operation," not of the disease, or of the medical treatment. The surgery of the thyroid gland is constantly improving, but advance has been at the cost of many lives that we are now able to save. Twenty-five per cent. of these patients will recover symptomatically, 25 per cent. will die no matter what the treatment, which limits us to the middle 50 per cent. in our surgical work, and we can save about half of these.

(To be continued)

INTERNATIONAL MUNICIPAL CONGRESS AND EXPOSITION

Held in Chicago, Sept. 18-30, 1911

(Concluded from page 1229)

Disposal of Garbage

Dr. A. F. Storke, Oak Park: Garbage should be collected every day, if feasible, or at least every other day; garbage should not be fed to hogs; it is not rich in nitrogenous matter and is a poor fertilizer and should not be used for that purpose; it should be burned at a temperature of 1,250 F., or over. If a municipality is so equipped that it can reduce refuse, a considerable return can be made thereby on the money expended. Garbage should be burned in household burners if the latter are properly cared for and maintained. Garbage should not be placed on dumps, or thrown on the ground. Flies can be kept away from garbage by having the garbage drained, wrapped in paper and put in cans, and the cans kept as reasonably clean as other articles in the kitchen. Garbage should be hauled in tight metal carts, with the tops kept down at all times.

In 1909 an eight-furnace incinerator was constructed in Oak Park, capable of handling 50 tons of garbage a day. This incinerator required for collection of garbage and its care five men, five horses and two carts. The incinerator handled 5,033 tons of garbage at a total cost of about $1.75 a ton. About 200 pounds of coal is used to a ton of garbage consumed.

Dr. Samuel Greeley, superintendent of garbage disposal of Milwaukee, described the Milwaukee refuse incinerator which is designed to handle 300 tons of mixed refuse, that is, garbage, ashes, rubbish, in 24 hours. The ingredients are mixed on a floor above the furnace and then discharged into the furnace by a mechanical stoker. The temperature ranges from 1,200 to 1,600 degrees F. He found that a mixture of 60 per cent. garbage and 40 per cent. ashes and rubbish will burn at a temperature above 1,200 degrees. The cost of operation is varied from 86 cents to $1.05 a ton, depending partly on the labor and the quantity of garbage and refuse handled. When more refuse is delivered to the plant it can be handled more economically than in smaller quantities.

Cost of Health Department Per Capita

Mr. C. B. Ball, chief sanitary inspector of Chicago, presided over this section. He discussed the cost of health department work and whether school inspection, tenement inspection, building plan inspection, tuberculosis work, and garbage collection should be charged against health work cost.

Dr. Gottfried Koehler, assistant health commissioner of Chicago, quoted the address of Dr. Evans, in which he said: "A health department in Chicago costing 25 cents per capita can hold the gross death-rate under 16 per 1,000 for a few years. It can hold the number of deaths from diphtheria at about 800 (3.75 per 10,000); from scarlet fever at about 600 (3.50 per 10,000); typhoid at about 300 (1.33 per 10,000), and baby deaths from summer complaint at about 3,000 (1.4 per 10,000). It can keep small-pox epidemics about 12 years apart and paralyzing epidemics of diphtheria or scarlet fever about four or six years apart."

"A health department spending 50 cents per capita should put diphtheria down to, say, 100 deaths per year; scarlet fever to about 500; typhoid to 120; and cut off 5 per cent. from the tuberculosis mortality. It should be able to add ten years to the small-pox intervals, and three or four years to the diphtheria and scarlet fever intervals." He said that, in addition, he believed the infant mortality could be reduced to 2,500 or less; that accidents at birth, and blindness could also be materially reduced; that venereal diseases could be lessened and following this would come lessening of organic cardiovascular and nervous diseases.

A health department costing one dollar per capita could accomplish and improve the conditions before stated and materially improve the sickness rate from colds, pneumonia and tuberculosis. The living and working conditions could be improved so that the mortality, morbidity and incapacity from impure-air and occupational diseases would be materially reduced. Nutritional diseases of infancy and childhood could be dealt with so that a saving of 25 per cent. in the death-rate would result.

Again quoting Dr. Evans: "A $3.00 per capita health department would cause small-pox to recur only at very long intervals; diphtheria to disappear as an endemic disease; the typhoid rate to fall from its present rate, 15 per 100,000 to 1 or 2 per 100,000; would cut the rate from tuberculosis to one-half its present figure; decrease the loss from colds by one-third; increase the efficiency of the school child 20 per cent.; increase the efficiency of labor, say, 10 per cent.; accomplish nearly as great an improvement in efficiency of human effort and in health conditions over the conditions now prevailing as the $3.00 per capita health administration in the Panama Canal Zone has increased health security and efficiency over that which formerly prevailed there.

"A $10.00 per capita health administration continued for fifteen years should eliminate tuberculosis, small-pox, diphtheria, and typhoid; should greatly lessen scarlet fever; should halve the baby death-rate; should halve poverty and materially decrease crime; should increase the efficiency of labor materially."

Dr. Koehler stated that hospitals for communicable diseases, dispensaries and clinics for contagious and communicable diseases, including venereal diseases, and ambulances for communicable diseases should be charged to the cost of health department work.

AMERICAN ROENTGEN RAY SOCIETY

Twelfth Annual Meeting, held in Richmond, Va., Sept. 20-23, 1911

(Continued from page 1230)

Duodenal Diagnosis

Dr. E. H. Skinner, Kansas City, Mo.: We have been able to base a mechanical diagnosis of duodenal ulcer on the following: When a bismuth and water suspension is swallowed by a fasting patient, it readily passes the pylorus into the duodenum (because the acid stomach content is not taken up as when food is offered the stomach, neither is there a closure of pylorus as when a food bolus is swallowed). The stomach appears normal after the ingestion of a bismuth meal (2 ounces of bismuth oxychlorid to 13 ounces of wheat porridge), but there is a vigorous peristalsis and a rapid emptying of the stomach in as short a time as one-half hour, and at least in two hours. The duodenum seems to be sluggish and casts a shadow for a longer interval than usual, but the food rapidly traverses the remaining portion of the small intestines. By this method of filling the duodenum there may be found present an hour-glass contraction at the site of the ulcer. Usually, the duodenum is sluggish and does not exhibit any pronounced peristalsis. When the duodenum is filled and pressure is made at the outer curve of the duodenum, as shown by the shadow, the patient usually experiences some pain or discomfort. I place the greatest weight on the rapid emptying of a stomach that exhibits the usual normal J-shaped shadow and a vigorous peristalsis.

The Roentgen Rays in Neurasthenia

Dr. Arthur Holding, Albany, N. Y.: Neurasthenia and other neuroses are often caused by conditions which do not have their origin in the nervous system, and which may be detected by the Roentgen ray; therefore, it is advisable that all these patients be examined thoroughly by a competent Roentgenologist. A few illustrative cases are the following: Case 1. Obscure progressive paralysis of the arm, shown by the Roentgen rays to be due to a supernumerary rib. Case 2. Epileptiform convulsions, shown to be caused by unerupted teeth. Case 3. A very obscure gastro-intestinal condition due to cardiospasm. Case 4. Neurasthenia with obscure constant pain caused by hour-glass contraction of the stomach. The patient was regarded as a neurasthenic for twenty years. Case 5. Auto-intoxication with nervous prostration, regarded as a case of neurasthenia due to visceroptosis. Case 6. Neurasthenia proved to be a case of tuberculosis of the lungs. Case 7. Neurasthenia cured by the removal of a stone from the kidney. Case 8. Patient unable to walk because of pain in the feet and legs. Thought to be due to a broken-down arch. The Roentgen ray showed an arteriosclerosis in the arteries of the feet and determined the case to be one of intermittent claudication. Case 9. A painful condition of the wrist supposed to be a neuritis, shown, however, to be caused by tuberculosis of the bones. Case 10. Severe case of neurosis which proved to be caused by a dislocation of the symphysis pubis.

Dental Defects as a Cause of Epilepsy

Dr. Henry K. Pancoast, Philadelphia: I wish to call attention to the importance of including a careful examination of the teeth as a part of the general routine examination of all cases of idiopathic epilepsy. Dental defects may exist and be responsible for the epilepsy. In three cases examined by me such defects proved to be etiologic factors because when they were remedied the patient was free from epileptic attacks. Such defects may exist without any clinical manifestation; in fact, that is the rule; therefore, it is advisable in all cases of epilepsy to include as a part of the routine examination of the head a careful examination of the teeth. This is especially important in the case of children, although cases have been discovered in adults where the epilepsy was caused by dental conditions. Any defects found must be remedied early, in order to do any good, as they are usually, perhaps, only a contributing factor in the etiology of the condition. Moreover, in view of this fact there should be no relaxation in the vigorous application of any other therapeutic measures that have been practiced, or which may be indicated.

Discussion on Papers of Drs. Holding and Pancoast

Dr. E. H. Skinner, Kansas City, Mo.: I once heard a man speak against machine-made diagnoses, and yet diagnoses made by mechanical means are superior to mere gray-matter diagnoses. The thermometer, microscope, Roentgen ray and blood-pressure apparatus have superseded less accurate and exact aids in diagnosis. Many cases of gastro-intestinal disturbance have been diagnosed as neurasthenia until the Roentgen ray disclosed an ulcer of the stomach, which was substantiated by a careful inquiry into the history of the patient. The gastro-enterologist claims that gastroptosis is the cause of neurasthenia, while the neurologist holds that neurasthenia is responsible for the gastroptosis. The Roentgen ray will often disclose a condition which, if corrected, will dispel the neurasthenia.

Dr. George C. Johnston, Pittsburgh: As for neurasthenia being caused by unerupted teeth, it is probably true that there is some connection between the irritation of impacted teeth or any other constant irritation and epilepsy—but only in the case of an individual who is going to have epilepsy anyway. For three or four years I have examined cases of impacted teeth removed by two extraction specialists, but I have yet to see a single instance of epilepsy from this cause. As for neuralgia: I was asked to examine a gentleman who had been suffering intensely from tic douloureux for a long time. Careful examination with the Roentgen ray finally disclosed a little area of caries just under the gum margin, in which there was a tomato seed. When that was removed the neuralgia ceased, and it has not returned since. In another case the nervous disturbance was due to abscessed incisor teeth.

Dr. George E. Pfahler, Philadelphia: I was asked to examine a woman who had a neuralgia in her right foot. The neurologist who referred the lady to me scouted the idea that the neuralgia might be caused by an abscessed tooth, although I had found two such teeth in the roentgenogram. Two years later another physician referred the patient to a dentist, who treated these two teeth, and the neuralgia promptly disappeared.

Dr. Clarence E. Coon, Syracuse, N. Y.: At the age of 17, a man began to have attacks of epilepsy which increased in severity and frequency until his mind became affected. His family finally had to place him in an asylum for the insane. He became violent and unmanageable. I was asked to examine him and found four impacted wisdom teeth, which I advised to have extracted. This was done, and from that time on this man has not had a single attack of anything like epilepsy. Within two weeks after the operation he was rational and quiet. He gained rapidly in weight, and is now entirely well.

Dr. Henry K. Pancoast, Philadelphia: I would not want to create the impression that I believe that epilepsy is solely caused by impacted teeth, or other dental conditions. In epilepsy, as in any other disease, perhaps more so, you must have the soil in which the seed can develop. It is particularly in those cases where the dental conditions do not give rise to clinical phenomena that we must include the mouth and teeth in our examination. But this is only one factor which may cause the epilepsy.

Roentgen Diagnosis of Position in Pregnancy

Dr. P. M. Hickey, Detroit, Mich.: It is possible to make a Roentgen diagnosis of the position of the fetus in utero without apparent injury to the mother or fetus. The differential diagnosis between single and multiple pregnancy can be made with certainty. The cases I investigated went on to term and normal delivery. Careful examination of the child failed to reveal anything indicative of damage done by the ray.

(To be continued)

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES

Twentieth Annual Meeting, held in Milwaukee, Sept. 26-29, 1911

(Continued from page 1229)

Award of Association Prize

The first annual award of the prize of $200 presented by the association for the best essay submitted in competition on the subject "What Are the Best Available Measures to Diminish Venereal Disease Among Soldiers and Sailors, and Along What Line Should We Seek the Cooperation of the Federal, State and Municipal Authorities?" was made for the essay presented by Captain Edward B. Vedder, M.C., U. S. Army, who after noting the importance of the question of the prevention of venereal diseases and the ineffectual methods thus far adopted to prevent or limit them, made the following recommendations: 1. Reestablishment of the canteen. The author believes that the absence of the canteen has promoted intemperance, and as soldiers will continue to use alcoholic beverages even as civilians do, if drinking within the post is barred, they will go outside to disreputable houses, and many will become victims of prostitutes. 2. The compulsory and universal adoption of the following measures in the military services: (a) Organization of soldiers' and sailors' clubs to provide legitimate amusement for the men. (b) Instruction for every man in the services on the subject of venereal disease, by a well-written and illustrated pamphlet on the subject, on which the recruits should be required to pass a simple written examination before being sworn into the service. (c) Approved methods of personal prophylaxis after contact by thorough washing of the genitalia with soap and water followed by 1-2000 bichlorid; injection of 10 per cent. argyrol solution into the urethra and inunction with 33 per cent. calomel ointment; this treatment to be given at hospital, or from packet carried by the soldier. Every man returning from pass should be obliged to report at the hospital, state whether he has exposed himself to venereal infection and whether he has used the packet. If he has not used the packet, he will be given the prophylactic treatment. If he states that he has not exposed himself and subsequently develops venereal disease, he will be tried by summary court. (d) Physical inspection which has already been tried, but without great success in many cases. Inspection should be unannounced and unexpected and every medical officer in the post should take part in the inspection. (e) The venereal register. This register which is generally kept at the hospital, at present, should go with the man when he is transferred to another post or another ship. This will require a change of existing regulations, as the surgeon, who alone has these histories, is not informed when the man is transferred. This would prevent many readmissions, some of which are carried at present "in line of duty" because of this lack of previous medical history. 3. Stoppage of pay. This is the logical punishment for those men, who with the above recommendation in force, still contract venereal disease, and is intended chiefly to compel men to use the prophylactic. Statistics show that 7.5 per cent. of all men fail to report on return from liberty and 18.8 per cent. of the total number of venereal diseases in the sick reports may be attributed to this cause. Another large percentage is due to denial of venereal exposure.

These measures are applicable in both Army and Navy, and are independent and each essential to success. For this reason he believes that all these methods should be universally enforced by War and Navy Department orders. Congressional action would be necessary for the reestablishment of the canteen, the obtaining of appropriations for men's club houses, and the enactment of a law providing for stoppage of pay while on sick report on account of venereal disease not contracted in line of duty.

He next took up the cooperation desired with the federal, state and municipal authorities and suggested as regards the federal authorities that the services should do all in their power to further the appeal now before Congress for a national department of public health, which could make a thorough study of the subject of venereal diseases in the United States; that the federal authorities should be asked to take more severe measures than have yet been adopted for the suppression of the interstate and international traffic in white slaves by which the ranks of the prostitutes are largely recruited and that the postoffice authorities should be asked to deny the privilege of the mails to the fraudulent mail order concerns that advertise to treat venereal diseases. The state and municipal authorities, he suggests, should adopt the following measures: Compulsory notification of venereal diseases which can be studied and controlled, by knowing where the cases are; segregation, inspection and treatment of prostitutes found to be diseased; abolition of liquor selling in houses of prostitution, and of soliciting on the streets, and the education of the young of the land in matters of sexual physiology and hygiene.

Captain Vedder acknowledged that none of the measures recommended was ideal and that the elimination of venereal diseases could never be obtained until human nature is quite altered, but he argued that the adoption of the measures recommended would undoubtedly result in a considerable reduction in the incidence of these diseases.

Dementia Præcox and Alcoholism

Captain L. L. Smith, M.C., U. S. Army, after a thorough discussion of this question, including a careful study of the literature, believes that this subject is most important from the standpoint of the military surgeon, as dementia præcox is the most frequent form of mental disease observed in patients admitted from the military service to the Government Hospital for the Insane. In the fifty-nine cases which the author analyzed, it was noteworthy with what frequency alcoholism was given as an etiologic factor in the production of this form of psychosis. Indeed, in the early stage of the disease, it was not always possible in these cases of dementia præcox combined with alcoholism, to make an accurate diagnosis. The history of the patient, especially if he had been sent to the hospital from remote military posts, would often indicate that the prominence of the alcoholic symptoms at the onset of the psychosis had resulted in a diagnosis of an alcoholic psychosis. In the fifty-nine cases studied there was a history of alcoholic excesses in 21 cases, or 35.6 per cent., and 6 or 10 per cent. were mixed cases of alcoholism and dementia præcox. Acute and subacute alcoholism, more frequently complicated these cases than the chronic form. The cases of chronic hallucinosis in which the alcohol may act as a disintegrating factor, frequently turn out to be dementia præcox.

Military Absenteeism in War

Major Edward L. Munson, M.C., U. S. Army: The medical department in war is charged with the administration of the sanitary service, and especially with the methodical disposition of the sick and wounded, so as to insure the retention of those effective, and relieve the fighting force of the non-effective. While the army surgeon remains a doctor in respect to his usefulness in the field of professional service, he must exercise his restorative effects with ailing individuals toward an end, the purpose of which is essentially military and not humanitarian. At the beginning of the Civil War, five soldiers were present for about every one absent. A year later three were present for every one absent. In the third year, two and one-half, and in the final year, less than two men opposed the enemy for every man absent. Though this grave proportion of absentees received the early attention of the military authorities and military measures were taken for its prevention, it continued to increase despite of all efforts until more than one-third of the armed land forces of the United States were absent from the colors and beyond military control, and to this absenteeism officers particularly contributed.

Absenteeism may be regarded in general as an expression of dissatisfaction with military service and conditions, as the statistics show that in the Federal Army in commands of an average effective strength of 662 men, 258 were absent from cause rather than illness, and only eighty by reason of sickness in hospital. Factors were a low standard of discipline, and improper location and management of general hospitals, most of which were far distant from the seat of military operations, and were under management of civilian physicians, or under state control, instead of being under the exclusive control of the Medical Department of the Army. Another factor was wrongful admission of soldiers to sick report. Malingering does not appear on the records of the Civil War with 6,454,834 admissions to sick report, nor on the records of the Spanish-American War, with 317,195 such admissions. The first aim of a malingerer is to be enrolled on the sick report, the second, to be separated from his regiment and sent to a general hospital, from which he then secures, by favor or political influence, a sick furlough, and once at home, certificates of physical disability are unfortunately easy to be obtained.

At the outbreak of the Civil War, there were only eighty-one medical officers of the regular establishment available for duty with troops and this was insufficient to leaven the mass of 14,000 civilian medical men employed in various professional capacities during the war. These latter were as a rule not accustomed to the detection and handling of cases of feigned disease. In the Spanish-American War a similar condition was found, so that it became necessary to issue an order absolutely putting it out of the power of any medical officer to legalize absenteeism by reason of sickness without the final approval of the officers. In the Philippine Islands orders prescribed that sick furloughs should be no longer granted on the recommendation of a single medical officer, but the individual should be sent to the Division Hospital, Manila, for observation and final recommendation by a carefully chosen board of medical officers.

Many men have been discharged from the military service on surgeon's certificate of disability. In the Civil War 223,525 were so discharged; a greater number than those who died of wounds—34,773, who died of disease—183,287, who deserted—199,045, or who were killed in battle—61,362.

The causes assigned for discharge were not convincing; 11,779 discharges were granted for rheumatism, 10,636 for heart disease, 16,185 for diarrhea; 14,500 for debility; 3,872 for epilepsy, 3,729 for bronchitis; 2,038 for varicose veins; 1,415 for varicocele and 1,598 for piles.

Remedies are: better discipline, abolition of political influence—a grave condition under our form of government—careful scrutiny of admissions to sick call, etc. Medical officers should always work in conjunction with line officers, as the latter know better the characteristics of the men in their command. The functions of the regimental dispensary which is intended to care only for emergency cases and the slightly sick or injured should not be used. Severe cases should always be transferred to the field hospitals. In the field hospitals undeserving patients who have been successful in evading duty and leaving their command may be halted in their progress toward the rear and home, and their escape thus prevented. The same applies to evacuation, base and general hospitals, where the diagnosis should be carefully scrutinized and doubtful cases reexamined and passed on by an independent medical board. Similar medical boards with similar powers of limitation of invalidism should be established at the limits of the various sanitary zones along the line of communication.

The various humanitarian relief societies may readily be perverted by designing individuals into innocent promoters of fraud. They should be under firm and tactful military control.

Dr. Munson's paper was a plea for a stronger, more business-like administrative management of the medical department in time of war. He attempted to demonstrate the economic and military need of maintaining and training in peace the not inconsiderable number of medical officers required in time of war to maintain the strength and efficiency of commands; the utter chaos resulting from expectation that civilian physicians will appreciate and properly perform other than purely professional duty in time of war, and that, in addition to the humanitarian side of the work of the medical department, it has other obligations which form the very foundation of military efficiency and which, in time of war, need to be recognized by both line and medical officers in their true and paramount importance.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Twenty-Fourth Annual Meeting, held in Louisville, Ky., Sept. 26-28, 1911

(Concluded from page 1227)

Congenital Mucoid Multicystic Tumor of the Small Intestine

Dr. H. W. Longyear, Detroit: The tumor was about 2 inches in length, situated subperitoneally on the sides and mesenteric aspects of the small intestine, and was composed of an aggregation of small cysts, filled with mucus. The case was discovered accidentally during an appendectomy. The tumor was not removed, as it was apparently benign and causing no symptoms.

Diseases of the Thyroid in the Female

Dr. Miles F. Porter, Fort Wayne: Women are five times more prone to thyroid disease than men. The thyroid was originally a sex organ. The thyroid is especially active during the period of sexual activity, and increases in size during menstruation and pregnancy. The toxemia of pregnancy and puerperal infections are probably often due to inactivity of the thyroid. Goiter may be due to disease of the genital organs. Disease of the thyroid may cause amenorrhea, dysmenorrhea, menorrhagia, sterility, mental aberration, premature separation of the placenta and chlorosis. Goiter in the mother often produces bone deformities in the offspring.

DISCUSSION

Dr. William D. Haggard, Nashville: A few days ago I saw a woman with exophthalmic goiter who married last November, at the age of 30, and in January had marked enlargement of the thyroid, with tachycardia, tremor, and a beginning exophthalmos. She conceived in February and aborted in May. During her pregnancy her symptoms were considerably exaggerated, and an interesting feature was that these symptoms all subsided after the miscarriage. She still has a chronic hyperthyroidism which has recently become more active and for which I think a partial thyroidectomy will relieve her.

Dr. Hugo O. Pantzer, Indianapolis: I removed a fibroid tumor of the uterus, doing a unilateral oophorectomy in a woman who had at the time moderate Graves' disease. Within twenty-four hours after the operation this patient had a very conspicuous thyroid. The following morning I found that the thyroid had subsided completely so as to be no longer palpable. Nine or ten days afterward the patient developed bilateral trouble, and then had hyperthyreoidea in the worst degree from which she recovered only slowly within the next two months.

Dr. Albert Vander Veer, Albany: Ten years ago I removed a fibroid tumor from a woman 31 years of age. She had a marked enlargement of the thyroid. Her uterine appendages had been removed at the time with the fibroid, and she had gone along without any unpleasant symptoms. Ten years later she had all the marked symptoms of goiter, with hot flashes, etc. On examining her I found that the thyroid was slightly enlarged. She presented many of the symptoms of exophthalmic goiter. Her case cleared up nicely under the use of the thyroid extract, but the cause of the condition and the therapeutic remedy given for it were not clear to my mind.

Dr. Edwin Walker, Evansville: A number of years ago I had an experience along this line that made a deep impression on me. The patient came from a highly neurotic family; had suffered from epilepsy during her early life. At about puberty these attacks became worse, and a good deal of the time the patient was in the condition of status epilepticus, having from forty to sixty attacks a day. Bromids had no effect whatever on these convulsions. A few symptoms suggested the possibility of hypothyroidism. I fed her on partially cooked thyroids, and her recovery was remarkable and rapid. Whenever I would stop the administration of this thyroid extract there would be a return of the symptoms. I kept her on thyroid extract for a year or more. She has been under my observation since that time; she was 15 years of age then, and 35 years of age now, and she has been entirely relieved of her epilepsy.

Dr. Roland E. Skeel, Cleveland: Last year I saw a patient who was choking rapidly because of a rapid enlargement of the thyroid. She was eight months pregnant. She had an attack of dyspnea, and she had such a severe stridor that it could be heard across the corridor. She had an enormous thyroid which was removed under local anesthesia, and being fearful she might be delivered of an eight-months child, I ordered a small dose of morphin. After giving the morphin, she had very marked toxemia of pregnancy, so much so that the urine contained from 10 to 15 per cent. of albumin. This is contrary to what is observed under these circumstances. There was a rupture of the bulb of the jugular vein, and she died instantly. The house surgeon made a post-mortem Cesarean section and secured a living child. The child lived a few weeks, then died from ordinary marasmus.

Dr. William H. Humiston, Cleveland: We see many cases in which we have a rapid pulse and a great many symptoms that we are at a loss to account for, and examination of the thyroid shows no enlargement whatsoever. My experience in these cases has been that with the administration of the thyroid extract I have universally obtained good results.

Dr. Robert T. Morris, New York City: If we have a hypothyroidism, the thyroid extract furnishes a substance which is not furnished in sufficient quantity by the gland itself. If we have a hyperthyroidism, it often means that we have a compensatory hypertrophy of the gland which is under great demand, and in that case, if we give the thyroid extract we lessen the need for compensatory hypertrophy on the part of the gland, so that in certain cases of hyperthyroidism and in cases of hyperthyroidism we use precisely the same therapeutic resource because of the two different groups of cases, but each case in itself becomes a study. In one case you will find with the *x*-ray alone you can overcome almost all of the symptoms of hypo- or of hyperthyroidism; in another case, with the thyroid extract you are using, while in another case you have to use both together, and in still another case you produce disastrous results with either one of the two.

Fibroids of Cervix

Dr. Lewis S. Smead, Toledo: Fibroid tumors of the cervix and uterine body below the movable peritoneum have not received the attention to which the great technical difficulties of their removal entitle them. The subperitoneal variety are most troublesome because of their immobility and the obliteration of landmarks they cause. Fibroid tumors of the cervix are found in about 5 per cent. of all women who have uterine fibroids. The tumor may arise in front, behind or at the side of the cervix, but the posterior growths are somewhat the most common. The physical characteristics of the tumors are not unusual, but the distortions of the pelvic organs, especially of the vagina and bladder, are common. The cervical tumors, because of their position and their immobility, are very likely to block the birth canal. Small fibroids on the anterior cervix, projecting into the base of the bladder, may simulate almost exactly the male prostate. The bladder is usually enormously elevated and enlarged by being stretched out over the tumor. The vagina is much elongated and crowded out of position. The rectum and vagina are much thinned by pressure atrophy.

The ureters may be pushed up by a tumor or pulled up by adhesions. They may also be blocked by pressure or kinking. The rectum and sigmoid are raised up by tumors arising beneath them. The position of the upper end of the vagina is usually the key to the situation, and an examination under ether will often locate it. The operative treatment is radical, rarely palliative. The operative removal requires the use of special operative maneuvers, such as bisection of the uterus and tumor, enucleation, and excision of a large wedge of the tumor, or the classical side-to-side hysterectomy. The principle of the Doyen hysterectomy can often be employed with profit. The cavity left is very liable to infection from the rectum, and will usually have to be drained, although in some cases it may be obliterated and the abdomen closed.

Early Diagnosis of Ectopic Gestation

Dr. R. R. Huggins, Pittsburgh: The diagnosis should be made previous to the final rupture and collapse in at least 80 per cent. of the cases. If a flow from the vagina begins in a period varying from four to five days to three weeks after the regular time, continuing more or less regularly, accompanied by pains periodic in character, located in the hypogastrium on either side, extrauterine pregnancy should at once be suspected by the physician, unless some other well defined condition is present to account for it. The vaginal hemorrhage may be dark-colored blood, coagulated at times; at others a blood-tinged leukorrhea, or in some instances bright red. This hemorrhage is doubtless due to a partial separation of the ovum from its cyst wall, or to the separation of the decidua from the uterus.

In ninety-five per cent. of the cases of ectopic pregnancy seen by me the history and local symptoms have overshadowed all others and seldom in the early weeks has there been present the general signs of pregnancy. Careful study of the history in fifty-two cases which had gone on to rupture in my own experience showed that in all but five there had been some irregularity of the normal flow and pain before the final rupture and collapse.

Interstitial Pregnancy

Dr. N. Stone Scott, Cleveland: There are three subdivisions: (1) External interstitial pregnancy, attended with danger, because rupture usually takes place into the abdomen before the sixth month; (2) middle interstitial pregnancy, and (3) internal interstitial pregnancy. The use of the curet is the etiologic factor in the production of many of them. So-called false perforations of the uterus are frequently interstitial pregnancies. The second variety begins as interstitial, develops into the uterus, and terminates normally.

DISCUSSION

Dr. James F. Baldwin, Columbus: Several years ago I reported six cases in which I made a diagnosis of ectopic rupture and operated.

Dr. Charles N. Smith, Toledo: The chief obstacle to early diagnosis in extrauterine pregnancy is the fact that a patient who is not suffering continuously or seriously does not consult a physician until the rupture has taken place.

Dr. E. Gustav Zinke, Cincinnati: The pathology of ectopic gestation is vast, and he who has not grasped it will fail to diagnosticate cases of ectopic pregnancy or will mistake them for something else. Tubal pregnancy, with normal genitalia, is an entirely different thing from an ectopic gestation occurring in a patient with a pathologic condition in the tube, the ovary and uterus. The symptoms of a tubal abortion are entirely different from those in a case of tubal rupture. In one case, the tubal abortion, the symptoms are not alarming, and the woman may recover, and the diagnosis may remain in doubt; while a case of tubal rupture, with an otherwise normal pelvic cavity, is so typical that no man can mistake it for anything else. Again, we have ectopic gestations which are strictly tubal and remain so from the beginning to the end, and they are the cases that are comparatively free from symptoms and go to the end of term with a living fetus, and they are easily removed because they are more or less pedunculated. No adhesions have taken place. In another case there may occur tubal rupture and the neighboring structures may become involved, and the fetus goes to the sixth or seventh month, when it dies for lack of nutrition and becomes encysted. In other cases the fetus undergoes solidification.

Dr. Hugo O. Pantzer, Indianapolis: I would like to add another symptom to the signs and symptoms given by Dr. Huggins which is invariably present, namely, a pulsating tumefaction on one side and not on the other. In rare instances it is attended with marked congestion or with tubal inflammation.

Dr. Charles L. Bonifield, Cincinnati: A great many women with ectopic gestation get well without operation. It is the experience of every operator, that after he has examined the specimen, he has wished he had left the patient alone.

Dr. William H. Wathen, Louisville: I have had approximately 150 of these cases, and of that number but one patient bled to death. That occurred about twenty years ago. I reached the patient just as a secondary hemorrhage had caused her death. These patients will not bleed to death if the rupture is between the folds of the broad ligament, and seldom or never if it is a tubal abortion. They may have a rupture through the tube into the peritoneal cavity. I believe that not one out of twenty-five women has died from secondary hemorrhage.

Dr. Walter B. Dorsett, St. Louis: A woman ran up to the third floor, fell, and died suddenly. A post-mortem examination disclosed the abdomen full of blood. She had bled to death from ruptured ectopic pregnancy. These women bleed to death more frequently than is stated by Dr. Wathen.

Dr. A. B. Miller, Syracuse: The general practitioner in many instances is not called sufficiently early to make a diagnosis. These patients feel perfectly well, but in six hours they become desperately ill, showing that rupture has taken place. We cannot always make an absolute diagnosis by the symptoms and physical findings.

Dr. D. C. Moriarty, Saratoga Springs: I believe it is well to operate early in these cases of ectopic pregnancy.

Dr. Miles F. Porter, Fort Wayne: It is not true that none of these women die of hemorrhage. I can find fifty men who operate on these patients practically as they come, and they will have a lower death-rate than another fifty men who practice the *finesse* referred to, and that is the reason I am not in favor of this extreme diagnostic *finesse*.

Dr. William H. Humiston, Cleveland: As a rule, these patients do not consult a physician unless they are very nervous and are in pain, and that is why a great many of the cases are not diagnosed before rupture.

Radiographic Diagnosis of Gastric and Duodenal Lesions

Dr. Lewis Gregory Cole, New York City: Anatomically and physiologically the first portion of the duodenum has always been considered a part of the small intestine, but normally it is dilated into a triangular cap which surmounts the pylorus and corresponds in size and shape with the stomach, and has absolutely no resemblance to the small intestine. Its motor phenomena correspond with those of gastric peristalsis, and it is absolutely free from the small, rapid, peristaltic contractions of the remaining portion of the duodenum. It is probable that the chyme in this portion has not yet been neutralized by the intestinal and pancreatic secretions. This may account for the fact that 90 per cent. of duodenal ulcers occur in this portion. I consider the pyloric sphincter as guarding the entrance to the intestine and allowing only that food that is recognized as properly prepared to be served to the intestine, and closing the door to prevent it from falling back into the stomach during diastole. The relative strength of the pyloric sphincter to the peristaltic contraction of the stomach is one of the most important factors in functional derangements of the gastro-intestinal tract. The diagnosis of gastric carcinoma at an early stage is now accomplished in a very large percentage of cases, and the radiologist is justified in either making a negative diagnosis or stating with certainty that there is either a benign or malignant lesion which requires an immediate operation.

Lipectomy for the Obese Abdominal Wall

Dr. Francis Reder, St. Louis: I have followed during abdominal operations the suggestion of Dr. Kelly to excise enough of the obese wall to facilitate intra-abdominal work, and in my experience in five cases the intra-abdominal work was rendered less difficult; but in two of the cases this fat caused considerable trouble, which was induced by a late section. It does not require any particular skill to cut away enough of the fat about the field of operation to get a sufficient amount of room for easier work; but it does require some knowledge to ablate these masses of fat that no untoward consequences may arise. To prevent any postoperative sequelæ, a wedge-shaped mass of fat should be removed, the two incisions converging into one on the fascial layer. This leaves no undetermined surface as a receptacle for secretions. It does not matter how long the incision is, provided there is no extensive undermining of the fat layer. I have found it of service to first carry the straight incision across the abdomen down to the fascia, this incision disclosing the thickness of the fat. By placing the left hand in the incision, and against the fat wall, I am able to guide more accurately the right hand in making the upper and lower flaps. After the ablation of the fat has been accomplished, the wound is covered with hot saline cloths, while the intra-abdominal work is being conducted. Fat removal is only to be recommended when the mass of fat is a distinct obstacle to the intra-abdominal work.

Personal Observations on Cancer

Dr. J. Garland Sherrill, Louisville: I have followed 208 patients and traced them to the present time. Of nineteen abdominal operations, eleven patients are living, five past the three-year limit, while others died in from twelve to eighteen months. Of twelve vaginal operations, four patients are living from three to twelve years after operations; eight had recurrence, dying within eighteen months. Trauma and irritation are important factors in the determination of the site of a malignant neoplasm. My cases show 8 per cent. in which trauma was noted, and 18 per cent. in which irritation was a factor. The results in my cases show very readily the improvement in ultimate results when radical surgical treatment is applied early. The serum treatment of cancer has been disappointing. I have used the ascitic fluid of one patient, which was injected into her own tissues, with no marked benefit, although the disease seemed not to progress during the time of its employment. Fulguration has not accomplished much, nor has the Röntgen ray done more than the knife or cautery can accomplish in a more thorough and certain way.

Sterilized Animal Membranes in Surgery

Dr. Robert T. Morris, New York City: For some years I have been experimenting with the absorbable animal membranes in surgery, and have now and then found some point which seems to be new in this work. One case worthy of report was that of a young man, who, in riding down a steep hill on his bicycle, met an automobile coming up, turned aside suddenly into a bank, and the handle-bar of his bicycle tore five holes in the ileum. In that case there was so much contusion that I did not know where to resect. I washed out the blood and fecal matter, and decided temporarily to cover each opening with Cargile membrane until we might get past the period of shock, and then consider the possibility of excising bowel. The loops of perforated bowel were thrown about a small central drain and a large dressing applied, and the young man not only lived, but I did not do any excision of bowel. He was walking in thirty days without any fistula. That, I presume, was due to the use of the Cargile membrane and to nothing else.

Another point I have noticed with the Cargile membrane is that sometimes it does not undergo absorption rapidly. In an automobile accident, the patient having sustained a depressed fracture of the skull, I elevated the skull, separated the adhesions, and placed a large segment of Cargile membrane between the dura and the cranium. In this case there was occasion to do an operation some eight months subsequently for some remaining adhesions, and this membrane had not undergone any change whatsoever, so far as I could observe. It remained perfectly free and loose. It has prevented the formation of adhesions over the area I dressed and there were some supplemental adhesions about the periphery. This was an odd thing, and I do not know how to account for it. In many cases I have used the membrane for the prevention of recurrence of peritoneal adhesions as perhaps the favorite resource. In most cases now, in which I have occasion to separate extensive peritoneal adhesions, I depend on placing a sheet of this sterilized animal membrane over the area from which adhesions have been separated for the purpose of preventing a mechanical obstacle to the recurrence of adhesions.

Prevention of Shock

Dr. J. H. Carstens, Detroit: By simplicity and tact in management before the operation, much shock is prevented. Have everything ready in the operating room, and start the anesthetic immediately. Have all necessary ligatures and instruments at hand, so that there need be no delay during the operation. Analyze the case thoroughly beforehand, so that you may know exactly what you are going to do, and how you are going to do it, and what complications may arise. Give 2 quarts of a saline enema, or a hypodermic injection as soon as the operation is finished. Keep the patient free from pain for twenty-four hours after the operation.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Illinois: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

Louisiana: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

New Jersey: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

West Virginia July Report

Dr. H. A. Barbee, secretary of the West Virginia State Board of Health, reports the written examination held at Charleston, July 10 to 12, 1911. The number of subjects examined in was 20; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 70 of whom 59 passed, including 2 osteopaths and 11 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Kentucky School of Medicine	(1897)	81
Louisville Medical College	(1904)	80
University of Louisville (1891) 80; (1911) 80, 81, 81, 83, 83, 83, 84, 84, 84, 85, 86.		
Baltimore Medical College (1907) 84; (1910) 85; (1911) 86, 89, 90		
College of Physicians and Surgeons, Baltimore (1910) 83; (1911) 81, 82, 83, 84, 86, 86, 88, 90, 90.		
Maryland Medical College (1903) 80; (1911) 80, 81, 81, 82, 84, 84, 84, 88.		
University of Maryland	(1911)	83
Ohio-Miami Medical College	(1911)	84
Cleveland-Pulte Medical College	(1911)	83
Eclectic Med. Coll., Cincinnati...(1910) 80; 1911) 80, 81, 82, 85		
University of Pittsburg...(1910) 84; (1911) 85, 90, 92		
Jefferson Medical College	(1911)	82, 83, 89
Chattanooga Medical College	(1903)	80
Medical College of Virginia	(1911)	82, 89
University College of Medicine, Richmond	(1911)	88

FAILED

College	Year Grad.	Per Cent.
Louisville and Hospital Medical College	(1908)	75
University of Louisville..(1909) 78; (1910) 75;	(1911)	77
Baltimore University	(1900)	56
College of Physicians and Surgeons, Baltimore	(1910)	79

Maryland Medical College	(1911)	74
Detroit Homeopathic College	(1911)	71
Lincoln Medical College	(1911)	71
Eclectic Medical College, Cincinnati	(1910)	72
University College of Medicine, Richmond	(1911)	83 *

* Fell below 65 in one or more branches.

The following questions were asked, not including those in osteopathy:

ANATOMY AND EMBRYOLOGY

1. Name the bony prominences of the elbow and the ligaments of the elbow joint. 2. Give articulations of the first cervical vertebra. 3. Where is the spleen and what are its uses? 4. Describe the two principal arteries of the forearm and tell how they form the palmar arches. 5. Of what does a vertebra consist? Name the processes and tell what their object is. 6. Describe the stomach. 7. Give brief description of facial nerve. 8. Name the muscles of the shoulder and arm. 9. Name the sutures and fontanelles in fetal head. 10. Give difference in fetal and adult heart.

BACTERIOLOGY AND HYGIENE

1. Classify bacteria and give example of each. 2. Name the bacteria frequently found in soil, water, milk and air. 3. What are toxins and antitoxins? Give example of latter. 4. What is meant by phagocytosis? 5. Describe sterilization and antisepsis. 6. How would you prepare specimen (diphtheria) to be sent a laboratory for examination? 7. Describe pure water; how would you render it wholesome when contaminated? 8. Describe the location of well or spring in relation to privy vault or stable. 9. Describe the hygiene of a tuberculous patient. 10. Give causes of air contamination of school room and proper ventilation of same.

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Define chemistry. 2. How many elements are there? How represented? 3. Give symbols of gold, silver, iron, lead, arsenic, potassium, mercury, calcium and sodium. 4. Name elementary substances used in their pure state in medicine. 5. Define qualitative and quantitative analysis, with example of each. 6. What are mineral waters? Name three. 7. Define and illustrate an acid, base and salt. 8. What is a poison? Illustrate. 9. What are evidences of death by drowning? 10. Evidences of rape?

PHYSIOLOGY AND HISTOLOGY

1. Mention briefly chemical and physical changes in the air and the blood caused by respiration. 2. Discuss sleep theories, naming three hypotheses. 3. Discuss the origin, function and fate of the red-blood corpuscles. 4. State in percentage ratio of weight of blood to that of body. What percentage of loss may be borne? 5. Define systolic, diastolic and mean arterial pressure. How determined? 6. Define enzymes and discuss briefly their action. 7. Define protein, carbohydrate and fat. Estimate nutritive value. 8. What is bile? Discuss physiologic importance. 9. Describe histology of a transverse section of the spinal cord at the cervical enlargement. 10. Discuss the histologic structure of the blood.

PRACTICE OF MEDICINE AND PEDIATRICS

1. To what class of diseases does chorea belong? Give treatment and name important complications. 2. Give the prognosis and treatment in a case of aortic regurgitation with general arteriosclerosis. 3. Give treatment of acute endocarditis. 4. Give causes, symptoms, physical diagnosis and treatment of acute croupous pneumonia. 5. Describe causes, tests, symptoms and treatment of typhoid fever. 6. Diagnosis and treatment of pleuritic effusion. 7. Diagnose, treat and give the cause of cholera infantum. 8. Write a prescription for modification of cow's milk for a child 3 months old. 9. What are the causes of convulsions in infants and children? 10. Give causes and treatment of summer diarrhea.

MATERIA MEDICA AND THERAPEUTICS

1. What is materia medica? What is pharmacy? 2. What is opium? Give its derivatives and dose of each. 3. Give composition of Dover's powder; Fowler's solution; Lugol's solution. 4. Give five principal emetics, dose of each and method of administering. 5. Name five intestinal antiseptics. 6. Give physiologic action of urotropin,† its dose and method of administration. 7. What is a specific in medicine? Give examples and make therapeutic application. 8. Define anesthesia; give examples of general and local anesthetics. 9. Define pyrexia and hyperpyrexia. How would you meet these conditions? 10. What are the therapeutic indications in intestinal hemorrhage in typhoid fever?

SURGERY

1. Give the methods of controlling hemorrhage. 2. Mention the uses of iodin in modern surgery. 3. Differentiate fracture of the surgical neck of humerus from fracture of anatomic neck of humerus. 4. Diagnose and treat carbuncle. 5. Give treatment of shock. 6. Give symptoms and treatment of cholelithiasis. 7. Diagnose and treat Colles' fracture. 8. Give symptoms and treatment of erysipelas. 9. Give symptoms and treatment of prostatic abscess. 10. Give symptoms and treatment of strangulated inguinal hernia.

SPECIAL PRACTICE

1. Give the symptoms of infantile spastic paralysis. 2. Differentiate between epileptic and hysteroid seizures. 3. Name the causes and dangers of otorrhea. 4. In what acute disease is the ear most commonly involved, and, as a rule, what part of the general structure of the ear is first attacked? 5. Name the conjunctival diseases due to microorganisms. 6. Name four causes of iritis, and note the subjective and objective symptoms. 7. In nephritis, where does the effusion of serum first appear? In cirrhosis of the liver, where? In cardiac diseases, where? 8. State the diagnostic value of a blood examination in chlorosis; appendicitis; trichinosis. 9. Give cause, symptoms, pathology and treatment for laryngismus stridulus. 10. Give symptoms and treatment for nasal polypi.

OBSTETRICS AND GYNECOLOGY

1. What is the placenta? From what is it formed? What is its structure and what are its functions? 2. Name the bones, straits and divisions of the obstetric pelvis. 3. What are the diameters of the pelvic outlet? How is it bounded? 4. Describe the fontanelles and their diagnostic uses. 5. What are the signs of pregnancy—probable, doubtful and certain? 6. Interstitial nephritis in a pregnant woman. How would you treat? 7. Name the diseases of the endometrium and state their effects in pregnancy. 8. Define miscarriage, abortion and premature labor. 9. Describe Crede's method for the delivery of the placenta. 10. What care does the mother require after labor? Define the nurse's duties.

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC)

1. What is materia medica? How are drugs prepared homeopathically? 2. Give the principal indications for aconite, arsenicum and veratrum alb., naming diseases in which they would be found. 3. What are the characteristics of cactus grandiflorus, phytolacca dec. and baptisia tinct.? 4. Name four drugs that have practically only a local effect and give their action. 5. Name four drugs that affect the organism generally and describe their effects. 6. Differentiate between phos. and hepar sulph. in diseases of the chest. 7. What are the indications for uranium nit. in nephritis? For arsen.? For merc. cor.? 8. Name three or four drugs that would probably be indicated in diseases of the testicles. 9. Name four drugs that particularly affect the mucous membranes; four that affect serous membranes. 10. What remedies are called for in melancholia? Give their indications.

PRACTICE OF MEDICINE AND PEDIATRICS (HOMEOPATHIC)

1. Name four of the most frequent complications of rheumatic fever. Give treatment. 2. What is multiple neuritis? Give clinical history, prognosis and treatment. 3. What would be your treatment for septicemia following a scratch on the hand? 4. What are the symptoms of cerebrospinal fever? Give treatment. 5. How would you manage and treat a case of diabetes mellitus? 6. Name the different types of malarial fever. Give treatment. 7. What are the symptoms of poliomyelitis? Give treatment. 8. What is icterus and what does it signify? 9. What is "summer complaint"? How would you treat it? 10. What is hemophilia? How would you treat it?

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC)

1. Define materia medica, therapeutics Name five modes of administering drugs. 2. Give source, properties and therapy of ergot, hydrastis, strychnin. 3. Give physiologic action and specific symptomatology of apocynum, belladonna, digitalis, gelsemium. 4. What is the source of turpentine? Give its physiologic action, dose and therapy. 5. What is normal saline solution? How administered and in what conditions generally used? 6. Discuss therapeutic value of diaphoresis, diuresis, emesis and catharsis. 7. What drugs are available for local anesthesia? Give indications and technic of application. 8. Describe in detail therapeutic use of H_2O. 9. Name two gaseous disinfectants and give the technic of application. 10. What remedies would you use for the treatment of heat stroke, syncope, eclampsia and shock?

PRACTICE OF MEDICINE AND PEDIATRICS (ECLECTIC)

1. Name three clinical varieties of meningitis and give an etiologic factor in each. Diagnose and treat. 2. Diagnose and treat acute articular rheumatism. 3. Define Pott's disease. Give the etiology, diagnose and treat. 4. Give the symptomatology, diagnose and treat diabetes mellitus. 5. Give the etiology and diagnostic import of enlarged lymph-nodes. 6. Describe burns of the first, second and third degree and give treatment. 7. Diagnose and treat rachitis. 8. Give the etiology, diagnosis and treatment of ophthalmia neonatorum. 9. Differentiate measles and scarlatina. Diphtheria and follicular tonsillitis. Give treatment. 10. What is inflammation? Name the bacteria usually associated with ordinary inflammation and suppurative processes.

Wisconsin July Reciprocity Report

Dr. John M. Beffel, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Madison, July 11-13, 1911, 16 candidates were licensed through reciprocity, including 1 osteopath. The following colleges were represented:

College		Year Grad.	Reciprocity with
Rush Medical College	(1909)	(1910)	Illinois
College of Phys. and Surgs., Chicago	(1906)	(1910)	Illinois
Northwestern University Medical School	(1907)	(1910)	Illinois
Bennett Medical College		(1910)	Arkansas
Kentucky School of Medicine		(1901)	N. Dakota
Chicago College of Medicine and Surgery		(2. 1910)	Illinois
Baltimore Medical College		(1909)	Maryland
University of Michigan, Dept. of Med. and Surg.		(1903)	Michigan
Hahnemann Med. College and Hosp. Philadelphia		(1910)	Ohio
Western University, London, Ontario		(1889)	Nebraska
University of Naples, Italy		(1901)	New York

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† Editor's Note: It is discouraging to note that those who examine and pass on the qualifications of physicians fail to appreciate their responsibilities. The graduates of the better schools know this product by its official name. It certainly will not raise the examiner in their estimation if he asks them about it under the name of one of the proprietary preparations of it. We suggest to this examiner that he consider the use of this additional query—not only for his candidates, but for himself: "What is the difference between urotropin, formin, uriform, aminoform, uritone and cystogen; and what is the difference between these preparations and the official hexamethylenamin?"

Book Notices

NOSTRUMS AND QUACKERY. Articles on the Nostrum Evil and Quackery from THE JOURNAL of the American Medical Association. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, $1. Pp. 509, with 220 Illustrations. Chicago: American Medical Association Press.

In discussing the nostrum evil or quackery, the average physician is prone to assume that the layman is as well informed on the subject as he is himself. The physician does not realize that the public has not the same power of discrimination in these matters that he has. Medical schemes and assertions, which to the profession are transparent and evident frauds, may, to the man in the street, seem plausible and reputable. It is only when his patients come to him for information regarding the efficacy of certain widely advertised "patent medicines" or the possible value of some quack's exploited "treatment" that the physician realizes the deep and abiding ignorance of the public on all things medical. At such times, too, he is made to realize his own lack of specific information on such subjects. By every such physician the book "Nostrums and Quackery" will be appreciated; to the layman it will be of great value. No man unfamiliar with the detailed methods by which the quack captures his prey can read this book without being impressed with the hollowness of the fraud on which all irregular practice is based. The same may be said of the related subject of nostrum exploitation. By scores of examples, it is shown that "patent medicines," far from possessing some peculiar potency not to be found in the prescriptions of physicians, are either cheap imitations of such prescriptions or absolutely worthless—and sometimes dangerous—mixtures without any therapeutic virtue. This book differs from similar works in the thoroughness of detail with which each subject is treated. Step by step the methods of the quack are described in detail. Samples of form letters are given, testimonials are traced down and shown to be worthless or fraudulent, the remedies themselves analyzed—in fact, the book practically tears aside the veil of secrecy that has hitherto concealed the innermost workings of quackery. Every intelligent layman who reads this volume will have a better understanding of the limitations and possibilities of reputable medicine and he will be better able to conserve both his own health and the health of those dependent on him. The book is free from technical terms, is written in popular style and, with its two hundred odd illustrations, must appeal to all who have an interest in the subjects which go to form its title.

PATHOLOGY AND BACTERIOLOGY [OF THE EYE]. By E. Treacher Collins, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital, and M. Stephen Mayou, F.R.C.S., Surgeon and Pathologist to the Central London Ophthalmic Hospital. An International System of Ophthalmic Practice. Edited by Walter L. Pyle, A.M., M.D., Philadelphia, Member of the American Ophthalmological Society. Cloth. Price, $4 net. Pp. 558, with 237 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The senior writer of this admirable manual has undoubtedly taken for his text a sentence from his own "Erasmus Wilson Lectures on the Anatomy and Pathology of the Eye" the statement that "there is a law in biology to the effect that various stages of development through which the individual passes typify the history of the race"; since a perusal of the book furnishes evidence that the authors regard pathologic processes mainly in their evolutionary and embryologic aspect—a point of view which is not only original but eminently scientific.

The chapter on "Aberrations in Development" is an interesting one and deserves particular attention. It will, however, be possible to refer to only a few instances of the abnormalities mentioned in it. The authors mention the fact that in various animals the blood-supply of the retina varies considerably. In some mammals the retina is devoid of blood-vessels; in others they arise directly from the ciliary system in the sclerotic and reach the retina at the disk margin around which they curl; in still others the supply is mixed, some from the ciliary vessels and others from the central retinal system. This anatomic statement forms a preface to the consideration of the abnormal conditions found in man, the writer pointing out in this connection that many pathologic changes, including arrest of development, often simulate anatomic conditions that are normal in the lower animals.

We rather expected that definite mention would have been made of the dotted opacities found and described by Mittendorf as occurring in the posterior lens capsule and believed by him to be the remains of the (intra-uterine) attachment of the hyaloid artery. The occasional occurrence of an opacity of the posterior surface of the lens is mentioned, but this is evidently not the phenomenon spoken of by the American writer.

The anomaly of the papilla known as "pseudoneuritis" is described and the case of Holmes Spicer quoted. The pathology of the various extra- and intra-ocular neoplasms is extensively considered and their relation to evolutionary remains and embryologic tissues minutely described. Neuro-epithelioma of the retina (glioma) is judiciously considered. The "rosette-like" formations are regarded as rudimentary rods and cones. In this work an explanation is given not only of the ordinary morbid processes that affect the eye, but the tissue changes in many rare cases are duly delineated. We have particularly in mind the development of cysts in detached retina (p. 170), the pages and cuts illustrating the eye of Cyclops and some of the illustrations in the section on increased intra-ocular tension.

Reports in this text-book on the histologic and bacteriologic state of eyes lost after operations are of extreme value to the surgeon who is in the habit of doing much operative work. He will find the pages describing the post-mortem appearances in these cases of great interest, explaining as they do the failure of certain surgical interventions, and forewarning him in a vivid way of dangers to be avoided and technical errors to be corrected. The authors evidently attempt, and often succeed, in telling us just why "things go wrong" as well as how they might have gone right.

The investigations of Collins and Mayou do not permit them to answer the question as to whether "concussion" cataract is or is not sometimes produced without actual rupture of the lens capsules. Some authorities believe that this lesion may occur with an intact capsule, as the result of a mechanical tissue alteration whose interference with the nutrition of the lens fibers brings about the lenticular clouding.

Chapter V ably deals with the subject of inflammation and its modifications as seen in the ocular structures. The chapter on "Parasitic Diseases of the Eye" very properly includes the bacteriology of that organ and here, we need not say, there is little left to be desired. The subject is fully covered with a precise brevity that is in striking contrast to the learned verbosity of some other foreign monographs we might mention. In an appendix are given various practical methods for making post-mortem examinations of the eye, such as cutting, staining and mounting microscopic specimens, and the book ends with a concise description of the Wassermann reaction, the preparation of vaccines and the agglutination test.

A PRACTICAL MEDICAL DICTIONARY of Words Used in Medicine, with Their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanic, Electric, Life Insurance and Other Special Terms; Anatomic Tables of the Titles in General Use and Those Sanctioned by the Basel Anatomic Convention; Pharmaceutical Preparations, Official in the U. S. and British Pharmacopeias and Contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Springs of America and Europe, and Comprehensive Lists and Synonyms. By T. L. Stedman, A.M., M.D., Editor of "Twentieth Century Practice of Medicine" and the *Medical Record*. Leather. Price, $5. Pp. 1,000. New York: William Wood & Co., 1911.

This book presents a number of novel features. Attempt is made to use the etymologically correct terms, for instance, "oothecectomy" instead of "oophorectomy," "scolecoiditis" for "appendicitis," etc. This is in line with similar attempts made elsewhere. Derivations are given from the Anglo-Saxon as well as from Latin and Greek. Special attention is also paid to synonyms and to listing under the name of a part the scientific terms for various conditions associated with that part. Thus under "abdomen" are found the various terms for abdominal dropsy, examination, incision, pain, tumor, etc. Under "pain" are listed pains which may be felt in any part of the body. Under "uterus" are listed the various anomalies of development as well as the pathologic conditions to be met with in this organ. This is extremely useful to one who is at a loss for the proper word to be used as well as to secure a correct definition. The usual tables of arteries, muscles, nerves, etc., found in a dictionary, are contained in this volume. Eponymic terms are inserted as main titles and are defined under the proper name; a short biographical sketch is added in each case. The reduction in the number of hyphenated words will commend itself to many. The Basel nomenclature is followed throughout. All the preparations of the United States and the British Pharmacopeias and the National Formulary are included. Mineral springs are listed as well as their location, character of the water and indications for its use. Besides the regular medical terms, the dictionary includes dental, chemical, veterinary, botanical insurance, homeopathic and eclectic terms. Tables of elements, their symbols and atomic weights, thermometer scales, weights and measures, etc., are placed in the appendix. Special attention is paid to the etymology of words, and in the spelling of medical terms preference is given to the simpler forms. In words derived from the Greek the kappa is represented by the English "c." While this looks all right so far as "catalepsy" is concerned, it has a rather strange look in the word "caryocinesia." Daily use of the book has brought to light many good features, but every now and then a word or term is missed in it for which some other dictionary is consulted successfully. This, of course, is to be expected, as an absolutely complete dictionary, not encyclopedic in character, is out of the question. What one author will regard as an important word another will not consider as worthy of inclusion. On the whole, however, the author seems to have been judicious in his exclusions and the book therefore takes a high position as a reference "word-book" in medicine.

American Practice of Surgery. A Complete System of the Science and Art of Surgery. By Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., LL.D., and Albert H. Buck, M.D., of New York City. Complete in Eight Volumes. Volume VIII. Cloth. Price, $7. Pp. 1146, with 406 illustrations. New York: William Wood & Co., 1911.

The eighth and last volume of this work will be welcomed by all who have been fortunate enough to have subscribed to it. In this volume are considered intrathoracic surgery, surgery of the spleen, surgical diseases and wounds of the kidneys and ureters, surgery of the pancreas, surgery of the liver, gall-bladder and biliary passages, surgical diseases, wounds and malformations of the urinary bladder and the prostate and surgery of the ovaries and Fallopian tube and the uterus, including extra-uterine pregnancy, Cesarean section, etc. The chapter on carcinoma of the uterus is particularly worthy of notice.

The work has been favorably commented on repeatedly in these columns as the various volumes appeared. This last volume is particularly noteworthy in that several subjects of interest to the surgeon are considered which heretofore have not been found incorporated in works of this kind. Of these we may mention an excellent chapter on "The Law in Its Relations to the Practice of Surgery" and one on "Administrative Surgical Work" which has subheads on hospitals and hospital management, military surgery, naval surgery and administrative railroad surgery. Closing the volume and work is an extensive index to all the volumes. The work as a whole reflects great credit on the individual authors, who usually receive but little of any recognition in composite works of this character. At the same time the editors are to be congratulated on having brought to a successful termination such an excellent exposition of the practice of modern surgery.

Third Annual Report of the Michigan Association for the Prevention and Relief of Tuberculosis. For Ten Months, March 1-Dec. 31, 1910. Containing Statement of Work Accomplished, Report of Convention at Ann Arbor, Report of Local Associations, State Needs, Work of Allied Societies, Report of Secretary and Treasurer. A Brief of the Ten Months' Work. Aldred S. Warthin, Secretary, Ann Arbor, Mich. Paper. Pp. 189.

This organization has adopted as its war cry: "No Tuberculosis in Michigan in 1920." This report reviews the work for 1910, and contains much interesting material and many illustrations. The reports on the publicity and educational methods used are particularly interesting.

Medicolegal

What Constitutes Vaccination and Form of Certificate Thereof that May be Required

(Lee vs. Marsh (Pa.), 79 Atl. R. 564)

The Supreme Court of Pennsylvania holds that the vaccination of school children required by the statute of that state is by inoculation, and that a form of certificate may be demanded showing that the certified vaccination of a child was by that method. The certificate of vaccination offered in this case stated that the physician signing it, after personal examination of the child named therein, certified that she had been successfully vaccinated. The form insisted on, under instructions from the department of health, was to the effect that on a certain date the physician vaccinated the child named, and on another date stated found a resulting sore, which in his opinion meant a successful vaccination. The vaccination in this case was by the giving of vaccine virus (triturated virus) through the alimentary canal, through the mouth, in a powder form.

The Supreme Court renders its decision on the opinion of the court below, which stated that the whole case really turned on what is the meaning of the term "vaccination," as used in the act of June 18, 1895, which prohibits the attendance of a child at school without a certificate of successful vaccination, or of its having had the small-pox.

The ordinary and usual meaning of "vaccination," and the sense in which it must be supposed to have been used by the legislature, is inoculation with the virus of cow-pox for the purpose of communicating that disease as a prophylactic against small-pox. It indicates an operation, and not a result. If a person should take cow-pox by milking cows, or otherwise, or from other contact with the disease, he could not be said to have been vaccinated. The operation is comparatively old, having been in use for over 100 years, and during that time has always consisted of inoculating the body—that is, grafting on it the disease by inserting the virus under the skin—and the test of its success has always been considered to be the appearance of the symptoms of the disease, including those which manifest themselves on the skin.

Still it appeared in this case that for some years past another method of guarding against small-pox has been in use, more or less extensively, which consists in attenuating to a high degree the virus of small-pox, or of cow-pox, the attenuation of the virus of small-pox being called variolinum, and that of cow-pox vaccininum, and administering one or the other of these substances by the mouth, and it was claimed that in this way there are produced in the body practically the same symptoms as are produced by vaccination, except the exterior and local inflammation, and that either of these methods has the same preventive virtue as ordinary vaccination. From what is known of the use of toxins of other diseases, this would seem to be possibly true; but whatever it may be, and whatever the result may be, it is not vaccination as the term is used in the act.

The term "vaccination," however, appears to be used by some physicians, at least, as a general term for the introduction into the body, by any method, of any kind of virus as a preventive of disease, and it is plain that in this case the physician who certified to the successful vaccination used the term in this general sense, and not in the sense of the act. In order, therefore, to guard against such ambiguous use of the term by which the act would be evaded, the health department, under the terms of the act of April 27, 1905, prescribed a form of certificate which would prevent such ambiguity, and the requiring of that form was really what is complained of in this case. It was strenuously argued that the authority given by the act of 1905 to the health department to fix forms of certificates is a delegation of legislative power, and if it were claimed to authorize that board to require safeguards against disease which the act does not substantially require, it would be open to that objection. But all the court understands the act of 1905 authorizes, and all that the department has done in this case, is to regulate the form of the certificate so as to prevent ambiguity, and to require the certifying physician to use words in the same sense with which they are used in the act.

For these reasons the court is of the opinion that the certificate required by the board of health was lawfully required by it, and that its use is obligatory.

May Testify in Will Cases as to Mental Condition

(In re Gray's Estate (Neb.), 130 N. W. R. 746.)

The Supreme Court of Nebraska holds that, in a contest over the probate of a will between the person therein named as an executor or a legatee and the heirs at law of the decedent, section 333 of the Code of Civil Procedure, forbidding the disclosure of privileged communications, does not prevent a physician from testifying on behalf of either side of the controversy to the mental condition of the testatrix, though the information which enables him to do so was acquired solely in his professional capacity while attending her during her last illness. The court says that the courts of the country are divided on this question, but this court has held that the statutory right of waiver extends to the personal representative of a deceased person. Then, may one class of representatives in a contest over the probate of a will waive the privilege to the exclusion of another class, where the respective rights of the disputants depend on the mental condition of a deceased person? Does the statute permit heirs at law to require a disclosure on part of the physician, if his patient was insane, and suppress the truth, if mentally competent? No such intention can be found in the statute or in the reasons for its enactment. If heirs at law to protect the property of their ancestor from an insane act and to obtain their own rights under the statute of distributions may require a physician to testify to the condition of his patient's mind, there is no reason why a legatee or an executor may not also call on him for the purpose of protecting the will and a legacy under it. Having held that the right to waive the statutory privilege extends to the personal representative of a deceased person, consistency and justice require a construction which permits an executor or a legatee to compel a physician to testify to the mental condition of his patient, when that question is involved in a contest with the heirs over the probate of the patient's will. The courts, however, have authority to protect the memory of deceased persons from objectionable disclosures.

County Societies Can Pass Certain By-Laws and Hold Members for Trial on Charges—Not Subject to Injunction

(Ewald vs. Medical Society of New York County, 128 N. Y., S. 886)

The First Appellate Division of the Supreme Court of New York holds that a member of a medical society is not entitled to an injunction to prevent his being tried on charges preferred against him where his resignation has not been accepted and the by-laws of the society provide that all resignations shall be in writing and shall be sent to the secretary and referred to the comitia minora at its first meeting after their receipt, and, if accepted, the member thereby severs all connection with the society, but no resignation shall be accepted from a member under charges.

The court says that, if he is still a member of the society, his suit for an injunction is premature, while it also may well be doubted whether equity will entertain jurisdiction at the suit of a non-member to restrain the proceedings of a membership corporation like the defendant society. But he may ignore the proceeding, and, if he is libelled, sue for damages.

Under the laws applicable thereto, the society not only had the power to expel for unprofessional conduct not directly involving the relations of the member as such to the society, but it also had the power to pass the by-law that no member should be permitted to resign under charges. Indeed, its relation to the public and to the profession is such that the mere severing of membership of one guilty of an offense meriting discipline would not serve its corporate purposes. County medical societies are much more than mere private corporations or social clubs. The scope of the original act of incorporation and of the subsequent acts relating to them shows that they were intended to discharge important duties to the public.

It seems plain, therefore, that a member on his admission to the society assumes an obligation, not only to conform to the rules and regulations of the society respecting his immediate relations to it, but as well to observe its standards of professional ethics, and that a breach of that obligation in any respect involves a violation of duty to the society. Certainly any discreditable act of a member in his professional relations tends to discredit the society. The plaintiff agreed on becoming a member to submit to the discipline of the society for any act unfavorably affecting "the character, dignity or interest of the medical profession, or of the society." The by-laws, rules and regulations of the society would have no sanction if its discipline could be evaded by a resignation.

It is probable that the defendant could not try a member while under suspension. But it could wait until the period of suspension expired, or it could revoke the suspension. Restoration is not the same as original admission to membership. After restoration, he probably could not again be tried on the charges on which he was suspended. But that would not affect charges entirely different.

A Communication Not Privileged

(Miller vs. Miller (Ind. App.), 94 N. E. R. 243)

The Appellate Court of Indiana, Division No. 1, holds that in this case, wherein a daughter sought to recover from the estate of her deceased mother for services rendered her mother before her death, that there was no error in permitting a witness who was a physician to testify that while at the home of the mother, on an occasion when professionally calling on her, she said to him, in the presence of the claimant, "that Ellen should be paid and well paid for the work she was doing there caring for her." The court says that the mother was at that time able to be up and around, and this conversation occurred in the sitting-room of her home. The objection urged against the admission of this evidence was that the communication was privileged, being a communication from a patient to her physician. But it did not appear that the statement to the witness was in any manner connected with the making of any examination of the patient, or in connection with any conversation with reference to her ailments or disease with which the patient was suffering or being treated, or in any manner pertaining to such physician's employment, or while any one was advising the claimant as to the care and attention the mother should receive. All persons are competent witnesses in a civil proceeding except as otherwise provided by statute. The Indiana statute provides that: "Physicians, as to matter communicated to them, as such, by patients, in the course of their professional business, or advice given in such cases," are not competent witnesses. Such matters are regarded as confidential communications between patient and physician, and are privileged without the consent of the patient. The fact about which the witness testified here was not a matter reasonably within the professional business of the physician, or about which he would be expected to give advice, or that it would likely be communicated by a patient to a physician as such, and was not privileged.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Philippine Journal of Science, Manila

June, VI, No. 3, pp. 165-258

1 Davainea Madagascariensis (Davaine) in Philippine Islands. P. E. Garrison, U. S. N.
2 Influence of Rice Diet and Inanition on Production of Multiple Neuritis of Fowls and Its Bearing on Etiology of Beriberi. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. A.
3 Intestinal Parasites in Cavite Province. E. R. Stitt, U. S. N
4 *Dysentery Bacillus with Bacteriologic Study of Epidemic of Bacillary Dysentery in Philippines. E. R. Whitmore, U. S. A.
5 Practical Experiences with Beriberi and Unpolished Rice in Philippines. V. G. Heiser, U. S. P. H. and M.-H. S.
6 Perineal Litholapaxy (Keith's Operation). A. Hooton, Rajkot, India.
7 *Clinical Study of Hookworm Infection in Philippines. L. Gomez, Manila.
8 *Etiology of Beriberi. W. P. Chamberlain and E. B. Vedder, U. S. A.

6. **Dysentery Bacillus.**—During an epidemic of bacillary dysentery in the Philippines, occurring in the summer of 1909, Whitmore was able to isolate dysentery and dysentery-like bacilli from the stools of a number of patients. He isolated a bacillus of the Shiga-Kruse type from twelve out of forty cases of severe, acute dysentery in natives of two towns of Batangas Province where there was an epidemic of acute dysentery with a high mortality. No other strain of the dysentery bacillus was found by him in that locality. He was able four times to isolate a bacillus of the Flexner-Strong type, and one of the Shiga-Kruse type once from sporadic cases of acute dysentery around Manila. Beside this, he obtained a large number of dysentery-like bacilli. These organisms were determined by the cultural characteristics, including their reactions in sugar media, their pathogenicity for lower animals, and their agglutination reactions with sera of animals immunized to known strains of the various types of the dysentery bacillus. The bacillus Y and the Strong type, with which Lentz worked, were not found. Whitmore says that great care is necessary in describing types of the dysentery bacillus from their reactions in sugar media alone, as the amount of sugar present and the length of time the organism has been on artificial media often affect the reaction.

7. **Uncinariasis in Philippines.**—This investigation was undertaken by Gomez mainly to determine the effect of the hookworm on Filipinos, and to determine whether there is any immunity enjoyed by the race comparable to that of the Negroes in Porto Rico, in the southern United States and in Africa. A series of twenty-six cases was studied clinically, and subjected to a careful examination of the blood and urine. In a few cases the hookworms were collected and counted. It has been Gomez' procedure to collect the stools in every case. Ten cases without hookworms but with other intestinal parasites were selected for study as controls.

Five of the twenty-six patients complained of a certain amount of pain in the stomach. The other symptoms, such as emaciation, a feeling of dizziness, pain in the joints, difficulty in urination, a sensation of oppression on the chest, tympanitis, neuralgic intercostal pains, or debility, can be attributed to other diseases such as malaria, tuberculosis, dengue fever, cystitis and nephritis. The vague pains in the stomach suggest the presence of hookworms, either alone or associated with other intestinal parasites, as their removal accompanying hookworm infection has been frequently observed by Rissler and Gomez. One particular instance was that of an assistant who complained of poor appetite and vague abdominal pains, and who was promptly relieved on the expulsion of hookworms. As compared with the control cases, eosinophilia is generally present in the patients harboring hookworms. Five out of ten, or 50 per cent., of the control cases gave an eosinophil count above 4 per cent. In patients infected with hookworm, twenty out of twenty-six, or 76 per cent., had eosinophils above 4 per cent. Only three of the controls had over 5 per cent., whereas in the hookworm series this figure was reached by twenty out of twenty-six of the cases. No control shows 13 per cent. or above, whereas nine (or 34 per cent.) of the patients harboring hookworms gave an eosinophil count of 13 per cent. or above. The lowest count in the control cases was 0.3 per cent., and the highest 12.80, whereas in the others the lowest was 0.3 per cent. and the highest 21.9. It was noted in the control series that individuals with *trichuris* or *ascaris*, or both together, hardly show any deviation from normal, those having high eosinophil counts harbored amebas or *tenia*. The percentage of hemoglobin in the control series varied from 80 to 95. In these patients infected with hookworm, the percentage was from 75 to 95.

The count of the red and white cells did not show any marked difference between the two series; the lowest for red cells in the hookworm cases was 4,000,000 per cubic centimeter, whereas in the control cases it was 4,500,000. In two instances, albumin was found in the urine but this occurrence can be attributed to nephritis which was independent of the hookworm infection. The number of hookworms recovered varied from one to twenty, this small number corresponding to the paucity of eggs found in the microscopic preparations. Gomez concludes that hookworm infection among the Filipinos corresponds to the light type of Stiles; that is, patients have the ova of hookworms in their stools, but no symptoms. The absence of all clinical manifestations or their insignificant characters among Filipinos infected with hookworms, Gomez says, cannot be attributed to a racial immunity, as the number of the infecting hookworm organisms in each instance is small.

8. **Etiology of Beriberi.**—A series of carefully conducted experiments on fowls has convinced Chamberlain and Vedder that polyneuritis gallinarum is not prevented by adding to a diet of polished rice any of the following substances: potassium phosphate, potassium citrate, potassium carbonate, potassium chlorid, magnesium phosphate, phosphoric acid, or phosphoric acid combined with potassium chlorid. The neuritis-preventing substance in rice polishings is soluble in cold water and in cold alcohol. Polyneuritis gallinarum may be prevented by means of an extract of rice polishings containing only those substances soluble in cold water and cold alcohol. Multiple neuritis in fowls fed on polished rice probably is not due to lack of phosphorus compounds in the grain, as claimed by Schaumann, since out of each 1,000 parts of phosphorus contained in the rice polishings at least 999 are not concerned in preventing neuritis. The neuritis-preventing substance contained in rice polishings is capable of dialysis through a parchment membrane. This excludes all colloids from consideration.

Journal of Iowa State Medical Society, Clinton

September 15

9 Typhoid Bacilli Carriers. H. Albert, Iowa City, Ia.
10 Proper Registration of Vital Statistics. G. H. Sumner, Des Moines, Ia.
11 Ethics of Practice. C. A. Boice, Washington, Ia.
12 Scientific Spirit in County Society. E. B. Brown, Beloit, Wis.
13 Medicine in Iowa from Its Early Settlement to 1876. D. S. Fairchild, Clinton, Ia.
14 Infectious Arthritis with Special Reference to Knee-Joint. W. H. Rendleman, Davenport, Ia.

Chicago Medical Recorder

September, XXXIII, No. 9, pp. 461-523

15 *Treatment of Puerperal Sepsis by Intravenous Injection of Mercuric Bichlorid. H. M. Stowe, Chicago.
16 Asiatic Cholera and Its Treatment. W. F. Waugh, Chicago.

15. **Treatment of Puerperal Sepsis.**—Stowe reports eleven cases of undoubted septicemia treated during the past four years by the intravenous injection of mercuric bichlorid in association with other treatment, with death following in five and recovery in six. In addition to these eleven cases of septicemia the mercury has been injected in three cases of pyemia. One woman died after seventy days. Of the other two patients one was treated with 2 grains of mercury after the ninth chill, the other with 1 2/5 grains after seven chills. Four additional chills followed the treatment, making eleven in all. In the first case, the blood was sterile after five examinations; in the second case streptococci were demonstrated in the blood-current. Stowe has given 185 injections of 1/5 grain of mercuric bichlorid in septic patients and has never seen any bad or toxic results therefrom. He says that intravenous medication offers the quickest, most accurate and most dependable method of drug administration. The reputed dangers of embolism are greatly over-estimated. Mercuric bichlorid is not the ideal drug to combat septicemia, but it has the advantages of being easily associated with other forms of treatment, is harmless in action and is worthy of trial in serious cases. Stowe warns to keep the teeth clean and to omit salines during the course of treatment. He emphasizes that experiments with other chemicals in the conflict against the streptococcus are greatly needed. By diligent investigation someone will find a substance which will overcome the streptococcus and its toxins and also prove harmless to the maternal organism.

Stowe says that generally speaking, local forms of sepsis are treated on the principle of watchful expectancy because the maternal powers are amply able to overcome the deleterious action of the bacteria and their toxins. No intra-uterine or vaginal douches are given, no curettement permitted and no internal examinations made; in fact, local therapy consisting of vaginal or uterine manipulations is not only useless, but are positively harmful in the great majority of cases. Many a woman owes a general extension of her sepsis to malicious local therapy. It is only necessary to assist the maternal powers in their conflict against the streptococcus, the most common as well as the most serious pathogenic organism. This assistance is afforded by placing the patient in Fowler's position to facilitate drainage, ergot and hydrastis to prevent extrauterine migration of the bacteria and to promote an otherwise retarded uterine involution, and continuous ice-bags on the abdomen for the relief of pelvic pain. In cases of parametritis, when exudation is pronounced, the patient is kept in bed for several days after the pain, temperature and other signs of the acute process have subsided. If fever or pain return after the woman leaves her bed, she must return at once; otherwise, the exudate may suppurate and form a pelvic abscess. These abscesses should not be opened until they are easily accessible by way of Douglas' cul-de-sac, never through the abdomen, and when the peritoneal cavity is sufficiently protected by adhesions from the suppurating focus. A premature surgical procedure is always associated with the danger of general peritoneal involvement.

Journal of Missouri State Medical Association, St. Louis

September, VIII, No. 3, pp. 97-134

17 Obstruction of Male Urethra: Report of Cases. H. J. Scherck, St. Louis.
18 Civil Malpractice. E. J. White, Aurora, Mo.
19 Pathology of Exophthalmic Goiter. R. L. Thompson, St. Louis, Mo.
20 Obstructions of Upper Urinary Tract. J. Block, Kansas City, Mo.
21 Diagnosis of Hyperthyroidism. W. W. Graves, St. Louis, Mo.
22 *Surgical Treatment of Exophthalmic Goiter. W. Bartlett, St. Louis.

22. **Surgical Treatment of Exophthalmic Goiter.**—Of Bartlett's operations for this disease, forty-five were partial thyroidectomies. Two of these patients died (4.44 per cent.); thirty-two (71 per cent.) are in splendid condition at periods varying from a few weeks to seven years after the operation. Bartlett does not advise thyroidectomy on advanced patients unless a preliminary hospital treatment, consisting of rest in bed, atropin and the application of ice to heart and throat alters the condition to the point that he considers them fair surgical risks. If they are properly chosen, an anesthetic is dispensed with, no blood is lost and no shock produced; surely very little is added to the inherent danger of the disease and in this way a vast amount is accomplished. Bartlett operates under local anesthesia.

Old Dominion Journal of Medicine and Surgery, Richmond

September, XIII, No. 3, pp. 151-207

23 Pelvic Infections and Their Relation to Inflammatory Diseases of Pelvic Structures. J. W. Long, Greensboro, N. C.
24 *Spurious Pregnancy. J. S. Clifford, Charlotte, N. C.
25 Pylorospasm, Its Chief Causes. E. R. Hart, Suffolk, Va.
26 Chronic Gastritis. J. R. Verbrycke, Washington, D. C.
27 Gonorrhea in Female. W. C. Powell, Petersburg, Va.

24. **Spurious Pregnancy.**—In Clifford's case the woman's menstruation ceased Aug. 10, 1908. She believed that she had conceived and had no disagreeable symptoms. The abdomen enlarged progressively, and the patient stated that she felt movements about Christmas. Early in February she complained of the activity of these movements, and for the first time grew nervous and worried over the tediousness of her state. Clifford saw her Feb. 4, 1909, and with the exception of a marked anemia, found the patient in good condition. A symmetrical tumor at the level of the umbilicus was palpated, but the fundus of the uterus was not determined, nor were the fetal heart sounds and other positive signs of pregnancy present. On February 23 permission to administer an anesthetic was given, and as soon as consciousness was lost the tumor disappeared and a slightly enlarged uterus, with a soft patulous cervix was palpated. With the withdrawal of the anesthetic the swelling returned, and the symptoms enumerated above reappeared. The patient insisted that she still felt fetal movements that annoyed her greatly, and her nervousness became so marked that it was decided to perform a curettement. This was done March 10, 1909, and only some catarrhal endometrium was found in the scrapings. Satisfied now that the uterus was empty, the patient did not complain and the abdomen remained normal, the anemia present readily responded to treatment and the nervousness cleared up gradually. Menstruation returned June, 1909, and continued regular until November, 1909. Jan. 9, 1910, a two-months' pregnancy was terminated unavoidably caused by a fall on an icy side-walk. Placental debris was found in the discharge at this time; menstruation did not again appear, and on Nov. 22, 1910, Clifford delivered this woman of a normal female baby.

Western Medical Review, Omaha

September

28 Heredity. A. E. Mack, Omaha, Neb.
29 Two Cases of Subparietal Injuries of Kidneys. B. B. Davis, Omaha, Neb.
30 Etiologic Relation of Food to Degenerative Diseases. W. F. Milroy, Omaha.
31 Recent Advances in Syphilology. A. Schalek, Omaha, Neb.
32 Tonsil Resection by General Surgeon. C. E. Slagle, Alliance, Neb.

Military Surgeon, Washington

October, XXIX, No. 4, pp. 361-479

33 Typhoid in National Guard, Investigation of an Epidemic. A. McGlannan and W. P. Morrill, Baltimore.
34 Malformations and Monstrosities in Army Medical Museum. D. S. Lamb, Washington, D. C.
35 *Epidemic of Measles at Columbus Barracks, Ohio. Manner of Transmission of the Disease. A. C. Christie, U. S. A.
36 Report of Camp Wilhelm, Tayabas, P. I. W. A. Powell, U. S. A.
37 Case of Alkaptonuria and Ochronosis. P. M. Ashburn, U. S. A.

35. **Epidemic of Measles.**—Since the 24th of last December there have been 183 cases of measles at Columbus Barracks. During the first month and a half the disease ran a very mild course, with few complications and those not serious. Up to February 16 there were seventy-six cases of measles, two of them being complicated with bronchopneumonia, three with otitis media, and one with plastic pleurisy; none of these cases was severe and all of them made good recoveries. About the middle of February the disease suddenly assumed a serious aspect and many of the cases had severe complications. There seems to be no way to explain this sudden change in the character of the disease. The patients were isolated in roomy wards, well ventilated but kept at an even temperature, and with sufficient moisture present. That there was an increase in the virulence of the infection is indicated by the fact that during this latter part of the epidemic many cases were seen to be serious from the start. Even during the catarrhal stage there was great prostration, very serious bronchitis, and early tendency to lung involvement. The first death occurred on Feb. 16, and since that time there have occurred 107 cases of the disease with a total of sixteen deaths. The last death occurred on April 1, and since that time there have been only a few cases and none of them serious. The death-rate for the entire epidemic is 8.2 per cent.

The following complications occurred during this epidemic: bronchopneumonia, 23; pleurisy with effusion, 11; otitis media, 13; mastoiditis, 3; meningitis, 1; pericarditis with effusion, 3; abscess of lungs, 2; 1 with appendicitis as an intercurrent disease, was operated on and made a good recovery. At autopsy one patient was found to have a large tuberculous abscess in the apex of each lung, and two had healed tuberculous nodules.

Death was caused in four cases by bronchopneumonia alone; in one case by meningitis; in four cases by bronchopneumonia and pleurisy with effusion; in one case by empyema, which proved fatal in spite of rib resection and thorough drainage; two cases with bronchopneumonia and multiple abscesses in the lungs; one case with bronchopneumonia and tuberculous abscesses; and two cases with bronchopneumonia, pleurisy with effusion, and pericarditis with effusion.

Otitis media was a complication in 7 1 per cent. of the cases. In those cases in which the discharge was at all persistent, an autogenous vaccine was made and proved a very efficient aid to the treatment. Mastoid disease was a complication in three cases; in all three a thorough mastoid operation was done; two of the patients recovered and the other died with meningitis.

Journal of Oklahoma State Medical Association, Muskogee

September

38 Cause and Prevention of Cancer. L. F. Watson, Oklahoma City, Okla.
39 Joint Manifestations of Hemophilia. C. S. Neer, Vinita, Okla.
40 Look Ahead. A. K. West, Oklahoma City.
41 Varicella. J. F. Duckworth.
42 Early Diagnosis of Tuberculosis. P. H. Anderson, Anadarko, Okla.
43 Indigestion from Surgical Point of View. L. Long, M'Alester, Okla.

Surgery, Gynecology and Obstetrics, Chicago

September, XIII, No. 3, pp. 245-362

44 Esophagoscopy and Gastroscopy. H. H. Janeway and N. W. Green, New York.
45 Merits of Suprapubic Prostatectomy. J. B. Squier, New York.
46 Cure of Prostatic Obstruction. H. H. Young, Baltimore.
47 Perineo-Urethral Prostatectomy. W. T. Belfield, Chicago.
48 Results Following Perineal Prostatectomy. P. Syms, New York.
49 Series of Unusual Cases with Pathologic Conditions Outside of Bladder, Probably Appendical Abscesses, Causing Marked Vesical Symptoms. L. E. Schmidt, Chicago.
50 Diverticula of Urinary Bladder, Special Reference to Röentgen Ray Diagnosis. J. M. Garratt, Buffalo, N. Y.
51 Urinary Bladder Disturbances Due to Inflammatory Changes in Prostate and Seminal Vesicles. I. S. Koll, Chicago.
52 Topography of Ureter as Determined by Shadowgraph Catheter. L. E. Schmidt and H. L. Kretschmer, Chicago.
53 *Renal Decapsulation in Eclampsia. H. Ehrenfest, St. Louis, Mo.
54 *Consideration of Renal Anomalies. W. A. N. Dorland, Chicago.
55 *Sigmoid in Its Relation to Pelvic Disease. C. W. Barrett, Chicago.
56 Operative Treatment of Carcinoma at Fundus of Bladder. F. R. Hagner, Washington, D. C.
57 Case of Cystitis, Multiple Ulcers, Cured by Excision of Ulcers. F. R. Hagner, Washington, D. C.
58 Case of Urinary Suppression Treated by Catheterization of Kidney Pelvis. F. C. Walsh, San Antonio, Texas.

53. **Renal Decapsulation in Eclampsia.**—Ehrenfest draws from his experiments the following conclusions: 1. The immediate effect of decapsulation is a temporary suppression of secretory function in the operated kidney, and a distinct reflectory retardation of diuresis also in the other kidney, at time probably amounting to a complete anuria. This reflectory effect is also exerted on a kidney decapsulated forty-eight hours previously, but possibly to a smaller degree. 2. From twenty-four to forty-eight hours after the operation a decapsulated kidney shows approximately the same secretory activity as the non-decapsulated kidney of the same animal. 3. Between twenty-four and forty-eight hours after decapsulation the diuretic effect of an intravenous saline transfusion or of an artificial acute rise of blood-pressure is identical in the decapsulated and non-decapsulated kidney of the same animal. 4. In an apparently healthy dog a kidney, decapsulated for more than twenty-four hours, does not show any noticeable difference from the other kidney in regard to its secretory function under normal or artificial conditions.

54. **Renal Anomalies.**—The two cases reported by Dorland are: 1. Mural kidney, situated in a pocket of peritoneum on the anterior abdominal wall, left lower quadrant. The organ was one-third of the normal size, having a small ureter which perforated the bladder-wall in the usual situation, so that the normal shape of the vesical trigone was not altered. The ectopic kidney was normal in shape, but showed slight lobulations, the latter not being nearly so marked, however, as they frequently are in normally situated and fully developed kidneys. A careful dissection proved that the vascular supply of the ectopic organ was derived from a branch of the internal iliac artery, with a corresponding vein emptying into the internal iliac vein. The adrenal was not in evidence. The ureter, which in common with the vessels perforated the kidney at the hilum, which was directed inward and downward toward the median line, was about half the usual size. Section of the ectopic organ discovered typical renal tissue, although the pyramids were not as sharply defined as in a normal kidney. There was no kidney nor adrenal body in the normal situation on the left side, nor were ureter or renal vessel to be found on that side, nor vestiges that might indicate an attempt at renal formation. The right kidney, adrenal body, and ureter were normal in size and appearance and were normally vascularized. The second case was one of horseshoe kidney with fusion of the upper extremities with concavity directed anteriorly.

55. **The Sigmoid and Pelvic Disease.**—Barrett emphasizes that the intimate relation of the genital tract to the terminal reservoirs of the urinary and alimentary tracts permit of easy communication of disturbances and pathologic conditions. The sigmoid through its ready adhesions may, like the omentum, serve to wall in a genital infection and save the patient, after which it may, through perforation, serve as a means of escape for this infection and the resulting pus, or, by reason of adhesions, it may introduce new elements of danger through colon bacilli infection and bowel obstruction. The symptoms of constipation, diarrhea, passage of mucus or blood, the presence of a sausage-like mass in the left iliac fossa, etc., should, he says, lead us more frequently to include the pathologic conditions of the sigmoid in our pelvic diagnosis, especially when there seem to be adhesions on the left side. The associated sigmoidal conditions are undoubtedly primary, in many instances, as they are found in men although adhesions here may be due to infections of the vas but are also very frequently secondary to the disease of the tubes, ovaries and uterus, as they are frequently observed after definite infections of this tract.

Ohio State Medical Journal, Columbus

September, VII, No. 9, pp. 421-468

59 Proctology. S. T. Earle, Baltimore, Md.
60 *Surgical Aspects of Painful Indigestion. G. W. Crile, Cleveland.
61 Expert Testimony. G. Stockton, Columbus.
62 Blindness and Its Prevention. L. Stricker, Cincinnati.
63 Diminution of Morbidity of Parturition. G. B. Booth, Toledo.
64 *Medical Inspection of Public Schools. M. Coplan, Cleveland.

60. Abstracted in The Journal, June 10, 1911, p. 1749.

64. Abstracted in The Journal, May 27, 1911, p. 1601.

St. Louis Medical Review

September, LX, No. 9, pp. 257-288

65 Man as a Geologic Species in Western Hemisphere. A. S. Ashmead, New York.
66 Hyperinosis the Cause of Death in Chronic Parenchymatous Nephritis. A. Memminger, Charleston, S. C.
67 Surgical Treatment of Gonorrheal Pus Collections in Female Pelvis. A. Brothers, New York.
68 Inversion of Everted Lip. C. G. Miller, Chicago.
69 Different Forms of Vulvo-Vaginitis in Children: Treatment. O. Maier, New York.
70 Pathology and Etiology of Varicocele, with Abridged History of Surgical Treatment. C. A. Pfender, Washington, D. C.
71 Digitalin in Failing Kidneys. J. M. Taylor, Philadelphia.
72 *Simple Treatment for Corns. E. Griffith, New York.

72. **Treatment for Corns.**—In the method described Griffith depends on the macerating power of ordinary adhesive plaster to effect the result sought. A strip of this material from ⅜ to ½ inch (1 cm.-1.25 cm.) in width and 4 to 6 (10 cm.-15 cm.) inches long is to be applied in spiral fashion to the affected toe covering the digit from neck to nail. The degree of tightness of the application deserves consideration to avoid compression. However, the feelings of the patient when stepping on the foot will serve as an adequate guide in this matter. Instructions to cut through the plaster lengthwise or to soak off the entire dressing by immersion in a hot water foot bath affords ample protection in cases of undetected microbic infection. Soaking the foot for ten to twenty minutes in water at a temperature of 100 F., with gentle removal by rubbing with a piece of sterilized pumice stone or forceps of the crown of hardened epidermis shortens the time of treatment. Griffith contends that properly applied the dressing described should afford relief from the moment of its application, and may be worn continuously for from one to six or eight weeks, bathing seeming to unaffect the adhesive properties of the plaster after once having set. Removal of the dressing at the end of an adequate time reveals the cornus completely freed, when it may be picked out entire by means of a dressing forceps or after an additional soaking. A wisp of absorbent cotton held on by means of a narrow adhesive strap may be subsequently worn for a few days.

Lancet-Clinic, Cincinnati

September 23, CVI, No. 13, pp. 303-328

73 Surgery of Pleura: Pleurotomy, Pleurectomy, Pleurorrhapy. B. M. Ricketts, Cincinnati.
74 Case of Embolism of Superior Mesenteric Artery. H. H. Hines, Cincinnati.

Canadian Medical Association Journal, Toronto

September, I, No. 9, pp. 805-917

75 Cancer of the Stomach. H. A. Bruce, Toronto.
76 *Etiology of Cholelithiasis, Special Reference to Age-Incidence. E. S. Ryerson, Toronto.
77 *Extirpation of Thyroid in Monkeys. J. Halpenny and J. A. Gunn.
78 Graduated Dilatation of Uretero-Vesical Orifice and Ureter Above It. H. A. Kelly, Baltimore.
79 Modern Aids to Diagnosis in Otology; Their Significance. J. F. McKernon, New York.
80 *Surgical Treatment of Cholelithiasis. W. J. Mayo, Rochester, Minn.
81 Primary Tumors of Bladder. W. Hutchinson, Montreal.

76. **Etiology of Cholelithiasis.**—In 145 cases of cholecystitis studied by Ryerson, gall-stones occurred in 55.8 to 58 per cent. of patients between the ages of 15 and 45. Adding to the above the number of cases in which symptoms started in that period, the percentage is increased to 65. Ryerson found that typhoid, which is recognized as one of the exciting causes of gall-stone formation, occurs most often in the early part of that period, and that the conditions of pregnancy and fibroids of the uterus, which are known to be commonly associated with gall-stones, are most common at that time of life. Gall-stones are not found at autopsy in any larger proportion of cases after 45 than before that age. Ryerson suggests that if gall-stones are formed as the result of a chronic infection of the gall-bladder occurring most commonly between the ages of 15 and 45, why should we not try to overcome this infection? We know that if a gall-bladder is emptied of stones and drained for a short period of time, that stones very rarely reform, as the cause of their formation, chronic infection, has disappeared. If this is the case, why should we not take the same steps when we know that a chronic cholecystitis is present, which will ultimately result in the formation of gall-stones? Will the patient ever get rid of the infection if we do not drain his gall-bladder?

The anatomic arrangement of the cystic duct, on account of the infolding of the mucous membrane in the form of valves in the interior, is of such a character that it is questionable whether it can provide sufficiently free drainage to the gall-bladder to rid it of its infection. The fact that we know that there exist "typhoid carriers" in whom the typhoid bacilli have been found in the gall-bladder twenty and even thirty years after infection, also shows us that this infection of the gall-bladder tends to persist unless steps are taken to relieve it. Not infrequently, in operating on the abdomen for symptoms suggestive of gall-bladder trouble, if the surgeon cannot palpate stones in the interior of the gall-bladder or in the ducts, he closes the abdomen without opening the gall-bladder. The symptoms of chronic cholecystitis are so closely identical with those of cholelithiasis that the gall-bladder, although showing no stones or peritoneal changes, such as adhesions, should invariably be opened and drained in such cases.

He considers the simple operation for uncomplicated gall-stones, with its mortality of 5 per cent., to be an entirely justifiable procedure as a means of preventing the years and years of symptoms which gall-stones are known to cause. He predicts that the day is surely not far distant when we shall advise immediate drainage of the gall-bladder, not only for gall-stones, but also for chronic cholecystitis, such as that complicating typhoid or other intestinal infection, and by so doing prevent the formation of gall-stones, with their years of chronic indigestion, repeated attacks of biliary colic and irritation resulting in malignant disease.

77. **Extirpation of Thyroid in Monkeys.**—The thyroid and parathyroids were extirpated by Halpenny and Gunn in eight monkeys. Briefly, the results were as follows: Experiment 1.—Remained well for three days; died on the sixth day, having shown no symptoms other than slight tremor and listlessness. Exp. 2.—Remained well for four days when some stupidity and paresis were observed. On the twelfth day there was some puffiness of the face. At no time was there any tremor or pronounced tetany observed. Died on the seventeenth day. Exp. 3.—Symptoms of tetany on the third day. Died on the seventeenth day in an emaciated condition. Exp. 4.—Had typical tetany on the seventh day. Died greatly emaciated on the eighteenth day. Exp. 5.—Typical nervous symptoms on the thirteenth day. This condition lasted with intermissions for five days. The animal then practically recovered and remained in good health till the sixty-third day, when paresis again occurred. On the seventy-first day it was found in a comatose condition, when a small dose of thyroid extract was given. After a few hours tetany supervened. The animal died the following day, seventy-two days after operation. Exp. 6.—No symptoms of any kind were observed till seventy-one days after the operation, when there was some malaise and loss of appetite. The monkey got steadily feebler and more apathetic until the eighty-first day, when it died, having shown no specific nervous symptoms. Exp. 7.—Remained well till the fifth day, when slight nervous symptoms came on. Remained in a state of moderate feebleness till the thirty-sixth day, when it had a distinct attack of tetany. From this the animal did not recover and died on the following day. After the final attack of tetany, a small dose of thyroid was administered. Exp. 8.—Symptoms similar to those of No. 7. On the thirty-sixth day the monkey was in a comparatively good state of health, although by no means free from symptoms. Three fairly large doses of thyroid extract were administered at intervals of several hours. Acute tetany supervened and the animal died on the fortieth day.

80. Abstracted in The Journal, July 15, 1911, p. 244.

New York State Journal of Medicine, New York

September, XI, No. 9, pp. 439-450

82 *Treatment of Intestinal Tuberculosis. S. G. Gant, New York.
83 *Developmental Defects of Abdominal Viscera and Their Surgical Significance. W. F. Campbell, Brooklyn.
84 *Precancerous Stage. P. Syms, New York.
85 *Rôle of Physicians in Prevention of Insanity. A. W. Ferris, New York.
86 Arteriosclerosis, or Cardiovascular Disease. L. F. Bishop, New York.
87 Misinterpretation of Cardiac Pain. A. Lambert, New York.
88 Treatment of Tumors of Urinary Bladder with Oudin High-Frequency Current. E. Beer, New York.
89 Experience of Army with Vaccination as Prophylactic Against Small-Pox. J. V. Hoff, U. S. Army.
90 Diagnosis and Treatment of Tropical Infections. S. M. Shook, U. S. Navy.
91 Etiology and Treatment of Certain Forms of Periodical Headaches. N. A. Pashayan, Schenectady, N. Y.
92 Bladder and Prostate. J. F. W. Whitbeck, Rochester, N. Y

82, 83, 84 and 85. Abstracted in The Journal, May 20, 1911, pp. 1506 and 1507.

Colorado Medicine, Denver

September, VIII, No. 9, pp. 297-336

93 Duties and Attitude of Medical Profession to Public. W. H. Swan, Colorado Springs, Colo.
94 *Modification of Torek Combined Operation for Removal of Appendix and Cure of Right Inguinal Hernia. H. M. Cohen, Denver.
95 *Apical Pregnancy. C. B. Ingraham, Denver.

94. **Modification of Torek Combined Operation.**—Cohen's modification of Torek's operation deals with the disposal of the neck of the hernial sac. After the appendix has been removed and the peritoneum over it sutured, the ends of the suture uniting this portion of the peritoneum are left long. The peritoneum around the neck of the hernial sac is now bluntly loosened for a distance of about ¾ of an inch. Through the opening in the internal oblique and transversalis over the appendix, a forceps is bluntly pushed along between peritoneum and muscle until the neck of the hernial sac is grasped. The sac is then dislocated upward and tied with the ends of the peritoneal suture, which have purposely been left long. In this way the neck of the sac is not only doubly ligated, but is also dislocated by pulling it away from the weak internal ring, thereby more positively guarding against a recurrence of the hernia. Cohen has used this method in but two cases, both resulting in positive cures.

95. **Apical Pregnancy.**—In Ingraham's case the placenta was found situated in the right uterine cornu, extending two-thirds the distance on the right wall of the uterus. This was detached, broken up and removed with the ovum forceps. The right wall of the uterus was thin and pouched, the left wall was distinctly thicker. No septum as in a uterus bicornis unicollis was palpable. The morcellated fetus when reconstructed was 16 cm. in length, showing the pregnancy to be about four months in duration.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

September 15, XXXI, No. 18, pp. 429-454

96 Fractures of Long Bones and Principles of Treatment. J. W. Freeman, Lead, S. D.
97 Some Essential Differences Between Common Surgical Affections of Infancy and Childhood and Similar Conditions in Adults. H. B. Smith, Fargo, N. D.
98 Royal London Ophthalmic Hospital Clinic. S. E. Kerrick, Minneapolis.

Pennsylvania Medical Journal, Athens

September, XIV, No. 12, pp. 927-988

99 Postoperative Psychoses. J. H. W. Rhein, Philadelphia.
100 *Proper Use of Adhesive Plaster. P. G. Skillern, Philadelphia.
101 Empyema of Sinus Maxillaris. J. P. Tunis, Philadelphia.
102 Prophylaxis of Cancer. D. Guthrie, Sayre.
103 Hygienic Errors in Rural Schools. H. W. Knight, Rutland.
104 Professional Fellowship. J. J. Coffman, Scotland.
105 *Coincident Intra- and Extra-Uterine Pregnancy. B. C. Hirst, Philadelphia.
106 Campaign Against Tuberculosis in Pennsylvania. T. H. A. Stites, Harrisburg.
107 Latest Military Sanitation, as Practiced at Mt. Gretna. S. P. Heilman, Heilman Dale.

100. **Proper Use of Adhesive Plaster.**—In applying adhesive plaster directly to the skin Skillern takes pains to shave the hair. If the part has not been shaven, painful removal of the plaster is obviated by using refined medicinal benzin; it is cheap, antiseptic and cleansing, and rapidly volatile. Like turpentine, it is antiseptic, thus diminishing infection of hair follicles, and it readily dissolves the zinc oxid and removes the dirt which collects around the edges of the plaster. Often small pustules are exposed on removal of the plaster. Skillern finds that these may often be prevented by sterilizing the skin, even though imperfectly, with dilute alcohol, iodid of mercury or formaldehyd in solution, before applying the plaster, the idea being to sterilize as far as possible the hair follicles and sebaceous glands, through which bacteria commonly infect the skin. He believes the custom of storing strips on the wall within handy reach of the surgeon accounts to some extent for these little infections. To obviate this he prefers to tear strips himself from the original 5-yard roll, as this is much cleaner and permits the proper adaptation of the length and width of the strip to the case under treatment. Better retention is obtained by using a few broad, stout strips in place of many narrow ones, and the length of the strip should be gauged by the weight of the dressing. On immovable parts of the skin he uses, when possible, the flexible collodion and cotton-cocoon dressing, but on movable parts, such as the neck, this is stiff and annoying.

When applied to retain bandages in place, rubber adhesive-plaster strips may be used; as a rule, the narrower the better. Strips 3/16 of an inch in width usually suffice, are economical and more readily moulded to the part. These are best applied by simply following the turns of the bandage, which on the extremities usually describe a figure-of-eight. On cylindrical parts, such as digits and stumps, Skillern applies the strips so as to imitate the staves and hoops of a barrel. Where turns cross approximately at right angles to each other, as in the spica of the groin or shoulder and particularly in head bandages, far better retention is obtained by inserting pins so as to include the layers. This insures against vertical turns slipping sideways and horizontal turns slipping up or down. Strips may then be so adjusted as to cover the pins to prevent accidental scratches. In the skull-cap bandage he applies the coronal strips first, securing their ends by lateral fronto-occipital strips, it being important to place the latter strips well below the external occipital protuberance.

He has found the secret of retaining the spica bandage of the groin to lie not only in placing the ascending turns above the iliac crest, but in inserting pins through the cross layers and ½-inch strips of adhesive plaster at both edges of the bandage, and throughout its entire length. It is most important to place the inner strip as close as possible to the origin of the adductor longus tendon, much better retention being obtained in this way. If a wet dressing has been used it is necessary, and in any event always desirable, to interpose waxed paper between the gauze and the cotton compress which Skillern invariably places under the bandage to equalize the circulation.

105. **Coincident Intra- and Extra-Uterine Pregnancy.**—The history of Hirst's case is as follows: Mrs. M., aged 32, married ten years, two children; one miscarriage four years ago. Menses regular but scanty and short in duration; in January unusually scanty; in February a week late. Patient had had pain in ovarian region for some time but for last two weeks very severe and of a colicky character. A vaginal examination revealed a large tubo-ovarian mass on the right side and in Douglas' pouch. Diagnosis was ectopic gestation. An operation was performed the following day. Free blood in abdomen and right-sided tubal gestation were found. Ten days after operation there occurred an abortion of a six-weeks' embryo and sac from the uterus. The patient recovered.

Boston Medical and Surgical Journal

September 21, CLXV, No. 12, pp. 431-468

108 Progress and Tendencies In Practice of Medicine. O. H. Howe, Cohasset, Mass.
109 Reminiscence of My Professional Life. D. W. Cheever, Boston.
110 Some Comments on Results of Operative Measures for Knee Affections. H. W. Marshall and L. A. O. Goddu, Boston.
111 New Combination Mouth Gag and Tongue Depressor. R. A. Coffin, Boston.
112 What Is a Tuberculosis Sanatorium? E. O. Otis, Boston.

September 28, XV, No. 13, pp. 469-504

113 *Mechanism of Pressure in Production of Vertigo: Report of Cases. C. J. Blake, Boston.
114 Value of Lumbar Puncture in Treatment of Aural Vertigo. J. J. Putnam, Boston.
115 Cancer of Colon. H. Gage, Worcester.
116 Surgical Treatment of Pyloric Stenosis; Report of Cases. S. W. Goddard, Brockton.
117 Reminiscence of My Professional Life. D. W. Cheever, Boston.

113. **Mechanism of Pressure in Production of Vertigo.**—In cases of recurrent vertiginous attack with inadequate evidence of an intralabyrinthine or of an accessible extrinsic pressure factor, it seemed desirable to Blake to test the effect, on the line instituted by Babinski, of decrease of intracranial and, correspondingly, of intralabyrinthine pressure by some means which would leave the auditory apparatus intact, an additional incentive to such a series of investigations being previous experiences in disturbances of intralabyrinthine pressure, incident to investigations in regard to the removal of the stapes. Under these considerations, in a series of adult cases in which the extrinsic pressure factor was at a minimum, or absent, lumbar puncture was practiced with results thus far sufficiently favorable to warrant a continuation of the investigation. In no instance were there more unfavorable consequences than severe headache of several days' duration in three instances; in all of the patients treated there has been a temporary amelioration of the condition, and, in the majority, entire relief from the vertiginous attacks, during a period of from a few months to three years, the latter being the major limit of observation.

In two cases in which the attacks recurred within a year the onsets were less severe and the complex incomplete, and a repetition of the lumbar puncture was followed by entire relief up to the date of the last observation.

In all instances the withdrawal of fluid ranged from 10 to 15 c.c., and the cases were kept under immediate observation for several days.

New York Medical Journal

September 30, XCIV, No. 14, pp. 665-712

118 Apollyons. W. B. Konkle, Montoursville, Pa.
119 Series of Studies of Nervous Affections in Relation to Adjustments of Eyes. G. T. Stevens, New York.
120 Report of Psychotherapeutic Clinic at Cornell Dispensary. H. W. Frink, New York.
121 Twilight Talks with Doctor. G. F. Butler, Chicago.
122 Headache. W. Taylor, Atlanta, Ga.
123 Music as a Therapeutic Agent. J. Knott, Dublin.
124 Proctoclysis: New Apparatus for Its Administration. A. E. Isaacs, New York.
125 An Address to Nurses. J. M. Ferrer, New York.

Medical Record, New York

September 30, 80, No. 2134, pp. 659-708

126 *Climatic and Hygienic Influences of Forest Growth. J. M. Anders, Philadelphia.
127 *Prevalence of Intestinal Parasites Among Immigrants. H. M. Manning, Washington, D. C.
128 Treatment of Anemic Enteroptotic Dyspepsia. C. F. Peckham, Providence, R. I.
129 Alcoholism as Complicating Factor of Anesthesia. F. H. McMechan, Cincinnati.
130 *Tinea Versicolor in Three Sisters. F. C. Knowles, Philadelphia, and E. Corson, Cynwyd, Pa.
131 Significance of Relapses. O. L. Mulot, Brooklyn.
132 Case of Perisinus Abscess, Suppurative Lateral Sinus Thrombosis, Jugular Ligament; Recovery. C. D. Van Wagenen, New York.
133 Case of Chylangiomata. C. P. Farnsworth and W. T. Lindsay, Chamberlain, S. D.
134 Strangulation of Uterine Fibroid by Torsion of Pedicle. F. B. McCreery, New York.

126. Abstracted in The Journal, Aug. 5, 1911, p. 502.

127. **Intestinal Parasites Among Immigrants.**—Of the 412 immigrants of all nationalities examined by Manning 166, or 40.2 per cent., were infected with one or more intestinal worms. Of the 282 males 115, or 40.7 per cent., and of the 130 females 51, or 38.4 per cent., were infected. Ninety-one, or 22 per cent., were infected with *Trichuris trichiura*, of whom 68 were males and 23 females, giving the rates of 24.1 and 17.6 per 100, respectively. The rate of infection with this parasite was highest among those from Russia; the rates for the different countries were 18.1 per 100 for Austria-Hungary, Greece 20.9, Italy 22.2, Russia 32.3, and Turkey 15 per 100. It was the most frequent parasite found among those from Austria-Hungary and Greece, and among these the males were more frequently infected than the females.

The *Ascaris lumbricoides* was present 118 times, or 28.6 per 100. Among the males 80, or 28.3 per cent., and among the females 38, or 29.2 per cent., were infected with this worm. The rates for the different nationalities were: Austria-Hungary 15.1, Greece 18.6, Italy 43.5, Russia 34.2, and Turkey 28.3 per 100. Italy showed the highest rate for this parasite. This is the most frequent parasite found and occurs more frequently among the females than the males, although Italy, Russia and Turkey show a higher rate for the males.

Only 1 infection with the *Oxyuris vermicularis* was found, but no doubt the reason for not finding it more frequently was due to the rarity with which the eggs are found in the feces.

Two cases of infection with the *Strongyloides stercoralis* were found, 1 in an immigrant from the British West Indies and 1 from Russia. The rate of occurrence of this parasite for all immigrants examined was 0.48 per 100. Both of these cases were in males, and in the case from the West Indies his anemic condition suggested the suspicion of hookworm infection, but after repeated examination of several fresh stools, no ova were found, but numerous larvæ of the Cochin China worm.

The Italian boy infected with the *Ankylostoma duodenale* was the only case of hookworms found. The rate of occurrence of this parasite among all the immigrants examined is .24 per 100.

Seven infections with tapeworms were found, 1 a case of infection with the *Dibothriocephalus latus* in a Russian woman, 3 males and 2 females among those from Turkey, and 1 female child among the Greeks. Two of those among the Turkish men were *Tænia saginata* and in the case of the 4 others the species were not determined. The rate of prevalence of the *Dibothriocephalus latus* among the Russians was .95 per 100, the rate of *Tænia* among the Greeks being 2.3, and among the Turks 9.4 per 100.

Among the 76 immigrants under 15 years of age there were 58 infections, or 76.6 per 100. Among the 259 between 15 and 31 years there were 128 infections, or 49.4 per 100. Among the 70 between 31 and 50 years there were 30 infections, or 42.8 per 100. Among the 7 over 51 years of age there were 4 infections, or 57.1 per 100. This shows that among all the immigrants examined the heaviest infection occurred in early life and tends to diminish with age. The rise in the case of those over 51 years may be due to accident on account of the small number examined.

Among the 412 immigrants there were 220 infections, giving the rate of prevalence of intestinal parasites as 53.39 per 100. Among the 282 males there were 155 infections, or 54.96 per 100, and among the 130 females there were 65 infections, or 50 per 100, showing that intestinal worms are slightly more frequent among the males than among the females.

130. **Tinea Versicolor in Three Sisters.**—The three sisters whose cases are reported by Knowles and Corson were all born in Russia although Philadelphia has been their place of residence for some years. They are healthy, but being extremely poor their cleanliness was not such as might have been desired. They occupied the same bed and occasionally used the same towel.

Archives of Ophthalmology, New York

September

135 Field of Vision in Tabetic Atrophy of Optic Disk. E. Fuchs, Vienna.
136 New Model of Large Eye Magnet, Method of Employment. O. Haab, Zurich.
137 Pathology of Superficial Punctate Keratitis, Neuropathic Keratitis and Hitherto Undescribed Lesion of Iris. F. H. Verhoeff, Boston.
138 Tonometry, with Description of New Tonometer. H. Schiötz,
139 Phorometry of Normal Eyes in Young Male Adults. P. C Field, U. S. Army.
140 Dystrophia Epithelialis Cornea (Fuchs). A. Knapp.
141 Keratitis Punctata Subepithelialis. H. S. Gradle, Chicago.

Long Island Medical Journal, Rockville Center

August, V, No. 8, pp. 305-338

142 Some Things Doctors Ought to Think Of. J. D. Bryant, New York.
143 When Shall We Operate in Puerperal Septic Infection. J. O. Polak, Brooklyn.
144 Complaints Against Pharmacist and How to Remedy Them. R. E. Jones, Brooklyn.
145 The Samaritan Hospital. L. T. Jackman, Brooklyn.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 9, No. 2645, pp. 529-592

1 Educational Number. Sessions 1911-1912.

Lancet, London

September 9, CLXXXI, No. 4593, pp. 743-808

2 Surgical Gastric Disorders. Their Treatment and Results. E. S. Bishop.
3 Will National Health Insurance Ensure National Health? E. J. Schuster.
4 *Lymphatism Occurring in the East. A. Whitmore.
5 *Two Rare Manifestations of Bilharziosis. F. C. Madden.
6 Case of Eclampsia. G. De B. Turtle.
7 *Influence of Salicylates and Kindred Drugs on Thyroid Activity. H. E. Waller.
8 *Mediastinal Causes of Chronic Cough in Children. H. French
9 *"Comforter" Otitis Media. W. H. Bowen.
10 *Treatment of Torticollis. P. B. Roth.
11 Case of Suppurating Inguinal Ovarian Hernia; Operation; Recovery. J. J. Waddelow.
12 Case of Recurrent Ileocecal Intussusception; Operation; Recovery. J. D. Fiddes.
13 Toxic Effect of Acetosalicylic Acid. A. Brown.
14 Case of Torsion of Testicle. W. Attlee.

September 16, CLXXXI, No. 4594, pp. 809-870

15 Review of Vital Statistics of Ireland Since 1864. W. J. Thompson.
16 *Treatment of Constipation. J. Sawyer.
17 Case of Acute Poliomyelitis in Adult. C. M. H. Howell and B. T. Parsons-Smith.
18 *Treatment of Hay Fever by Hypodermic Inoculations of Pollen Vaccine. J. Freeman.
19 Some Points in Injuries to Elbow-Joint. R. L. Joynt.
20 *Traumatic Rupture of Abdominal Viscera. A. R. Short.
21 Chronic Obstruction of Bowel in Hydrocephalic Imbecile; Results at Post-Mortem Examination. A. L. E. F. Coleman and H. D. Everington.
22 Operative Treatment of Retroversion and Prolapse of Uterus. A. E. Morison.
23 Clinical Appearance in Two Cases of Cerebral Disease. J. H. Aytoun.
24 Phthisis in Wales. H. R. Jones.

4. **Lymphatism in East.**—Whitmore found sixteen cases of lymphatism in 565 bodies examined. In five, and probably in six, of the cases quoted the deaths were due to causes other than any peculiar dyscrasia of which the persistence of the thymus gland and the general hyperplasia of lymph tissue are the outward and visible signs.

5. **Bilharziosis.**—The first case reported by Madden was one of bilharziosis of the spermatic cord simulating tuberculous epididymitis. In the second case hemospermia was the first symptom of bilharziosis.

7. **Influence of Salicylates on Thyroid Activity.**—Three cases are cited by Waller to prove his contention that salicylates have a powerful influence against thyroid activity. For instance a robust adult had an acute tonsillitis. He had stuck to his work for three or four days when Waller first saw him one morning. He had then taken to his bed with a pulse-rate of 120 and temperature 102 F. He had headache and aches and pains in the limbs severe enough to suggest rheumatism, but possibly only influenzal. He was given a mixture containing 15-grain doses of sodium salicylate and ½-grain doses of compound tincture of cinchona. But owing to variations in the size of the domestic tablespoon, he repeatedly took a larger dose, roughly, 20 grains of salicylate and 40 minims of bark, every four hours. He then had a (morning) pulse-rate of 48 and temperature of 96.4 F. He had sweated profusely the first night, and his bowels were obstinately constipated, resisting strong doses of aperient. The pulse and temperature remained at this low level all the next day, and the bowels were still obstinately constipated in spite of aperients, though the salicylate mixture had been left off. Thyroid, 2½ gr., twice a day, was then given for two days, and the temperature again rose, this time to nearly 101 F., and the pulse to 98. The throat progressed rather slowly in spite of energetic antiseptic treatment which had given excellent results in other cases. The patient returned to work twelve days after Waller first saw him, when in spite of full doses of strychnin he had a very soft dicrotic pulse of 76 and a blood-pressure of only 100 mm. mercury.

8. **Mediastinal Causes of Chronic Cough in Children.**—Chronic enlargement, sometimes no doubt associated with tuberculous caseation, of the lymph-nodes at the bifurcation of the trachea is believed by French to be a cause in these cases of chronic cough. The bronchial node immediately below the right bronchus is affected far more frequently than is the node on the left side, and the right phrenic nerve is frequently seen to be displaced by the enlarged lymph-node in such a way as probably to be much irritated by it and thus lead to attacks of purposeless coughing—that is to say, coughing which does not succeed in bringing up any sputum. In a certain number of cases it is possible to demonstrate the enlargement of this right bronchial node by means of the Roentgen rays. French suggests that the attacks of coughing which are so troublesome in some heart cases are to be explained by irritation of the phrenic nerves in a similar way, by their being displaced and stretched by the dilated and hypertrophied heart. The importance of realizing that enlarged bronchial lymph-nodes may be the cause of persistent coughing in children is that the enlargement is generally tuberculous, and therefore the correct treatment is to adopt the general hygiene best adapted to the relief of a tuberculous infection together with measures calculated to prevent the swallowing of more living tubercle bacilli, an end to be accomplished either by obtaining milk from cows that have been tested satisfactorily with tuberculin, or else by making sure that any tubercle bacilli in the milk have been killed by efficient sterilization, preferably by thorough boiling.

9. **"Comforter" Otitis Media.**—The way in which the "comforter" acts is by introducing oral sepsis. This, in Bowen's opinion, is the crux of the matter. The "comforter" is at fault only in so far as it introduces sepsis leading to what are probably catarrhal processes, giving very little, if any, signs or symptoms in the mouth, oropharynx and nasopharynx; but once they spread by the tube to the middle ear, the lack of drainage quickly becomes felt and suppuration often results. That catarrh alone may result, with painful distention of the middle ear, is probable from the occurrence of pain in the ears in some babies who never get discharge coming from the meatus. Even if it gets no further than a painful catarrhal process, however, it is capable of doing considerable damage in a small enclosed space like the middle ear.

10. **Treatment of Torticollis.**—Roth calls attention to the fact that after torticollis has been treated by tenotomy no retentive apparatus is necessary. After division of the muscle and fascia by the open operation, the head is firmly manipulated into an overcorrected position. The child is then put back to bed with the head between sandbags, and on the second or third day is allowed up and gentle passive movements are begun. On the fifth or sixth day active movements take their place, and after removal of the stitches the mother is shown how to superintend the carrying out of these movements at home for five minutes twice a day.

16. **Treatment of Constipation.**—The importance of hygienic measures, exercise and diet are pointed out by Sawyer. For a case of habitual constipation which does not cure without medicines, his favorite remedy is Socotrine aloes, suitably combined and exhibited as a pill, at bedtime. Myrrh and aloes and cassia can, he says, still make coprostatics glad; myrrh, with its old repute of giving an impetus to the digestive organs, and an increase of muscular power to the digestive canal. Socotrine aloes and cassia pulp, of each equal proportions, made into a pill of the weight of 5 gr. with syrup or castor oil. One pill or more may be given for a dose, as found to be needed, and their administration should be gradually reduced and omitted altogether so soon as may be. He emphasizes that no case of habitual constipation can be treated by rule of thumb.

18. **Treatment of Hay-Fever.**—Considering all the cases generally, there seems little doubt in Freeman's mind that there has been a distinct amelioration of symptoms in all his cases treated by pollen vaccine. This improvement took several forms: a greater freedom from attack, the attack not so bad as in former years, and the attack sooner over; the constitutional disturbance not so great; less asthma. The people who had already developed hay-fever when they commenced were, perhaps, the most generous in their comments, possibly because they had recently had a reminder of what hay-fever was like.

20. **Traumatic Rupture of Abdominal Viscera.**—Excluding cases admitted moribund, out of ten patients with ruptured liver, intestine, pancreas, or spleen, the pulse-rate when they were first seen was in one case 100, in another 99, and in seven about normal. In one it was only 30. In every case of rupture of any abdominal viscus in which the pulse-rate on admission exceeded 100, the patient died within twenty-four hours. Short says it is often mentioned that the volume and tension were good. The text-books usually state that the pulse-rate will rise if there is a serious injury. This was true in at least six cases, but in one of ruptured liver it fell from 84 to 62. The temperature seems to be of more value. It is only recorded nine times; in five of these it was markedly subnormal. Pallor or anxious appearance is often remarked on. Abdominal pain and rigidity were almost constant, except in the tragic and deceptive cases. Vomiting was not usual. Only one patient vomited blood. The diagnosis was usually made by observing that after some hours the appearance, the abdominal condition, and the pulse did not improve; in many there was a decided change for the worse.

Dublin Journal of Medical Science

September, No. 477, pp. 161-240

25 Sphere of Women in Relation to Public Health. Countess of Aberdeen.
26 The Pupil and Mechanism of Its Reflexes in Health and Disease. J. H. Woodroffe.
27 Artificial Eruptions. A. F. B. Shaw.

Practitioner, London

September, LXXXVII, No. 3, pp. 273-408

28 Lymphatic Infection from Appendicitis Without Peritonitis. A. E. Barker.
29 Gunshot Wounds and Their Treatment. J. Berry.
30 *Residual Urine in Old Men. A. G. Miller.
31 Hernia in Children, with Special Reference to Variations of Sac and Contents. D. Drew.
32 *Prognosis of Heart Disease. J. F. H. Dally.
33 Cleft-Palate Controversy; Its Present Position. F. W. Goyder.
34 Surgery of Commoner Acute Abdominal Lesions. R. Coombe.
35 Hyperemia in Treatment of Skin Diseases. W. K. Sibley.
36 Fatalities During Anesthesia. J. D. Mortimer.
37 Cretinism. B. C. A. Leeper.
38 Pathologically High Blood-Pressure, Its Treatment by Non-Medicinal Methods. A. A. Hudson.
39 Choice of Patient for Artificial Pneumothorax in Treatment of Chronic Pulmonary Tuberculosis. S. V. Pearson .
40 Differential Diagnosis of Tabes. H. Matthews.
41 An Old Medical Journal. A. D. Edwards.

30. **Residual Urine in Old Men.**—The object of the treatment suggested by Miller in these cases is twofold, to improve the muscular tone of the bladder by exercise and to train the bladder to empty itself, to enable it to acquire a good habit. He advises those having residual urine after passing water in the usual way to wait a minute or two and then try again. Practice this as frequently as possible, till only a very small quantity can be squeezed out (say, half an ounce). When this point has been reached, twice or thrice daily may suffice. The most important times are before going to bed and on rising in the morning. On these occasions it may be advisable, at first, to make three, or even more, efforts so as to make sure of thoroughly emptying the bladder. It is not advisable to wait too long before making the second effort. About one minute is generally quite sufficient, certainly not more than two; because after the act of expelling the urine the bladder may quiet down if the patient waits too long, and a considerable effort may be required to start the flow again.

32. **Prognosis of Heart Disease.**—Dally says that all things being equal, the descending order of gravity of the chief valvular lesions may broadly be stated as follows: (1) Aortic and mitral disease combined, (2) aortic regurgitation, (3) mitral stenosis, (4) aortic stenosis, and (5) mitral regurgitation.

Australasian Medical Gazette, Sydney

August 21, XXX, No. 359, pp. 423-484

42 Some Results of Vaccine Therapy. F. Tidswell.
43 Observations on Surgery of Paralysis. W. J. S. McKay.
44 Deadborn and Stillborn Babies (Asphyxia Neonatorum). J. H. Cameron.
45 Feeble-Minded Children. A. Davidson.
46 Four Cases of Myxedema. A. G. Salter.
47 Case of Stokes-Adams Disease of Heart. C. Purser and N. J. Davis.
48 Local Anesthesia. A. J. J. Triado.
49 Pathogeny of Ulcerating Granuloma. C. L. Strangman.
50 Internal Derangements of Knee Joint. J. P. Hastings.
51 Meddlesome Gynecology. O. Smithson.
52 Acute Epiphysitis in New-Born and Early Dentition. J. A. Wattt and W. S. Sweet.
53 Cause of Sudden Death After Diphtheria. S. Sheldon.
54 Case of Fibroma of Larynx. F. Tratman.

Journal of Obstetrics and Gynecology of British Empire, London

August, XX, No. 2, pp. 47-84

55 *Extraperitoneal Cesarean Section. E. H. Tweedy.
56 *Expulsion of Placenta Before Birth of Child. W. D. MacFarlane.
57 Case of Sarcoma of Uterus. E. Holland.
58 Cesarean Section for Severe Cardiac Disease, Done Under Spinal Anesthesia. J. Wyatt.
59 Cure of Vesicovaginal Fistula by Abdominal Section. E. H. Tweedy.
60 *Ovarian Cyst with Torsion of Pedicle, Giving Rise to Unusual Symptoms. W. D. MacFarlane.

55. **Extraperitoneal Cesarean Section.**—So far as Tweedy's experience goes he would not consider extraperitoneal Cesarean section an alternative to classical Cesarean section, but rather its complement.

56. **Expulsion of Placenta Before Birth of Child.**—The points of interest in the three cases cited by MacFarlane are: (1) The premature expulsion of the placenta in all pointing to placenta prævia; in one case the last two pregnancies were complicated by placenta prævia. (2) The shape and unusual length of the placenta in two of the cases. It is not unusual to have the placenta crescentic in shape when situated near the os internum. (3) The uniform presence of areas of placental infarction on the maternal surface. (4) The presence of hydramnios in two of the cases. (5) A history of endometrial involvement in all the cases. (6) The absence of hemorrhage either before or after the expulsion of the placenta. The puerperium in these three cases was normal.

60. **Ovarian Cyst with Torsion of Pedicle.**—MacFarlane's patient gave a history of kidney pain of seven years' duration, and of three recent attacks of pain of an unusually severe nature accompanied by sickness and vomiting. The pain was most acute in the left lumbar region, followed the course of the left ureter, and there was dysuria and very frequent micturition; at no time had there been evidence of hematuria. The pain had at no time any relation to menstruation and was not accompanied by any bloody discharge from the vagina. All the thoracic organs were normal. On palpation, a tense, cystic swelling was found occupying the middle line from the symphysis pubis to within three fingers' breadth of the umbilicus; it did not seem to have much mobility and was painless on pressure or attempted movement. The percussion note was dull over the swelling and resonant in flanks. Omentum and intestines were densely adherent all over the surface of the tumor. The rectum and right uterine appendages were also firmly attached to the cyst wall. After removing the adherent omentum and bowel from the tumor wall, a long thin pedicle with three turns from left to right was found attached to the tumor, which proved to be a unilocular cyst of the left ovary.

British Journal of Children's Diseases, London

September, VIII, No. 93, pp. 385-432

61 Orthostatic Albuminuria. F. P. Weber.
62 Typhoid in Childhood: Analysis of 100 Consecutive Cases. E. B. Smith.
63 Surgical Aspects of Acute Abdominal Disease in Childhood. H. S. Clogg.

Heart, London

August, II, No. 4, pp. 273-386

64 *Digitalis, J. Mackenzie.

64. **Digitalis.**—A careful and thorough clinical study of digitalis was made by Mackenzie in forty-three cases, which are reported in detail, and for these the original article (covering 113 pages) must be consulted. Mackenzie summarizes his findings as follows: The careful analysis of the symptoms of patients to whom digitalis has been administered brings out the fact that individuals react differently to the drug. So far as the heart is concerned, the difference is partly dependent on the nature of the lesion with which the heart is affected. Patients with auricular fibrillation are more readily and more markedly affected than patients with the normal rhythm. Digitalis, in a proportion of patients with normal rhythm, affects the auriculoventricular bundle more particularly, producing partial heart-block. It is suggested that the susceptibility of patients with auricular fibrillation may result from the tendency of the digitalis to affect the bundle, the change in the auricular condition rendering the bundle more susceptible to the influence of the digitalis. It is possible that in slowing the heart's rate, the digitalis acts by stimulating the vagus nerve. Digitalis tends to induce auricular fibrillation. In two cases of tachycardia, arising from an abnormal source, digitalis caused the heart to revert to a normal rhythm, first inducing fibrillation of the auricle. The diuretic effects of digitalis may be produced with no perceptible change in the heart.

Clinical Journal, London

September 13, XXXVIII, No. 985, pp. 353-368

65 Hydatidiform Mole. G. Blacker.
66 Tragedies of Ocular Disease. P. Dunn.
67 Rickets: Its Cause and Treatment. E. Pritchard.

Annales de Gynécologie et d'Obstétrique, Paris

August, XXXVIII, No. 8, pp. 449-496

68 *Suppuration and Gangrene of Uterine Fibromas. P. Lecène.
69 Lymphoid Growths in Chronic Salpingitis. Meriel and Bassal.
70 Diathermia in Gynecology. (Nouvelle méthode de thermothérapie dans les maladies gynécologiques.) S. Flatau.
71 Dry Bolus Alba in Treatment of Catarrhal Conditions in Female Genitalia, Etc. (Traitement des écoulements chez la femme.) M. Nassauer.

68. **Gangrene of Uterine Fibromas.**—Lecène reports seven cases of fibromas with various complications, such as aseptic decay, suppuration or putrefaction of the fibromyomas. He has had only one case of infection and suppuration of a fibroma in the uterus, among the ninety-five uterine fibroma cases in which he has operated in the last six years. The infection was from the colon bacillus and probably of intestinal origin; the general health was much impaired, the pulse rapid, with fluctuating high fever. In one case of gangrenous fibroma he sterilized the vagina with iodin and sutured the cervix of the uterus to close it water-tight so that he was able to remove the uterus without escape of infectious matter. The gangrenous fibromas have a special dregs-of-wine color which extends through the internal genitals as he shows in a colored plate.

Presse Médicale, Paris

September 6, XIX, No. 71, pp. 713-720

72 *Acquired Tolerance to Certain Poisons, Especially to the Toxic Action of Organ Extracts. (L'accoutumance rapide de l'économie à l'action de quelques poisons.) H. Roger.
73 Technic for Testing the Hearing in Young Children. (Technique de l'examen auditif.) P. M. Constantin.

72. **Acquired Tolerance to Toxic Substances.**—Roger states that the strength of the solution and the rapidity of the injection are important factors in the effect of experimental injection of poisons, as he shows by reports of several series of researches. They suggest the necessity for studying from the bottom anew the toxicologic action of extracts of organs. Champy and Gley have recently reported that injection of a dose of extract of corpus luteum, not immediately fatal, immunizes the animals in less than fifteen minutes, so that they will bear without harm injection then of ten times the dose fatal for the controls. They have coined for this rapid immunization the term "tachyphylaxis," and Roger reports similar experiences with rabbits injected with extract of lung tissue. The serum of a rabbit thus immunized does not enhance the resisting powers of a previously untreated animal. He calls attention to this negative result as showing the marked difference between this rapidly acquired tolerance and the slow immunization which can be acquired against microbian poisoning. He thinks the more proper term would be "tachysynethia," to indicate rapidly becoming accustomed, in contrast to the phenomena connected with antimicrobian vaccination. This factor of the organism becoming accustomed to an organ extract has been overlooked in the research hitherto on the internal secretions of the various organs.

Revue de Gynécologie, Paris

June, XVI, No. 6, pp. 553-659

74 Abdominal Operations for Malformation of the Uterus. P. Gouillioud.
75 Long Survival After Gastro-Enterostomy for Cancerous Stenosis of the Pylorus. S. Mélamet.

Revue de Médecine, Paris

July, XXXI, No. 7, pp. 513-592

76 *Tuberculous Pericarditis. O. Jacob and Chavigny.
77 Clinical Forms of Pulmonary Tuberculosis According to Bard's Classification. R. Burnand.
78 *Weakness and Mania After Apoplexy. (L'asthénomanie post-apoplectique. Benon.

August, No. 8, pp. 593-671

79 Subacute and Chronic Pneumococcus Infection of Lungs or Bronchi. O. Crouzon and C. Richet.
80 Raynaud's Disease and Cardiovascular Lesions. J. Bret and J. Chalier.
81 Polyglandular Syndrome. (Syndrome d'insuffisance pluriglandulaire; lésions predominantes de l'ovaire.) Abrami, L. Kindberg and Cotoni.
82 Pathologic Changes in the Reflexes After Trauma of the Spinal Cord. Mattirolo.

76. **Tuberculous Pericarditis.**—Jacob and Chavigny report a case of tuberculous pericarditis with much effusion in which the diagnosis was long dubious; pericardotomy alone cleared up the case and has apparently cured the patient. This affection has no pathognomonic signs or symptoms; even puncture may prove misleading and do actual harm while from the therapeutic point of view it is inadequate and has to be inevitably followed by pericardotomy sooner or later. They advocate therefore pericardotomy as the routine procedure at the start without wasting time on other measures. Their patient was a waiter, 23 years old, with a tendency to asphyxia and cyanosis but change of position did not modify the position of the heart. The pulse was of the paradox type; the area of heart dulness was not enlarged but it was absolute and roentography showed the heart shadow enlarged, with round outlines and no concavity. There was no edema, dysphagia or albuminuria. The sudden intense dyspnea was evidently of cardiac origin but it was impossible to say whether it was due to acute dilatation, the terminal phase of an unsuspected endocarditis or to a pericardial effusion. The patient's strength was kept up with inhalation of oxygen and injection of ether and camphorated oil, and the next day pericardotomy was done under cocain local anesthesia; the benefit was prompt and marvelous. The incision in the skin was sutured without drainage but the incision in the pericardium was left untouched so that any further effusion might drain away of itself and possibly induce a kind of autoserotherapy.

78. **Postapoplectic Mania.**—Benon applies this term to a secondary mania developing as the patient is recovering from the phase of weakness of muscles and mind which follows a cerebrospinal hemorrhage. He reports two typical cases. The first patient was a woman of 82 and the muscular weakness lasted about two weeks after the apoplexy; then followed a week of increasing strength and liveliness, gradually amounting to actual mania with insomnia. This phase lasted for twenty or twenty-five days and gradually subsided, normal conditions then being restored except for persisting hemiparesis. The second patient was a man of 42, and the asthenia lasted three or four days and the mania ten or twelve, but there is still a little mental impairment. In three other cases the asthenia and mania recurred occasionally and the mental condition compelled institutional care in some. These patients were 42 and 43 years old and their affection merges into periodical depressive mania. Another patient had an attack of melancholia at 27 and a cerebral hemorrhage at 32, followed by recurring attacks of asthenia and suicidal depression but no actual mental impairment. In conclusion Benon reviews the literature on the subject of apoplexy in the history of the insane, and warns that institutional care is seldom necessary for persons developing this transient mania after a cerebral hemorrhage, as it generally subsides spontaneously in a few weeks or months. At the same time it may blend into periodic depressive mania. He also remarks that the alternations of gay excitement and depression in the insane are often merely phenomena indicating phases of asthenia or hypersthenia. He adds further that these phenomena should not be taken for signs of mental impairment.

Semaine Médicale, Paris

September 6, XXXI, No. 36, pp. 421-432

83 *Treatment of Placenta Prævia. R. De Bovis.

83. **Treatment of Placenta Prævia.**—De Bovis discusses whether operative treatment of placenta prævia is justified, reviewing international experiences in this line. The main point is to arrest the hemorrhage at any price, even at the price of an operation; then to deliver the woman without haste and without force. This latter principle does not seem to be always understood; because it is important to hasten to arrest the hemorrhage, it does not follow by any means, he insists, that delivery must be hastened. If an inflatable bag has been introduced or version done, the rule should be *Tendre et attendre*, that is gently press the bag or the breech of the fetus against the lower segment of the uterus, but wait patiently for spontaneous expulsion. This advice, he declares, formulated by all experienced obstetricians, should be printed in the heaviest type in the works on the practice of obstetrics; unfortunately there is generally not even a reference to such advice. It is rendered necessary by the extreme friability of the lower segment in these conditions. This also is what contra-indicates instrumental dilatation, which should be formally repudiated with placenta prævia. Even dilatation by the hand has entailed fatal laceration of the cervix as van Tussenbroek emphasized anew in 1908. De Bovis' own practice is to insist on absolute quiet, with rupture of the fetal membranes at need, and irrigation of the uterus with hot water, using 7 or 8 liters of water at least, at a temperature of 45 to 48 C. (113 to 118 F.), and recommencing the irrigation if necessary until the hemorrhage has been arrested. This method of treatment is tedious, but it does not infect the parturient like a tampon nor expose to mishaps, such as are liable with version and introduction of the inflatable bag, and as it often permits the bag of waters to be left undisturbed, it affords better chances for the life of the child. When merely tepid water is used or insufficient amounts of the hot water, the tendency to hemorrhage is promoted instead of checked. His experience with seventy cases in ten years without a fatality is a fine record, and although he has had two deaths recently, the patients brought in practically moribund, yet this is a mortality of only 2.7 per cent. in his total seventy-two cases of placenta prævia in the last eleven years.

Archiv für Kinderheilkunde, Stuttgart

LVI, Nos. 1-3, pp. 1-240. Last indexed July 22, p. 346

84 Case of Hematomyelia with Total Interruption of Conduction of Impulses in New-Born Infant Who Lived for Four Months. R. Lawatschek.
85 Research on Metabolism of Bottle-Fed Infants Given Albalactin K. Bornstein.

86 Case of Oppenheim's Congenital Myatonia with Necropsy. W. Archangelsky and A. Abrikosoff.
87 Temperature of Infants' Foods. (Physiologisches zur Frage der Warmemessung der trinkfertigen Säuglingsnahrung.) H. Roeder.
88 *Epidemic Poliomyelitis. (Casuistische Beiträge zur Klinik der Heine-Medinschen Krankheit.) G. Alsberg. (Ueber die spinale Kinderlähmung in der Provinz Schleswig-Holstein, 1909-1910.) M. Meyer.
89 Tuberculosis and Tuberculin Therapy in Infants and Young Children. (Nachtrag.) P. Röhmer.

88. **Epidemic Poliomyelitis in Northern Germany.**—During 1909 and 1910 there were three extensive foci in Germany at the same time as epidemics occurred in Austria and this country. Besides these large foci, a small epidemic of 132 cases in all occurred in the Schleswig-Holstein province in northern Germany, and Meyer here presents the results of careful research into conditions in this latter focus. The intermediation of healthy germ-carriers in propagating the disease was particularly evident in this epidemic, conditions in this respect being almost identical with those of epidemics of cerebrospinal meningitis. The symptomatology and prophylaxis are discussed in detail.

Archiv für klinische Chirurgie, Berlin

XCV, No. 4, pp. 743-1026. Last indexed Aug. 26 and Sept. 9, pp. 775 and 933

90 Appendicitis at Helsingfors, 1901-1908; 1,000 Cases. A. Krogius.
91 *Influence on Tuberculous Process in Lungs by Impeding the Local Circulation. (Operative Lungenstauung und deren Einfluss auf die Tuberculose.) M. Tiegel.
92 Transplantation of Unpedunculated Flaps. (Ueber freie Transplantationen.) E. Lexer.
93 Operative Treatment of Fractures. G. F. v. Saar.
94 Congenital Sacral Tumors. A. Bergmann.
95 Surgery of the Liver. (Zur Chirurgie der Leber.) W. Wendel.
96 Removal of Accessory Stomach. (Beschreibung eines operativ entfernten congenitalen Nebenmagens.) W. Wendel.
97 An Angiofibroma of the Knee. (Eine echte Zottengeschwulst des Kniegelenks.) Reichel and C. Nauverck.
98 Resection of Large Intestine. (Zur Technik der Dickdarmresection.) Reichel.
99 *Experimental Operations on the Lungs Under Intratracheal Insufflation. A. Schlesinger.
100 Operative Treatment of Obstipation from Congenital Malformations in the Sigmoid Flexure and Rectum. (Zur chirurgischen Behandlung der durch Megasigmoideum und Houston'sche Klappen verursachten Obstipation.) R. Goebell.
101 Intraperitoneal Rupture of the Bladder. (Harnblasenrupturen.) P. Herzen.
102 Healed Stab Wounds of the Heart. (Geheilte Stichverletzungen des Herzens.) F. Hasse.
103 *Operative Drainage of the Ventricles in Hydrocephalus. E. Payr.
104 *Research on the Thyroid in Exophthalmic Goiter and Hyperthyroidism. A. Kocher.
105 Stab Wound of the Pancreas Cured by Operation. (Isolierte Stichverletzungen des Pankreas durch Operation geheilt.) H. Fowelin.
106 Recovery After Stab Wound of Heart, Lungs and Liver. (Fall von Stich-Schnitt-Verletzung des Herzens, der beiden Lungen und der Leber.) T. M. Pikin.

91. **Operative Interference with Circulation in the Lung and Its Curative Influence on Tuberculous Processes.**—Practical experience has convinced Tiegel that partially obstructing the circulation in the lung does not materially alter its histologic structure and functioning but it has an unmistakable inhibiting influence on the development of tuberculosis. The method promises to apply also to tuberculous processes in the kidneys, and he is now experimenting in this line. His research was all done on rabbits; dogs are not susceptible enough to the inoculation of tubercle bacilli to answer for the experiments. He induced the stasis in the lung by ligating the pulmonary vein with a fine wire introduced through the fourth or fifth interspace under some differential-pressure procedure. He gives illustrations of the treated and untreated lung, instructively showing the tendency to heal of tuberculous processes as the lung grew tougher and harder under the influence of the stasis.

99. **Intratracheal Insufflation for Operations on the Lungs.**—Schlesinger has been operating on the lungs of dogs with the Meltzer and Auer intratracheal insufflation method, and declares that the simplicity of the method will render it superior to all others if the technic can be perfected a little farther. The main drawback is that it requires deep general anesthesia. According to his experiences severe injury may be inflicted if the anesthesia is not deep enough to relax the animal entirely. He does not consider it fully established yet that the insufflation never harms the respiratory organs. The influx of air into a yet unopened pleura is by no means an altogether harmless occurrence. The change of catheters during the operation might also prove dangerous in the clinic. The chief advantages of the method he enumerates as its simplicity, inexpensiveness, convenience and absolute prevention of aspiration of vomit, etc., while the surgeon can work on a stationary lung.

103. **Drainage of the Lateral Ventricles in Hydrocephalus.**—Payr states that in the last three years he has operated in fifteen cases of hydrocephalus by various technics aiming to open a connection between the ventricle and the venous circulation and thus drain away the excess of fluid. The youngest patient was 6 months, the oldest 20 years old. The hydrocephalus was completely cured in 50 per cent. of the eight patients who survived the first few months. The fatalities were due to too rapid evacuation of the fluid in two cases, to primary infection in one and secondary infection months later from a fistula in four others. The cases were naturally all of the severest types. In four he drained into the longitudinal sinus, in four into the jugular or facial vein; in seven into the subarachnoid or subdural space or into the loose connective tissue under the temporal muscle. He used for the drain a segment of calf artery for the portion within the brain, piecing this out below with a segment of the patient's own saphena run through under the skin. Necropsy in the fatal cases showed that the drain was constantly permeable. He regards the results on the whole as very encouraging, the failures being probably avoidable by improved technic.

104. **The Thyroid with Exophthalmic Goiter.**—Kocher reports the results of recent research on the physiology and chemistry of the thyroid gland as studied on the thyroids removed from thirty-five patients with exophthalmic goiter. His experience is now so extensive that from the clinical manifestations alone he is generally able to predict the exact histologic chemical conditions that will be found in the thyroid. They are usually of four different types and each corresponds to a special clinical type of the disease, as he shows by examples. Particularly interesting are the results of transplantation of scraps of a Basedow thyroid into persons suffering from deficient thyroid functioning. He has been doing work in this line—implanting the scraps in the bones—since 1898 and the benefit has been direct and permanent in certain cases. Desiccated Basedow thyroids have also been used in treatment of certain other patients and the result on the metabolism carefully studied. The effect seemed to be the same as when normal thyroids are administered—this testifies against the assumption of perverted thyroid functioning in exophthalmic goiter. The Basedow thyroids seemed to influence the metabolism more effectively the larger the iodin content of the gland. This was also observed in patients with myxedema given ordinary thyroid treatment. The proportion of iodin in the Basedow thyroid varies in wide limits, being always far above or far below normal range, both absolutely and relatively.

Berliner klinische Wochenschrift

September 11, XLVIII, No. 37, pp. 1669-1704

107 The Pineal Gland. (Die Zirbeldrüse.) A. Münzer.
108 *Neoplasms in Meckel's Diverticulum. L. Tschiknawerow.
109 *Rhizotomy for Tabetic Gastric Crises. (Förster'sche Operation wegen gastrischer Krisen bei Tabes.) W. Zinn.
110 Hemolysins of Serum of Cold-Blooded Animals. (Die Hämolysine der Kaltbluterseren.) H. Liefmann.
111 Technic for Infusion of Salvarsan. H. Mayer.
112 Telephone Accidents and Their Prevention. (Unfälle am Telephon und ihre Verhütung.) R. Foerster.
113 Infant Mortality in Prussia. (Die Säuglingssterblichkeit in den Provinzen, Regierungsbezirken und Kreisen des preussischen Staates 1910 und 1904.) R. Bahla.
114 Radium Emanations in Therapeutics. (Ueber Aufnahme und Ausscheidung der Radiumemanationen, Inhalation oder Trinkkur?) Eichholz.
115 *Erysipelas with Afebrile Course. E. v. Czyhlarz.

108. **Tumors in Meckel's Diverticulum.**—In the first of the three cases reported the diverticulum was the seat of a large sarcoma. Tschiknawerow has been able to find only one case like this on record; the patients were 62 and 72 years old. In the other cases the diverticulum was the seat of what seemed to be an accessory pancreas or of abnormal proliferation of the crypts of Lieberkuhn.

109. **Rhizotomy for Gastric Crises in Tabes.**—Zinn reports a case in a man of 43 who was relieved at one stroke of intolerable gastric crises by the operation. After five months they recurred in a brief and mild form, once or twice a week, but disappeared again during the seventh month. In the majority of the twenty-eight cases published to date there has been recurrence later of the crises in a mild form, but the operation has been of life-saving importance in a number of cases.

115. **Afebrile Erysipelas.**—Czyhlarz states that he has had twenty-nine afebrile cases among his 324 cases of erysipelas during the last year at Vienna, all in women.

Deutsche medizinische Wochenschrift, Berlin

September 7, XXXVI, No. 37, pp. 1633-1680

116 The Respiratory Metabolism in Infants. (Respiratorischer Stoffwechsel des Säuglings.) A. Schlossmann.
117 *The Cutaneous Tuberculin Reaction in Diagnosis and Prognosis. M. Wilms.
118 *Tuberculin Treatment of Surgical Tuberculosis. M. Wilms.
119 *The Intracutaneous Tuberculin Reaction in Children. (Zur Tuberkulosediagnostik im Kindesalter.) S. Engel.
120 Movement for Infant Welfare. (Die Aussichten der Säuglingsfürsorge.) M. Mohlfeld.
121 Infant Welfare Expositions. (Ueber Ausstellungen für Säuglingsfürsorge.) H. Brüning.
122 Early Diagnosis of Small-Pox, and Prophylaxis. (Zur Wirksamkeit des Impfschutzes und zur Diagnose der Variolois.) C. O. Risel.
123 Toxic Aqueous Extracts of Organs and Detoxicating Action of Fresh Serum. H. Dold.
124 Vaccine Therapy of Syphilitic Rabbits. C. Grouven.
125 Salvarsan in Late Syphilis and Lumbar Puncture Control. (Erfahrungen über Salvarsanbehandlung luetischer und metaluetischer Erkrankungen des Nervensystems unter Kontrolle durch die Lumbalpunktion.) H. Assmann. Commenced in No. 35.
126 The Wassermann Reaction in Nervous Disease. (Zur Kenntnis des Ausfalls der Wassermannschen Reaktion im Lumbalpunktat und Blutserum bei Erkrankungen des Nervensystems unter Berücksichtigung verschiedener Antigene.) H. Dembowski.
127 Unfavorable Outcome of Paraffin Treatment of Umbilical Hernia. (Zur Paraffinbehandlung von Nabelbrüchen.) M. Martens.
128 Case of Hematometra in Accessary Cornu of Uterus Bicornis. F. Sieber.

117 and 118. **Tuberculin Treatment in Surgical Tuberculosis.**—Wilms concludes from his clinical experience that the fungous forms of tuberculosis generally give a negative cutaneous tuberculin reaction. The cutaneous test therefore is no clue to diagnosis or prognosis unless the reaction is positive. On the other hand, with a fistulous or suppurating tuberculous process a negative reaction indicates a condition of cachexia. He has found tuberculin treatment especially advantageous in the forms of fungous tuberculosis giving a negative Pirquet reaction; the tuberculin treatment aids powerfully the natural tendency to heal. The slight reaction in such cases enables the dose to be rapidly increased. Combined treatment with tuberculin, roentotherapy, etc., is going to supersede surgical measures in treatment of tuberculosis, he thinks, more and more each year. The task is not only to remove the focus by an operation but to make the organism more resistant to reinfection. He is convinced that the cure of a tuberculous glandular process by conservative measures leaves the patient in better condition than when the lymphoma has been early removed. In the first case the body has been rendered strong by its struggle with the glandular tuberculosis and is thus more resistant against the unavoidable opportunities for new infection; while in the other case the body is equally sensitive as before to new infection and recurrence is almost inevitable unless tuberculin treatment comes to its assistance. Wilms remarks in conclusion that the scrofulous glandular swellings in youth may represent the period during which the organism is immunizing itself against the ubiquitous tuberculosis infection. Consequently he pleads for greater reserve in removing these protecting and battling organs. If an operation is indispensable on account of suppuration then the body should be reenforced by a course of tuberculin.

119. **Intracutaneous Tuberculin Test.**—Engel declares that this technic has numerous advantages over the other tuberculin tests; the technic is simple and the dose can be graduated while the reaction is easy to recognize and the inconvenience for the patient is minimal. He used the technic without knowledge of Mantoux' intradermal reaction. The latter uses 1 drop of 1 to 5,000 solution of tuberculin, but Engel uses 1 drop of a 1 to 1,000 solution of old tuberculin and, if no reaction follows, increases the strength to 1 per cent., 10 per cent. and 100 per cent. in some cases, some of the patients finally reacting to the latter dose. The subcutaneous tuberculin test fails with febrile patients, and the cutaneous with patients whose susceptibility to tuberculin is reduced, but the intracutaneous method succeeds when these others fail. When there is a morbid dread of tuberculosis, the intracutaneous reaction enables the last trace of uneasiness to be dispelled with mathematical certainty if there is no reaction to the stronger concentration. He cites a number of instructive cases to show the superiority of this technic in various puzzling conditions, as in the case of a cachectic child with meningitis in which this test positively excluded tuberculosis.

Jahrbuch für Kinderheilkunde, Berlin

July, LXXIV, No. 1, pp. 1-122

129 *Prolapse of the Urethra in Little Girls. (Ueber Harnröhrenvorfall bei kleinen Mädchen.) H. Brüning. Concluded in No. 2.
130 Metabolism of a Bottle-Fed Infant. (Der Gesamtstoffwechsel eines künstlichgenährten Säuglings mit Einschluss des respiratorischen Stoffwechsels.) A. Niemann. Continued.
131 Head's Zones in Beginning Tuberculosis in Children. C. T. Noeggerath and V. Salle.

August, No. 2, pp. 123-236

132 Causes of the Breaking Down of Hypertrophied Hearts. (Kasuistischer Beitrag zur Lehre von den Ursachen des Erlahmens hypertrophischer Herzens.) K. Frenkel.
133 *Prophylactic Immunization Through Nostrils Against Diphtheria. (Ueber die aktive antidiphtheritische Immunisation der Kinder nach dem Prinzip von S. K. Dzerjgowsky.) N. Blumenau.
134 *Possibility of Cure of Tuberculous Meningitis. W. G. Archangelsky.
135 Alliteration as Physiologic Form of Child's First Efforts to Talk. (Anteponierende Alliteration als physiologische Form des kindlichen Stammelns.) W. Stoeltzner.
136 Scarlet Fever and Chronic Nephritis. Stroink.

129. **Prolapse of Urethra in Little Girls.**—Brüning reports a case of the sudden prolapse of the entire mucous lining of the urethra, without apparent cause, in a healthy girl of 8. Study of the literature on this subject shows that this occurrence is observed in girls only in early infancy and beween the ages of 8 and 12. Hemorrhage accompanied the prolapse in 41 per cent. of the seventy-six cases he has found and tabulated. In a large proportion of the cases the prolapse was not recognized and dire results followed treatment based on a mistaken diagnosis. The child should be kept in bed and astringent and cauterizing measures should be applied after reduction. If these fail or if the prolapse is total, he advises resection of the sagging portion and suture. The operative loss of blood has always been slight.

133. **Active Immunization in Prophylaxis of Diphtheria.**—Blumenau states that 348 children with measles or scarlet fever were given prophylactic injections of 500 or 600 antitoxin units as soon as they entered the contagious disease ward, and the injection was repeated each two weeks afterward. Nineteen of the children, that is, 5.5 per cent. developed diphtheria later, and signs of serum sickness were evident in 18.4 per cent. As these results were not considered satisfactory, Dzerjgowsky devised a method of inducing active immunization which seems to be promising. A wad of cotton impregnated with diphtheria toxin was introduced into each nostril alternately for an hour each day for ten days. In experiments on adults and on seventeen children it was found that there was marked production of antitoxin by this method. Experimental research indicates that the immunity thus acquired may last for months and years. The method may perhaps be advantageously combined with passive immunization by injection of antitoxin when rapid action is desired. The diphtheria toxin was diluted with twice the amount of salt solution in a later group of eleven children to avoid by-effects, and the tampon was left in the nose only half an hour every third day. There was no injury of the mucosa with this milder technic, while the antibody production was fully as marked as in the first group.

134. **Curability of Tuberculous Meningitis.**—Archangelsky reviews the five cases on record of recovery from tuberculous meningitis, and reports a case from his own experience. In

all the tubercle bacilli had been found in the cerebrospinal fluid or the biologic reactions had been positive. Repeated lumbar puncture had been one of the factors in the cure in his case, supplemented later by sodium iodid. These six cases are the only ones of which he knows in the last ten years.

Medizinische Klinik, Berlin

September 10, VII, No. 37, pp. 1409-1444

137 Diarrhea of Gastric Origin. A. Albu.
138 *Physical Treatment of Rachitis. F. Kirchberg.
139 *Momburg's Belt Constriction in Obstetrics. (Erfahrungen mit der Momburgschen Blutleere in der Geburtshilfe.) H. Fuchs.
140 Catheterization of the Ureters. (Ueber den diagnostischen und therapeutischen Wert des Ureterenkatheterismus.) G. Thelen.
141 Salvarsan in Third Phase of Syphilis. J. Fabry and E. Kretzmer.
142 Iodin Fever. (Zwei Fälle von Jodfieber.) A. Solmsen.
143 Neurasthenia in the Young. G. Major.
144 Elimination of Iodin in Health. E. Herzfeld and M. Haupt.

138. **Physical Treatment of Rachitis.**—Kirchberg is chief of the Berlin massage institute, and he reports remarkable benefit from physical therapy in the treatment of rachitis, especially stimulation of peristalsis by massage of the abdomen which also has a favorable influence on the musculature of the abdomen and diaphragm. Stimulation of the skin by rubbing through a rough towel, air baths and massage of the skin to promote the circulation, all cooperate in notable improvement in the general health. He warns that actual scoliosis never retrogresses spontaneously, and urges the necessity for watching over infants to prevent its development. Lange has insisted that the foundation for curvature of the spine is frequently laid before the child is 1 year old by the way in which it is carried in the arms. In the florid stage of rachitic scoliosis passive movements and correction should be supplemented by breathing exercises; these are especially useful in preventing the fixation of the spine in scoliosis. One of Kirchberg's exercises has the child lie prone on a hard bench or bed and breathe deep with a long pause between inspiration and expiration, while the masseuse presses one shoulder and the pelvis of the child down firmly, so that the ribs have to be lifted upward and backward and thus induce vigorous movements in the joints of the spine. As a rule the exercises should be done with the trunk exposed, in front of a mirror, several times a day, up to half an hour at a time. He has the children breathe deeply as each of the gymnastic exercises is done.

139. **Momburg's Belt Constriction in Obstetrics.**—Fuchs reports two cases in which the remarkable advantages of this procedure to arrest obstetric hemorrhage were clearly evident. The constriction not only avoided all danger of excessive loss of blood but it also stimulated the uterus to healthy contractions. In his third case, however, the constriction had such an injurious action on the heart that it gradually failed and the patient died a few hours after the belt had been removed. The trouble in this case was a hydatidiform mole, so large that it required the constricting tube to be applied unusually high, above the level of the umbilicus. He draws the lesson from this case that this method is contra-indicated, especially raising the pelvis therewith, if the heart has been debilitated by considerable loss of blood. Also that the release of the constriction is the critical part of the procedure. On the whole, he does not think that this belt constriction is destined to extensive application in gynecology or in obstetrics except for the cases in which the belt can be applied as the first and most promising measure to arrest severe hemorrhage, especially from lacerations.

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XXIII, No. 3, pp. 343-542. Last indexed July 22, p. 349

145 Induced Shriveling and Induration of the Lung by Ligation of Branches of the Pulmonary Artery. (Die künstliche Erzeugung von Lungenschrümpfung durch Unterbindung von Aesten der Pulmonalarterie.) O. Bruns and F. Sauerbruch.
146 *Rare Chronic Form of Tuberculous Meningitis. Strasmann.
147 *Sequestration Anemia and Its Influence on Hemorrhage at Operations and Its Effect on the Organism. (Die Aufspeicherung von Blut in den Extremitäten, ihr Einfluss auf die Blutung bei Operationen und ihre Wirkung auf den Organismus.) H. Zoeppritz.
148 Danger from Tardy Cumulation of Injurious Influences After Chloroform General Anesthesia. (Ueber Spätwirkungen der Chloroformnarkose.) R. Stierlin.
149 Research on the Effect of Measures to Raise and Lower the Local Temperature. (Ergebnisse von thermoelektrischen Messungen über die örtliche Beeinflussung der Hautwärme durch unsere Wärme- und Kältemittel und über die Tiefenwirkung dieser physikalischen Massnahmen am lebenden Körper.) H. Iselin.
150 Motor Function of the Pylorus After Resection of the Stomach. (Die motorische Funktion des Sphinkter pylori und des Antrum pylori beim Hunde nach der queren Durchtrennung des Magens.) M. Kirschner.
151 Cholelithiasis and Suppurative Pylephlebitis Under the Clinical Picture of Healing Abscesses in the Liver. P. Heinrichsdorff.
152 *Exclusion of Ascending Colon for Certain Cases of Obstipation with So-Called Chronic Appendicitis. E. Stierlin.
153 *Streptothrix Mycosis of the Lung. E. Liek.

146. **Chronic Tuberculous Meningitis.**—Strasmann reports a case of meningitis in a man of 38 which had run an extremely slow and protracted course, presenting symptoms apparently typical of the syndrome induced by a tumor in the hypophysis. On this assumption an exploratory trephining operation was done seeking to relieve the intolerable headaches, but no tumor was found and the patient died twelve days thereafter, about three years after the first symptoms of trouble. Necropsy disclosed a chronic diffuse tuberculous meningitis involving especially the chiasm and optic nerve. He publishes the case in detail to warn others against such pseudotumor cases. Hildebrand operated in a similar case and the tuberculous process healed afterward. In Strasmann's case the man had had for eight years a skin affection resembling lupus erythematodes, and he gradually became very obese, languid and somnolent. During the last year there had been recurring, intense headache and constipation, the papillæ were blanched and the somnolency kept increasing, and vomiting and dizziness occurred at times. The Wassermann reaction was negative and the headaches were not of the nocturnal type and there were no signs of inherited or acquired syphilis. Further testimony against syphilis was the chronic progressive course of the symptoms without any marked fluctuations and without any tendency to paralysis or irritation of all the basal cranial nerves. When the microscope revealed tuberculosis it was a great surprise, as there had been no fever nor high pulse-rate, no rigidity or pain at the back of the neck and none of the usual symptoms of trouble at the base of the brain, while the patient had kept well nourished throughout the three years' course of the affection.

147. **Shutting Off Part of Circulating Blood and Effects of the Procedure.**—Zoeppritz writes from the surgical clinic at Kiel in charge of Anschütz to report the results of sequestration of the blood in the extremities as a preliminary to operations. In 23.2 per cent. of the 112 cases the bleeding was exceptionally slight, in 30.3 per cent. slight, and in 46.5 per cent. no effect on the operative hemorrhages could be detected. He classifies the operations according to their site and the amount of hemorrhage. The influence of the sequestration in reducing a tendency to bleeding was most marked in operations on the spine, then, in turn on the head, neck, chest and abdomen. A favorable influence on the course of the anesthesia was evident in a few but not in all cases. There was no tendency to after-hemorrhage in any instance, but symptoms were observed in a few cases suggesting that the method had better be regarded as contra-indicated in case of pressure on the brain, arteriosclerosis, blood-diseases and varicose veins, on account of danger of thrombosis, but this need not be feared with normal vessels. By applying constriction to the roots of the limbs, it is possible thus to sequestrate a fourth of the total amount of blood (1,300 to 1,500 c.c.). The body reacts to this with a lower blood-pressure and acceleration of pulse and respiration. This sequestration method is particularly advantageous in operations on the brain and spine and when there is reason to dread a parenchymatous hemorrhage. He followed Dawbarn's technic at first but later modified it a little, applying the constriction to both arms and thighs from forty-five to sixty minutes before the operation, and drawing the elastic bands tight enough to arrest the venous blood circulation completely, overcoming the diastolic blood-pressure but respecting the arterial circulation as much as possible. In Bier's constriction hyperemia the constriction has to be only equal to or just

below the diastolic blood-pressure, while Klapp's technic shuts off both the arterial and venous circulation. Zoeppritz' long article discusses the subject from every point of view, including the results of experiments to determine the actual amount of blood that can be thus stored up in the extremities. By-effects were observed only in patients with abnormally high blood-pressure or arteriosclerosis or some blood disease or varicose veins, and these conditions contra-indicate the method principally on account of the danger of inducing anemia in the brain. This applies also to infectious diseases, intoxications, etc., inducing a tendency to vasomotor paralysis.

152. **Operative Treatment of Obstipation.**—Stierlin refers to the cases in which the feces accumulate and stagnate in the cecum and ascending colon and induce the symptoms ascribed to chronic appendicitis, impairing the general health and refractory to all internal measures, and in which roentography locates the stagnation at these points instead of at the sigmoid or other flexures. He excludes the ascending colon by implanting the lower end of the ileum in the transverse colon, resecting the ascending colon or not according to the case, and has done this in ten cases with good end-results in nine; the outcome in the tenth case is not known.

153. **Streptothrix Mycosis of the Lung.**—The case reported by Liek is, he thinks, the first on record in which a serious affection of this kind was arrested and cured by resection of the gangrenous focus. His patient was a man of 44 and the operation was done about five months after the first symptoms had been observed.

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July, XXXIV, No. 1, pp. 1-132

154 The Mammary Theory of Eclampsia. (Das Martyrium der voraussetzungslosen Wissenschaft.) H. Sellheim.
155 Urogenital Tuberculosis. (Ergebnis der Debatte der XIV Gynäkologenkongresses über die Urogenitaltuberkulose.) B. Krönig.
156 *Symptomatology and Treatment of Retroflexion of Pregnant Uterus. M. Graefe.
157 Glycogen in Human Placenta. K. Flesch.
158 Simplified, More Conservative Technic for Extraperitoneal Cesarean Section. H. Sellheim.
159 Serotherapy of Puerperal Sepsis. G. Bohnstedt.

August, No. 2, pp. 133-273

160 What the Peritoneum Will Stand and What It Will Not Stand. (Ueber die peritoneale Wundbehandlung.) E. Bumm.
161 Ciliated and Secreting Epithelium in the Uterus. (Flimmerndes und sezernierendes Uterusepithel.) L. Mandl.
162 Roentotherapy in Gynecology. B. Kelen.
163 Malignant Ovarian Dermoids. A. Wolff.
164 Obstetrics and Infant Mortality. (Geburtshülfe und Säuglingssterlichkeit.) C. Keller.
165 Treatment of Stump of Umbilical Cord. (Neue Beiträge zur Behandlung des Nabelschnurrestes der Neugeborenen.) F. Petermöller.
166 The Cancer-Statistics Question. E. Aulhorn.

156. **Treatment of Retroflexion of Pregnant Uterus.**—Graefe has investigated conditions in regard to the disturbances from this cause in 200 women and found that sixty-one had experienced no local discomfort from this displacement of the uterus. The pregnancy was in the second or fourth month and in two of these patients the uterus was very large, owing to the additional presence of a myoma. These sixty one cases show that retroflexion does not necessarily cause pain or discomfort even when the uterus is unusually large. One patient in this group had had severe sacral pains but after cure of a coincident suppurative catarrh of the cervix and large erosion the pains vanished permanently, although the retroflexion persisted uncorrected. Only seventeen of the total 200 complained of a sensation of downward pressure and only seven of pressure on the rectum. In six of these seven this sensation persisted after the uterus had been restored to place, suggesting that it was purely a nervous phenomenon. None of the patients complained of disturbances in defecation. Only twenty-five of the total 200 complained of traction on the bladder and tenesmus, and these were eight women in the second month, twelve in the third, four in the fourth and one in the fifth month of pregnancy, while thirty-eight other women from two to six months pregnant had no bladder disturbances, not even the two with incarcerated retroflexion. One patient complained of pain radiating to the leg, but it persisted unmodified after the uterus had been restored to place. As a rule disturbances were noted only in women inclined to nervousness or hysteria. Abortion occurred in only thirty-one of the 200 cases, the interval after correction ranging from the first days to four months, and in two of these cases the abortion was criminally induced, while the other women had severe venereal disease. Graefe thinks that the retroflexion alone does not induce abortion but that it has a favoring influence when the uterus is already pathologic. Severe pain and hemorrhage, even slight, indicate at once correction of the retroflexion, as also incarceration of the retroflexed uterus, and in any event he thinks that an attempt should be made to correct the displacement as labor pains and hemorrhage may occur at any moment. A point of great importance in the correction is to keep the bladder empty. Correction succeeds sometimes only with the patient in the knee-elbow position. In some cases the uterus rights itself in a day if the patient lies on her side, or, better yet, in the ventral decubitus in bed. In one incarcerated case the uterus righted itself in six hours after an inflatable bag had been introduced into the vagina and filled with 400 gm. of water. If the adhesions are tough and the patient suffering and all other means fail, a laparotomy becomes necessary although he had to resort to it only in one case. In two cases Goldberg's maneuver accomplished the purpose (described in The Journal, Jan. 21, 1911, page 231).

Münchener medizinische Wochenschrift

September 5, LVIII, No. 36, pp. 1897-1944

167 Combined Treatment of Cancer. (Therapie der Krebse.) V. Czerny. (Wert der Kombination von Röntgenstrahlen- und Hochfrequenzbehandlung bei malignen Tumoren.) R. Werner and A. Caan.
168 *Etiology of Hypertrophy of the Prostate and Indirect Roentotherapy. Wilms and H. L. Posner.
169 Mechanism of Kidney Secretion. (Zur Mechanik der Nierensekretion.) C. Jacobi.
170 *Constipation with Chronic Appendicitis. (Ueber die Obstipation vom Aszendenstypus.) E. Stierlin.
171 Epidemic Meningitis. (Klinische Beobachtungen bei Genickstarre.) F. Mann.
172 The Pathology of Infants Fed on Artificial Foods Containing Starch. (Beitrag zur Pathologie des Mehlnährschadens der Säuglinge.) B. Salge.
173 *Pseudofever in Children. G. Avellis.
174 Objective Determination of Pathologic Cytosis in Cerebrospinal Fluid. W. Geissler.
175 Determination of Proportion of Epinephrin in Blood. P. Trendelenburg.
176 Suturing Machine to Use After Resection of Stomach and Intestines. (Nähapparat für Magen- und Darmresektionen.) F. Hahn.
177 *Neurorecurrences After Salvarsan. (Ueber Neurorezidive nach Salvarsan, speziell Polyneuritis.) E. Trömner and E. Delbanco. Commenced in No. 35.

168. **Influencing of Hypertrophy of the Prostate by Roentgen Exposures of the Testicles.**—Wilms and Posner remark that the gynecologists' discovery that myomas in the uterus can be made to retrogress by exposing the ovaries to the Roentgen rays has suggested that the enlargement of the prostate may be analogous to the development of a myoma, and that it can be indirectly influenced in the same way. The gynecologic experiences suggest that the growth of the myomas is stimulated by some substance generated in the ovaries, and that by reducing the vital action of the ovaries this substance is no longer produced and the myoma withers away. The condition in a hypertrophied prostate is remarkably like that in a myomatous tumor. Zuckerkandl has recently called attention to his finding intact tracts in the prostate when parts of it were much hypertrophied, and that the nodular new growth is essentially in the upper part of the prostate, while the prostate, like the uterus, attains its development with puberty. These and other facts confirm the assumption of a hormone generated in the testicles as responsible for the adenomyomatous nodules developing in the prostate. They suggest that the enlarged prostate can be made to shrivel away to approximately normal size by inducing the retrogression of the testicles, and this can be done in the simplest and most harmless manner by exposing them to the Roentgen rays, as he found in the one case in which he has applied the method to date. The patient was a healthy farmer of 69 and the prostate had gradually become enlarged until retention was complete. The testicles were then exposed to a three-fourths Sabouraud dose of Roentgen rays and four days later there was some spontaneous emission of urine.

By the fifth day the catheter was no longer necessary and micturition soon became entirely normal and the prostate perceptibly smaller, but there was still 70 c.c. of residual urine. A second similar exposure was then made three weeks after the first, since which time conditions in regard to urination have been quite normal and the patient has been in continuously good health.

170. See Abstract 152 above.

173. **Pseudofever in Children.**—Avellis has encountered a number of children apparently healthy but with a rectal temperature above normal for weeks or months at a time. After exclusion of all other causes he compared the rectal with the axilla temperature, and found the latter constantly normal. The conclusion seems inevitable that some local process, possibly merely the vital processes of the intestinal bacteria, may be accepted as the source of this local temperature. In some cases he was able to reduce the temperature to normal by putting the child on a yoghurt or clabber diet; this evidently modified the intestinal flora. He warns that the temperature in these cases is not an evidence of fever and that the children should not be kept in bed. He urges physicians to be on the lookout for this pseudofever and not be misled to ascribe it to tuberculosis, etc.

177. **Neurorecurrences After Salvarsan Treatment, Especially Polyneuritis.**—Trömner and Delbanco report three cases of severe manifestations of so-called neurorecurrence in syphilitics under salvarsan treatment. The first patient was a young man given two intravenous injections of salvarsan in the fourth month after infection, and they were followed two months later by multiple paralysis of cranial nerves. There was total deafness on the left side, with the characteristics of a true syphilitic affection of the auditory nerve on this side, while on the right side the symptoms indicated a toxic injury of the right auditory nerve. In the second case a woman of 28 developed weakness and paralysis in the domains of the first, sixth, seventh, ninth and eleventh cranial nerves two months after an intragluteal injection of salvarsan, and as these phenomena subsided signs of mild polyneuritis became evident. There has been improvement during the six months since, but certain symptoms still indicate meningitic irritation. The case was complicated by a tendency to hysteria. The peripheral polyneuritis in this case and in a third and more severe case are, they think, the first syndromes of the kind observed under salvarsan. It was extremely severe in the third case, developing two months after the injection; the normal pupil reaction and lack of sensory disturbances spoke against tabes. The muscles of the left leg give the reaction of degeneration to electric tests and the reaction was sluggish in the other leg. The patient was a machinist of 33 with no history of syphilis but a positive Wassermann reaction. He suddenly developed crossed hemiparaplegia which gradually improved under mercurial treatment so that he was able to get about on crutches. At his request then an intramuscular injection of 0.3 gm. salvarsan was made. Eight days later the signs of peripheral polyneuritis became evident and persisted with little improvement during the three months since, while only the Babinski and Oppenheim reactions were left of the preceding Brown-Séquard syndrome. Trömner differs from Delbanco in his opinion in regard to the mechanism of these neurorecurrences. He believes that salvarsan is liable to display a direct toxic action with or without the presence of syphilis, and an indirect specific action in syphilis, either by inducing an early inflammatory reaction or by reactivating syphilitic processes during a certain critical period lasting about two months after the injection. That these recurring manifestations are generally in the form of multiple neuritic or perineuritic paralyses of the cranial or, more rarely, of the peripheral nerves is due in part to a special affinity of the drug for nerve tissue. A direct neurotoxic action should be assumed only in the rare cases in which the mischief develops early and runs a malignant course.

Delbanco on the other hand ascribes the neurorecurrences to a direct toxic action on the nerve, and consequently decries the idea of treating them with more of the drug or even with mercury. He wonders what will be the ultimate fate of an auditory nerve, for instance, after toxic injury of this kind, then suffering later from the influence of the syphilis which in turn is arrested by mercury. Will the nerve after these varied experiences be more exposed to injuries later or not? He discusses in detail the literature that has appeared on the subject of neurorecurrences in syphilis since salvarsan has been introduced, and cites from a personal communication from Ehrlich, who was consulted in regard to the polyneuritis cases before the report was published. Delbanco insists that only those cases in which salvarsan has been given alone, without mercury, are strictly demonstrative and suitable for statistical comparison. He adds that the explanation advanced for the neurorecurrences in the auditory nerve, namely, that the natural reaction which otherwise does no harm, causes disturbance here, as the nerve is shut in tight in a narrow bony passage, cannot apply to his cases of peripheral polyneuritis. He adds that the future will teach whether salvarsan exerts an appreciable neurotropic action in nonsyphilitics. The Wassermann reaction is, he thinks, merely a sign that the organism has been in contact with the syphilis germ, and when the diagnosis of syphilis is otherwise clear he does not allow his treatment of syphilis to be guided by the absence or presence of the reaction. The question as to why the salvarsan exerts a toxic action only on certain nerves and not on others cannot be answered any more than why other poisons, especially lead, act on certain groups of muscles and not on others. He admits, however, that the recurrences in syphilis have been subjected to far closer scrutiny since the introduction of salvarsan, but he protests most decidedly against the statement recently made by Benario that in 1 per cent. of all cases of syphilis there is recurrence of symptoms in the large cranial nerves. This cannot be true of cases in which mercurial treatment has been systematically applied.

Therapeutische Monatshefte, Berlin

September, XXV, No. 9, pp. 525-580

178 *Nervous Vomiting in Infants. (Wesen und die Behandlung des nervösen Erbrechens im Säuglingsalter.) F. Rott.
179 Cumulative Action of Digitalis. C. E. Focke.
180 Conservative Treatment of Acute Otitis Media. (Konservative Behandlung der akuten Mittelohrentzündung.) H. Obermüller.
181 *Operative Treatment of Prolapse of Rectum in Children. (Mastdarmvorfall bei Kindern.) H. Sack.

178. **Nervous Vomiting in Infants.**—Rott refers to the vomiting which resists correction of the diet and for which no cause can be discovered. In this form the vomiting generally starts during the first weeks of the child's life, and it may simulate the clinical picture of pyloric spasm except for the lack of peristalsis in the stomach and of the palpable tumor at the pylorus. He has encountered six cases of this kind during the last two years; in three the vomiting was of an explosive character, immediately after the meal or an hour or so later. Only one of the six infants had reached the fourth month; two were breast-fed and all showed signs of nervous irritability, the children being remarkably restless before the vomiting came on, and the muscles were tense. In four cases an inherited nervous taint was evident. The facts observed suggested that the trouble was a hypersensitive condition of the stomach mucosa due to a congenital nervous irritability. Treatment to reduce this irritability proved remarkably successful in his cases; he gave 10 c.c. of a 0.01 per cent. solution of cocain, that is, 1 mg. of cocain, five times a day, ten minutes before feeding. In three cases the tendency to vomiting completely disappeared within three days; in one case the vomiting recurred on one day after an interval of four days. He gave the cocain for six days regardless of whether the vomiting had ceased, and no by-effects were observed suggesting intoxication, although all the children quieted down. The attempts of others with cocain have failed because it was given with the meals, too late to suppress the irritation from the food. The children have all developed well since, except that some are still unduly nervous. In two other cases the vomiting was not influenced by the cocain; it was never of a spastic character, the stomach content flowing without effort out of the mouth, once a day

or after each meal. The abdomen and muscles were generally flabby and the vomiting seemed to be due to atony, on which the cocain had no effect. One child died; the other grew stronger as the vomiting gradually subsided in the course of a few weeks, but the child developed a tendency to spasmophilia. In two cases of pyloric spasm the cocain was given in the same way and the vomiting became less frequent, the stools normal and the children less restless. These results encourage further trials of cocain with pyloric spasm, possibly combined with other sedatives.

181. **Operative Treatment of Prolapse of the Rectum in Children.**—Sack reviews the nine different methods on record for correction of rectal prolapse in children, with the experiences reported to date. All confirm the superior advantages of the latest technic, that published by Sick in 1909, tamponing the retrorectal space. Ritter has modified it somewhat, and Sack reports the details of two cases in which it has been applied with unusually favorable results, the little patients being able to be up and about at once, defecation not being interfered with and reexamination seven and fourteen months later confirming the advantages of this simple and harmless technic. The only incision is made from the tip of the coccyx to the edge of the sphincter. The loose connective tissue behind the rectum is then separated with a blunt instrument up to the promontory, thus detaching the rear wall of the rectum, and a passage is made entirely around its lower segment. A broad strip of gauze is then worked through this passage to encircle the lower part of the rectum and the ends are brought out, crossed and fastened to the skin above the coccyx. A second gauze strip is pushed up between the rear wall of the rectum and the sacrum, The incision is then sutured except at the top where the ends of the gauze emerge. By this means the rectum is enticed to become broadly adherent to the surrounding tissue and the tendency to prolapse is cured. In both his cases the tampons could be removed the fifth day while the child was allowed to defecate normally from the first, the strip encircling the lower part of the rectum effectually preventing any tendency to prolapse.

Wiener klinische Wochenschrift, Vienna

September 7, XXIV, No. 36, pp. 1267-1294

182 *The Conjunctival Tuberculin Test in Urology. R. Paschkis and F. Necker.
183 Immediate Benefit from Splenectomy in Acquired Hemolytic Jaundice with Enlarged Spleen, Hayem-Widal Type. F. Micheli.
184 Traumatic Pseudomeningoceles. J. Winkler.
185 Prostatic Adenoma Removed by Aspiration During Lithotripsy. K. Frank.

182. **The Conjunctival Tuberculin Reaction in Urology.**—Paschkis and Necker state that a further series of 125 urologic cases confirms the conclusions of their first series of forty-two cases, reported in 1908, to the effect that the ophthalmo-reaction is one of the numerous diagnostic measures which are instructive in the puzzling cases. They commend the simple technic, declaring that in their experience to date it has been harmless. A negative conjunctival reaction with evident tuberculosis of one kidney, even although its mate is apparently functioning normally, is a bad sign. In their four cases of this kind the patients all died in a few months.

Zeitschrift für Kinderheilkunde, Berlin

July, III, No. 1, pp. 1-113

186 *The Electric Reaction with Spasmophilia. E. Reiss.
187 Indicanuria in the New-Born. A. v. Reuss.
188 The Streptococci in Scarlet Fever. (Zur Kenntnis der Streptokokken bei Scharlach.) F. Schleissner.
189 Adrenal Functioning in Infants. (Die Nebennierenfunktion im Säuglingsalter.) S. Samelson.
190 Attenuation of Scarlet Fever by Prophylactic Injections of Serum. (Die Konkurrenz der Antigen in Klinik und Experiment.) E. Benjamin and O. Witzinger.

August, No. 2, pp. 114-189

191 *Stagnation of Heat and Salt Fever. (Wärmestauung und Salzfieber.) P. Heim and K. John.
192 Bacteriology of Whooping-Cough. (Der Bordet-Gengousche Bacillus in der Aetiologie des Keuchhustens.) G. Finizio.
193 The Normal Fluctuations in Temperature in Children. (Zur Beurteilung der Temperaturschwankungen beim Kinde.) A. Wolff.
194 *The Cerebrospinal Fluid in Tuberculous and Serous Meningitis. (Ergebnisse der Permanganattitration des Liquor cerebrospinalis.) E. Mayerhofer and R. Neubauer.

186. **Lime as Factor in Electric Reaction in Spasmophilia.**—Reiss reports experimental and clinical experiences which sustain the assumption that extreme neuromuscular excitability in children is due in part to lack of normal proportions of lime in the tissues. He concludes further that lime is the only one among the cations indispensable for the human organism investigated to date, which influences the electric reactions by its varying concentration. At the same time there must be other factors involved, as the varying lime content does not explain all the phenomena observed, although the theory of a deficiency in lime as the direct cause of the spasmophilic syndrome explains several essential features of it.

191. **Stagnation of Heat and Salt Fever.**—Heim and John report further research on alimentary fever in infants and especially the fever that follows intake of salt. They have become convinced that physical factors predominate in it, the salt causing retention of water and thus interfering with the normal throwing off of heat by means of sweating and urinating. The salt induces retention of water and this in turn induces stagnation of heat.

194. **The Cerebrospinal Fluid in Serous and Tuberculous Meningitis.**—Mayerhofer and Neubauer commend the potassium permanganate method of examination of the cerebrospinal fluid as a rapid and reliable method of investigating the metabolic processes occurring in the central nervous system. The findings are not only instructive for the diagnosis, but throw light on the prognosis. They have examined the fluid in 118 cases, with 182 punctures and 518 separate tests of the fluid. The children had meningitis of various origins, convulsions or poliomyelitis. In all this material the findings in tuberculous meningitis were constantly increased, the increase ranging from 2 to 30 or 37.3. Such high figures were obtained otherwise only in tuberculous pleurisy or peritonitis. At the same time they warn that this alone is not sufficient grounds for assuming a tuberculous meningitis unless confirmed by repeated reexaminations. With meningeal symptoms of other origin, the test shows figures under 2 as a rule, and this low figure persists even when the naked-eye aspect of the fluid indicates suppuration. The last series of 100 children examined are reported in detail with the necropsy findings in fifty-two of the fifty-five meningitis cases, and the various methods of examining the cerebrospinal fluid are discussed and the advantages of permanganate titration are extolled. The technic for this test was described in The Journal, June 11, 1910, p. 2009.

Zeitschrift für klinische Medizin, Berlin

LXXIII, Nos. 1-2, pp. 1-168. Last indexed June 17, p. 1865

195 Sino-Auricular Heart-Block. (Reizleitungsstörungen zwischen der Bildungsstätte der Ursprungsreize der Herzkontraktionen im Sinus der oberen Hohlvene und dem Vorhof.) G. Riebold.
196 Research on Interaction of Organs with an Internal Secretion. (Untersuchungen über das Vorkommen von "Vagotonus und Sympathikotonus.") K. Petren and I. Thorling.
197 Stomach Functioning in Health. (Physiologische Beiträge zur Funktion des Magens.) Külbs.
198 The Horse Power of the Pulse. (Neuren Methoden der dynamischen Pulsdiagnostik.) T. Christen.
199 Influence on Metabolism of Natural and Artificial Arsenical Waters. (Einfluss natürlicher Arsenwässer und künstlicher Arsenlösungen auf den Stoffwechsel.) S. Croce.
200 Behavior of Cardiovascular System in Two Cases of Bradycardia. (Verhalten des Herzgefasssystems in zwei Fällen von Bradykardie nebst Beiträgen zur neueren Untersuchungsmethodik, Physiologie und Pathologie des Gefässsystems.) E. Münzer.
201 Functional Tests of the Liver. I. (Verhalten des Aminosäuren- und Peptid-N im Harn.) F. Falk and P. Saxl.
202 Medicine and Folk Lore in Russia. (Volksmedizin und ärztliche Kunst in Russland.) V. Salle.

Zentralblatt für Chirurgie, Leipsic

September 9, XXXVIII, No. 36, pp. 1209-1240

203 *Plastic Operation on Esophagus with Aid of the Transverse Colon. (Osophagoplastik mit Hilfe des Querkolon.) G. Kelling.
204 Operative Treatment of Tumors in Nasopharynx. (Nasen-Rachengeschwülste.) Z. Slawinski.

203. **Transverse Colon for Plastic Operation on the Esophagus.**—Kelling attempted to relieve a woman of 45 with an inoperable carcinoma in the esophagus by making a new segment out of a strip resected from the transverse colon, suturing one end in the anterior wall of the stomach and connect-

ing the other end with the esophagus above the tumor by an intervening tube formed of the skin of the chest, with a T drain to drain away the saliva. The results of the operation were excellent but the patient succumbed to the effects of the cancer in two weeks. The case teaches that the transverse colon is well adapted for the purpose, and, secondly, that operations of this kind in cases of cancer of the esophagus, seldom offer prospect of success, owing to the ulceration and stagnation in the tumor and the intense reflex salivation. The absorption of toxins from the cancer has an unfavorable action on the secretions of the pancreas, etc., so that the food is not properly assimilated. The results of plastic operations with cancer of the esophagus, therefore, cannot be compared with those with pyloric cancer.

Zentralblatt für Gynäkologie, Leipsic

September 9, XXXV, No. 36, pp. 1265-1296

205 *Gynecologic Lesions and Suicidal Mania. (Die gynäkologischen Läsionen bei der Manie des Selbstmordes und die gynäkologische Prophylaxe gegen den Selbstmord beim Weibe.) L. M. Bossi.
206 *Pregnancy and Delivery in Tabes Dorsalis. Jakub.
207 Premonitory Symptoms of Thrombosis and Embolism. H. Michaelis.

205. **Gynecologic Prophylaxis of Suicidal Mania.**—Bossi's experience with the cure of a tendency to melancholia and mania by correction of abnormal conditions in the genitalia was summarized in THE JOURNAL, September 30, page 1173, abstract 165. He urges here the especial importance of the task of gynecologists in a sound prophylaxis against suicide.

206. **Pregnancy in Tabetic Women.**—Jakub reports the course of pregnancy and delivery in a woman of 36 infected with syphilis at 28 and with signs of tabes dorsalis during the last seven years. This experience confirms the privilege of tabetics over normal women, in that delivery proceeds rapidly and entirely painlessly. The entire childbirth is analogous to what is observed in animals after artificial destruction of the spinal cord; it confirms anew the admirable autonomous nervous apparatus of the uterus which enables it to carry the fetus to term and expel it at the proper time automatically.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 31, XXXII, No. 105, pp. 1107-1114

208 *Abdomen Retraction with Gastric Cancer Free from Metastasis. (Del segno di Tansini per la diagnosi di metastasi intestinale nel cancro del piloro.) S. d'Este.

September 3, No. 106, pp. 1115-1130

209 Perforating Ulcer of the Foot. (Sul mal perforante plantare.) G. Tomaselli.

September 5, No. 107, pp. 1131-1138

210 Carbolized Glycerin in Local Treatment of Erysipelas. M. Lodi.

September 7, No. 108, pp. 1139-1146

211 Banti's Disease. F. Piria.

208. **Depression of the Abdomen with Cancer of the Pylorus and Bulging When There is Metastasis.**—Este reports a third case in which Tansini's sign was present and threw light on the condition. In all his experience with cancer at the pylorus or cicatricial stenosis he always found the abdomen drawn in except in those cases in which operation revealed cancerous nodules at some point in the intestines.

Riforma Medica, Naples

September 4, XXVII, No. 36, pp. 981-1008

212 Intratracheal Insufflation According to Meltzer. R. Falcone.
213 Mononucleosis with Gastric Cancer. G. Costantini.
214 Local Eosinophilia in Rabbit Coccidiosis. P. Ballette.
215 Wassermann Reaction Negative in Pellagra. C. Vallardi.

Hospitalstidende, Copenhagen

August 2, LIV, No. 31, pp. 857-880

216 *The Wassermann Reaction and Resistance to Heat of Antibodies Involved. (Wassermann's Reaktion betragtet som et ikke isoleret Fænomen.) O. Thomsen and H. Boas.

August 9, No. 32, pp. 881-912

217 Case of Male Pseudohermaphrodism. J. Mourier.
218 *Treatment of Syphilis of Heart and Vessels. (Behandlung af de syfilitiske Hjerte- og Karsygdomme.) A. Øigaard. (Commenced in No. 30.

August 23, No. 34, pp. 939-968

219 Prolapse of the Placenta. I. P. Hartman. Commenced in No. 33.
220 *Systemic Intoxication Originating in Uterine Fibromyomas. J. Kaarsberg

August 30, No. 35, pp. 969-1000

221 Ammonia Content in Urine and Its Relation to the Gastric Secretion. (Om Ammoniakmængden i Urinen og dens Forhold til Ventrikelsekretionen.) S. A. Gammeltoft.
222 Anilin Stains in Tests for Bile Pigments in the Urine. (Om Anvendeligheden af Anilinfarver som Reagens paa Galdefarvestof i Urinen.) O. V. Petersen.

216. **Resistance to Heat of Antibodies Giving the Wassermann Reaction.**—Thomsen and Boas call attention to the fact that the Wassermann reaction occurs regularly with serum from non-syphilitic patients, with cancer, nephritis, scarlet fever, leprosy and tuberculosis, if the serum is not heated, but the syphilitic serum is the only one that gives the reaction after the serum has been heated to 56 C. for half an hour, which is a necessary element in the true Wassermann technic. The heating sifts out all but the true syphilitic cases, the syphilitic serum being the only thermoresisting one. This thermoresisting property is particularly pronounced in inherited syphilis; in the first phase of syphilis the thermoresistance is slight, probably no higher than with cancer, nephritis, etc. The question now is whether this thermoresistance is the property of the antibodies generated or of the medium containing them, but the research reported seems to have established beyond question that these antibodies which give the Wassermann reaction occur regularly in various diseases, while their resistance to application of heat varies within a wide range.

218. **Syphilitic Cardiovascular Disturbance.**—Øigaard reviews his experience with twenty patients of this category, expatiating particularly on the frequently indispensable aid to be obtained from the Wassermann reaction in diagnosis of syphilis of the heart and vessels. There are three principal types of syphilitic affections of the cardiovascular system, aneurysm at the arch of the aorta, aortic insufficiency and syphilitic aortitis. The latter can generally be diagnosed from the clinical picture alone. The Wassermann reaction in all these types is usually very pronounced even when the infection is of twenty to forty years' standing. Treatment was successful only with mercury in his twenty cases, and the results were often surprisingly good, far better than are obtainable by any means with heart disease of other origin. He never witnessed any benefit from iodid in these syphilitic heart and vascular affections. He advises keeping up the mercury until the subjective symptoms have subsided and the Wassermann reaction has become negative after suspension of the treatment for at least three weeks. After the Wassermann reaction has once become negative under treatment, it can no longer be utilized as a guide in treatment—the flaring up of symptoms anew requires renewed specific treatment, regardless of the Wassermann findings. One of his patients with albuminuria (syphilitic nephritis) and intense Wassermann reaction was entirely cured by a three months' course of mercury and iodid. The details of his twenty cases are given in full.

220. **Intoxication from Fibromyoma in the Uterus.**—Kaarsberg has had two patients with fibromyomas in the uterus decaying without suppuration but absorption of necrotic matters caused fever. The growth was seen to increase rapidly in size during two or three weeks, which clinched the necessity for its removal. There were no other symptoms but the fever, no pains nor tenderness. In one case the necrosis was evident only on microscopic examination. In a third case a woman of 70 died after a period of fever suggesting typhoid, but necropsy disclosed no cause for the fever except a central patch of necrosis in a large fibromyoma in the uterus. In other cases a latent necrosis may induce a more chronic intoxication; the temperature may be normal or only slightly above, but the pulse is accelerated and the patient feels weak and cachectic. In the course of four or five months considerable anemia may develop, although without appreciable hemorrhages. Kaarsberg's patient was so weak she swooned twice during the examination. There was a blowing sound at the heart but no purulent or fetid vaginal discharge. The temperature ran up very high a few days before death, having previously been normal; the pulse had been 100. The rise in temperature was accompanied by a purulent discharge from the vagina and the uterus was at once removed but the

patient died the next day. Parenchymatous degeneration of the organs was evident, especially of the myocardium. In a fourth case the symptoms and course were exactly the same but the fibromyoma in the uterus was not decaying, no trace of necrosis could be detected even with the microscope. The case demonstrates that a fibromyoma even without necrosis is liable to induce intoxication and degeneration of the myocardium. In a fifth case no operation was attempted and the patient died after four or five months of chronic debility and hemorrhages from a fibromyoma in the uterus. In this case also degeneration of the myocardium was the direct cause of death. This assumption that a uterine fibromyoma —even without necrosis—may induce chronic intoxication is sustained by the way in which such patients improve rapidly in health after removal of the growth. He urges the necessity for keeping an oversight of patients suspected to have these growths and increasing weakness, especially on the part of the heart. The detailed case histories are appended.

Hygiea, Stockholm

August, LXXIII, No. 8, pp. 913-1024

223 *Weight of a Drop. (Om droppvikt.) K. Ahlberg.
224 *Resection of Stomach for Cancer: Operative Mortality and End-Results. J. Waldenström.

223. **Weight of a Drop.**—Ahlberg discusses the inaccuracies that are liable unless the exact weight of the drop of different fluids is known, and he gives a series of tables showing the exact weight in turn of twenty, thirty, forty to eighty drops of a number of common tinctures, extracts, acids, etc., and in another series the number of drops to a gram. The number ranges from twenty to sixty drops to the gram, tincture of digitalis having fifty, fluid extract of ergot thirty, tincture of opium forty, and the 1 to 1,000 epinephrin solution only twenty according to his experience.

224. **Resection of the Stomach for Cancer.**—Waldenström compares the statistics from some leading German, Swiss, American and Swedish clinics, showing that Mikulicz had the highest percentage of survivors for more than three years after resection of the stomach for malignant disease, his figure being 30 per cent., or 39 per cent., if only the last three years of his work are included. Waldenström gives the details of the fourteen cases in which the patients have been free from recurrence for more than three years since the operation done at the Serafimer Hospital at Stockholm, out of a total of ninety-three patients thus operated on between 1888 and 1907. He urges efforts to convince patients of the advisability of a harmless exploratory laparotomy when there are symptoms of chronic dyspepsia and deficient gastric secretion while the patients are losing weight. Cooperation between the internist and the surgeon seems to be the only way to realize further progress in treatment of gastric cancer. In the successful cases reported from the Serafimer, the first symptoms had been noticed from two months to eight years before operative treatment was applied.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By Robert Bing, Privat-Docent for Neurology in the University of Basle. Translated by F. S. Arnold, B.A., M.B., B.Ch. (Oxon). Revised by David I. Wolfstein. Cloth. Price, $2.50. Pp. 215, with 70 illustrations. New York: Rebman Company, 1911.

THE MECHANISM OF LIFE. By Dr. Stéphane Leduc, Professor à l'Ecole de Médicine de Nantes. Translated by W. Deane Butcher, Formerly President of the Röntgen Society, and of the Electro-Therapeutical Section of the Royal Society of Medicine. Cloth. Price, $2. Pp. 172, with 64 illustrations. New York: Rebman Company, 1911.

NOSTRUMS AND QUACKERY. Articles on the Nostrum Evil and Quackery from THE JOURNAL of The American Medical Association. Part I, Quackery. Part II, Nostrums. Part III, Miscellaneous. First Edition. Cloth. Price, $1. Pp. 509, with 220 illustrations. Chicago: American Medical Association Press, 1911.

THE BLOOD AND ITS THIRD ANATOMICAL ELEMENT. Application of the microzymian theory of the living organization to the study of the anatomical and chemical constitution of the blood and to that of the anatomical and physiologic causes of the phenomena of its coagulation and of its other spontaneous changes. By A. Béchamp, Formerly Professor in the Medical Faculty of Montpellier (France). Translated from the French by Montague R. Leverson, M.D., of the Baltimore Medical School and M.A. and Ph.D. of the University of Gottingen. Cloth. Price, $1.50. Pp. 440. Philadelphia: Boericke & Tafel, 1911.

PENNSYLVANIA HOSPITAL. Annual Report of the Department for the Insane for the Year Ending April 20, 1911. Presented to the One Hundred and Sixtieth Annual Meeting of the Contributors to the Pennsylvania Hospital. Paper. Pp. 38, with illustrations Philadelphia, 1911.

TRANSACTIONS OF THE ROYAL ACADEMY OF MEDICINE IN IRELAND. Vol. XXIX. Edited by J. Alfred Scott, M.A., M.D., F.R.C.S.I., General Secretary; Professor of Physiology Royal College of Surgeons in Ireland. Cloth. Pp. 560. Dublin: John Falconer, 53 Upper Sackville Street, 1911.

REFRACTION AND VISUAL ACUITY. By Kenneth Scott, M.D., C.M., F.R.C.S., Consulting Ophthalmic Surgeon to St. Mary's Hospital for Women and Children, London. Cloth. Price, $1.75. Pp. 191, with 16 illustrations. New York: Rebman Company, 1911.

CESARE LOMBROSO, A MODERN MAN OF SCIENCE. By Hans Kurella, M.D., Author of Natural History of the Criminal. Translated from the German by M. Eden Paul, M.D. Cloth. Price, $1.50. Pp. 194. New York: Rebman Company, 1911.

PRINCIPLES OF ANATOMY. The Abdomen Proper Described and Illustrated by Text and Plates. By William Cuthbert Morton, M.A., M.D. (Edin.). Cloth. Price, $12. Pp. 174. New York: Rebman Company, 1911.

HERSELF. Talks with Women Concerning Themselves. By E. B. Lowry, M.D., Author of Confidences, etc. Cloth. Price, $1. Pp. 221. Chicago: Forbes & Co., 1911.

LOVE AND LETTERS. By Frederic Rowland Marvin. Cloth. Price, $1.50 net. Pp. 252. Boston: Sherman, French & Co., 1911.

New Patents

Patents of Interest to Physicians

995692	Bed-pan cushion. Marie A. L. Barrelle, North Reading, Mass.
995958	Ozonator. Louis Goldberg, Indianapolis, Ind.
997864	Truss. Peter S. Haehn, Youngsville, Pa.
995600	Surgical appliance. Jonas E. Heyser, Philadelphia.
995479	Sanitary cuspidor holder. Peter H. Noonan, Noonan, N. Dak.
995709	Sanitary pocket cuspidor. St. John O'Sullivan, San Diego, Cal.
995817	Artificial rawhide leg. William H. Vanorman, Auburn, N. Y.
995510	Producing transparent camphor in shaped pieces. Otto R. D. Witt, Hamburg, Germany.
994824	Disinfecting apparatus. August H. Davids, Hamburg, Germany.
994918	Sputum cup. John Greenwood, Macksville, Kan.
994922	Composition of matter. Edouard Heckel, Marseilles, France.
995157	Machine for dispensing straws. Marcus and J. A. Korman, Washington, D. C.
995407	Ice bag. Walter S. Leyens, Monroe, La.
994869	Inhaling device. Ignatz Palocz, Budapest, Austria-Hungary.
994957	Magnetic vibrator. Frank V. Smith, Floriston, Cal.
994884	Surgical instrument. William W. Stewart, Columbus, Ga.
994553	Emulsifier. James C. Alexander, Roseburg, Ore.
994437	Preparing camphor. Ossian Aschan, Helsingfors, Russia.
994300	Electric vibrator. Herman I. Blattle and P. Newman, Providence, R. I.
994306	Suspensory drawers. James A. Evans, Fort Worth, Texas.
994584	Cushion crutch. Hobart H. Flynn, Bellevue, Wash.
994270	Massage apparatus. John P. O'Brien and H. Stoddard Philadelphia.
994190	Prostatic syringe. Nicola Pernice, Atlantic City, N. J.
994192	Pasteurizer. Bryan D. Pinkney, Cleveland.
994194	Crutch and cane tip. Philip W. Pratt, Boston.
994660	Breeding microbes. Otto Schmidt, Cologne, Germany.
994482	Clinical thermometer. Ralph F. Schneider, New York
994483	Veterinary surgeon's float. John Sklar, Brooklyn,
994619	Artificial eyelash. Anna Taylor, Ottawa, Ontario, Canada.
994287	Water bag. Edwin B. Thorning, Alameda, Cal.
994294	Ozone generator. Eugene P. Weillard, Los Angeles, Cal.
993945	Medical appliance. John W. Ballard, Indianapolis, Ind.
993365	Disinfecting apparatus. George Harker, Petersham, near Sydney, New South Wales.
993868	Dehydrating nitric-acid and other vapors. Harry Pauling, Gelsenkirchen, Germany.
993308	Edge-rolling device for hot-water bottles. Alexander D. Lamont, Providence, R. I.
992886	Capsule filler. Henry Laval, Evansville, Ind.
992980	Ozone-producing apparatus. Octave Patin, Paris, France.
993124	Breast pump. Charles A. Tatum, New York.
993125	Kessler apparatus for concentrating suphuric acid. Jules Telsset and J. Prat, Paris, France.
993331	Manufacture of formates. Arnold Wiens, Bitterfeld, Germany.
992837	Membrane pump. Friedrich W. Winterhoff, Dusseldorf, Germany.
993011	Manufacturing dextrin. Heinrich Walkan, Budapest, Austria-Hungary.
41434	Syringe or similar article. Peter G. MacGregor, New York.

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THE TREATMENT OF THE ARTHRITIDES *

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It is natural that diseases the most obvious features of which are located in the joints should be grouped together just as diseases of the meninges, lungs, gastro-intestinal tract, etc., are grouped. While we recognize the basis of classification in the other classes and realize that the diseases may have nothing in common, except the localization of some of their phenomena, in the case of the joints we have not yet progressed so far. No class of cases seems to offer greater facilities for study and treatment, and yet in the mind of the average practitioner everything, except the typical cases of rheumatic fever, is thrown into a nebulous class of chronic, rheumatic, rheumatoid or gouty arthritis, the treatment of which is almost hopelessly chaotic. Since Sydenham differentiated acute rheumatic fever from gout, little progress has been made, speaking for the profession at large.

This confusion of ideas with the consequent therapeutic failures is the natural result of certain conditions of which I shall consider the three most important:

1. The unfortunate persistence and extension of the term rheumatism without any definite significance. The permutations and combinations of this term "rheumatism" have contributed so much to misunderstanding, to lack of precision in diagnosis, and consequent lack of definite aim in treatment, to confusion of diseases and confusion of ideas as to the cause, relationship, and management of diseases that it would be far better to drop the term altogether, using the name "rheumatic fever" instead, and ringing no changes on that term, like rheumatoid, gonorrheal rheumatism, rheumatic affections, etc.

2. The flooding of medical literature year after year, under authoritative names, with obsolete, misleading, and unnecessarily confusing statements merely because they are traditional and because the publishers must have filling for their new books. If writers would boldly leave the legendary and condense their writing to what is known, our horizon would soon be much clearer and our book-shelves less congested with crops in which the tares outweigh the corn. One can only vaguely imagine the time that would be saved.

I have long been of the opinion that this evil is largely the result of the energy and enterprise of our medical publishing houses. Where we need one publishing house, we have six or eight. All must keep busy continuously or they will lose money. Therefore, they must coerce the medical profession into writing and buying this unnecessary mass of stuff. If one publisher gets out a book on therapeutics, immediately the others try to duplicate it and we get possibly three or four thousand pages of the printer's art, when two or three hundred pages would give all that is new and worth reading.

3. The paucity of our knowledge as to the etiology of the pathologic conditions observed in the joints. But do the current works on diagnosis, dietetics, and treatment adequately reflect the present state of our knowledge regarding these subjects? Let us consider for a few moments this important question. I assume that the following definite facts and principles may be regarded as established or at least as accepted by investigators as working hypotheses. Exclusive of trophic, hemophilic, traumatic and certain septic cases, the arthritides may be divided into three classes—rheumatic fever, gout, and hypotrophic and hypertrophic arthritis.

1. As to the nature of gout, this disease is due to the abnormal accumulation of uric acid in the system, resulting from its increased production, diminished destruction, or faulty elimination; to the change of the monosodium urate circulating in the organism, from a soluble to a less soluble isomeric form, and its precipitation in the tissues.[1] This uric acid is no longer regarded as a stage in the production of urea, but as a natural end product of purin metabolism, resulting about equally from endogenous and exogenous sources. Consequently, the amount of uric acid to be disposed of may be cut down 50 per cent. by a purin-free diet. I think it is safe to say that nothing in dietetics is so well established as the indication for a purin-free diet in gout. This indication is even more exacting than that for a low carbohydrate diet in diabetes mellitus. For we must try as far as possible to increase the tolerance for carbohydrates in diabetes, but there is no such pressing therapeutic reason for trying to increase the tolerance for the purin bodies in gout.

2. The fact that what is designated as "rheumatic fever" or often as "acute rheumatism," "polyarticular rheumatism," or just "rheumatism" is a general infection, whether we regard the so-called *Streptococcus rheumaticus* of Poynton and Paine as the cause or as an attendant phenomenon like the streptococcus blood-infection in most cases of scarlet fever[2] and many cases of measles[3] and small-pox.[4]

3. The disease or diseases commonly called arthritis deformans and rheumatoid arthritis or hypertrophic and hypotrophic arthritis—whether we regard these two very different pictures as different manifestations of the same, or as two distinct diseases—are not closely related etiologically either to gout or to rheumatic fever.

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* Chairman's address before the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Gudzent: Ztschr. f. physiol. Chem., lv, 38; Therap. d. Gegenw., December, 1910; Med. Klin., 1909, No. 37.

[2] Moser: Brit. Med. Jour., Oct. 4, 1902.

[3] Cornil and Babes: Traité de méd., ii, 84; Garre: Fortschr. d. Med., 1885, p. 165; Councilman: Jour. Med. Res., 1904, p. 1.

[4] Park: Pathogenic Bacteria and Protozoa, 1890, p. 484.

4. The only agent that has been scientifically proved to increase materially the elimination of uric acid without correspondingly increasing its production is radioactivity.

5. Excess of sodium in the tissues predisposes to gouty deposit of sodium urate, and therefore in the so-called gouty diathesis the administration of hydrochloric acid is more logical than the alkaline treatment.

6. Doubtful or atypical cases of gout can be diagnosed only by scientifically testing the capacity of the organism to eliminate uric acid or by the demonstration of the presence of uric acid in the circulating blood, the latter being of value in rare cases only.

7. There is no such thing as an antirheumatic diet and all patients suffering from chronic arthritis, except the gouty, should be as generously nourished as their digestive capacity will permit.

8. Many cases of arthritis are unfavorably influenced by septic foci, as pyorrhea, infected tonsils, antra, frontal sinuses, ethmoid or sphenoid cells, prostate, etc. In certain cases these foci may be ports of entry of the disease germs or sources of the toxins which cause the irritation in the joints.

With the facts just given, let us contrast the following extracts from some of the latest and most popular books of reference, by which many of us shape our daily management of cases. In a reference system published within ten years, an imposing article on dietetics prescribes the same diet for chronic rheumatism, gout and various skin affections. In one of the latest and most popular systems published in England during the last three years appears a very good article on gout, but there is no mention of purin metabolism in its relation to gout, and no mention of radio-activity; diet tables which are worse than useless are included.

In a "thoroughly revised" edition of a standard work on dietetics published within three years, we read under "gout": "Take moderate quantities of plain nutritious food, avoid excess of meat, and all rich food, and eat only moderate quantities of starches and sugars." This is advice better adapted to almost any other condition than to gout. Then follow detailed directions for all kinds of meats, meat soups, etc., with a caution as to eggs, and an injunction against dried beans or peas, sweet potatoes, beets, ice-cream and cheese, all of which are really harmless in gout, as compared with meat and meat soups, which the author allows.

In another recent system on therapeutics we read under "hydrotherapy" that in the treatment of gout and rheumatism by baths it is simply a question of temperature, duration and pressure (no mention of radio-activity), and further that in all cases of "rheumatic" and "gouty" character the patients should be subjected to hydrotherapy early, medication being practically useless except as a palliative. It is exceedingly common to find these words "rheumatic" and "gouty" linked together, and it adds greatly to the existing confusion.

In the same system we find in an article on "Diet in Gout" a glimmering suggestion as to the relation of purin bodies to uric acid, but this idea is not carried out in the diet tables which follow. In a paragraph on "rheumatic headache" the writer says that this may be (1) "a simple localized affection" or (2) due to "lithemic toxemia, an auto-intoxication from the disturbed gastro-intestinal tract," or (3) to congestion of the tonsils and pharynx. "The local condition may be the result of exposure to cold, sudden checking of the perspiration or the gradual accumulation of the so-called 'rheumatic poison' in the system, from lack of exercise, overfeeding and the use of alcohol." The author then recommends salicylates, colchicum and the iodids — a meaningless jumble of words followed by a shotgun prescription.

In one of the most popular new systems a writer says that there are three varieties of joint affections in typhoid fever, i. e., rheumatic, septic and typhoid proper! and this brilliant classification has been copied year after year by one hurried writer after another. A celebrated English authority contributing to this same system says: "Gout and rheumatism are two diseases which are usually attributed to imperfect tissue metabolism, although there is a tendency, in the case of rheumatism at least, to transfer this disease to the class of infectious diseases." He goes on to sanction the use of alkalies in both cases as favoring the action of oxidases and raising the bactericidal power of the blood. He does not distinguish between the use of salicylates in gout and in rheumatism, saying that they increase the solubility of uric acid. He favors, for reasons which are not given, the use of piperidin, piperazin, etc. Later the same author says: "In cases of disease of the nerve trunks, the treatment resolves itself into the use of electricity and the administration of remedies intended to counteract rheumatic or gouty tendencies, such as alkalies, potassium iodid, salicylates, antipyrin, phenacetin, aspirin, guaiacol, etc."

The one thing which has proved to be of any scientific value in gout is not mentioned in these two large volumes. Such writing shows the same scattering footlessness and rambling lack of scientific foundation as the second-rate proprietary literature with which our offices are flooded; and this stuff is sold to students and practitioners under the authoritative names of men who know better. Should men allow articles which they have never read to be sold as edited by them? Can it be imagined that the alleged editors read these bulky volumes? Is it any wonder that chaos exists in the minds of the profession when our idols are selling us advice which they themselves have never read? Another evil of these pot-boiling "systems" is that they are full of contradictions, no attempt being made by the editors to see that the various authoritative contributions should not flatly contradict one another and leave their readers in the air. Such a collection does not make a system — it is merely a job-lot of medical articles.

If a man reads a monograph he chooses a writer in whom he has some confidence or of whom he knows something. When a man buys a system he is influenced by the names of the editors. He has a right to feel that what he reads in the said system has the sanction of the editors. In the majority of cases he does not even notice who has written the particular article to which he turns for help in time of need. It is time that those who have deservedly won positions of authority give more careful consideration to that which is going to be sold under their names.

Now, to come back to our classification, I wish to refer particularly to certain points in the treatment of these conditions.

RHEUMATIC FEVER

There is abundant clinical evidence that salicylic acid is specific for rheumatic fever and for that disease only. I could cite Kraus of Berlin, Rolleston of England, and many others in support of this opinion. As with other chemical remedies, the treatment should be so managed as to overwhelm the disease as soon as possible and not by small doses long drawn out create a tolerance of the disease-producing organisms for the remedy and at the same time an intolerance of the patient's stomach. Professor Kraus gives 0.5 gm. of salicylic acid hourly day and night until improvement begins, sometimes even to thirty-six hours. The heart and urine should be carefully watched and the treatment should be changed if cardiac depression or albumin and casts are recognized. Following Kraus, I have used some recent synthetics for the past two years whenever the least irritating form of salicylic acid was indicated, and I have been well satisfied with the results.

The combination of alkalies with the salicylic acid treatment of rheumatic fever receives much support from statistics and theoretically at least there are no contra-indications. It is also said to protect the kidneys from the irritating effects of salicylic acid.

The use of vaccines in cases of rheumatic fever as well as in cases of gonorrheal arthritis has been favorably reported on too often to be ignored. Personally; I have had very satisfactory results in both diseases.

In Pittsburgh Drs. Ernest W. Willetts and W. R. S. Denner have cultivated four strains of streptococcus, believed to be identical with that described by Poynton and Paine. Three of these cultures were obtained from blood of patients with acute rheumatic fever and endocarditis. These could not have been terminal infections, as all recovered. One was a culture from the pericardium of a subject who died of chorea with pancarditis. About twenty-five patients have been treated with vaccines made from these cultures, with very satisfactory results. The twenty-five cases include acute and chronic rheumatic fever, chorea, and rheumatic iritis and iridocyclitis. The only patients not benefited were those in whose cases the diagnosis was doubtful.

At all stages of the disease the diet in rheumatic fever should be the most nutritious that the patient can take care of.

CHRONIC HYPOTROPHIC AND HYPERTROPHIC ARTHRITIS

The toxic and septic cases referred to above are most commonly called rheumatoid arthritis (following the English) and arthritis deformans. The diagnosis of the acute manifestations of these two types of disease is sometimes difficult or even impossible in the present state of our knowledge. As to their treatment, possible source of infection should be sought for and removed, though I must say that I have never seen the brilliant results follow the removal of these septic foci that have been reported by others. Still I have several times seen acute exacerbations of the joint affections immediately follow operations on tonsils, antra and appendix. Whether these joints should be exercised or not may sometimes be determined by a study of their radiograms.

The most important point which is not sufficiently recognized is that the patients should be treated along the lines of any chronic infection, that is, by the greatest possible amount of food and outdoor living and sufficient rest to insure the building up of the reserve forces. Many of these patients are very anemic and iron and arsenic are indicated. Care should be taken, if iron is needed, to give enough and to give it in the best form. Shirokauer's recent exhaustive, interesting and instructive article[5] on the use of iron may be referred to here. There is considerable evidence in favor of the use of fibrolysin in certain of these cases to increase the mobility of the joints where the loss of motion is not due to bony changes.[6]

As will be seen later, a certain proportion of these patients have been greatly benefited by treatment with radium emanations.

GOUT

Gout is probably far more common in the United States than is generally supposed. For some reason, not yet explained, the typical cases are relatively infrequent, but I believe that a very large number of atypical cases are overlooked. Although the positive diagnosis of these atypical cases can only be made by testing the purin metabolism or by finding uric acid in the blood (and according to His[7] and Magnus-Levy[8] the former test is sometimes negative in undoubted cases of gout), still a careful consideration of the family history, the patient's previous history and the existing conditions will usually give us sufficient indications for a tentative use of gouty remedies.

The value of colchicum to control the acute symptoms of gout is too well known to require comment.

As regards the influence of alkalies and acids in gouty conditions, there have been a series of very interesting reports which seem to demonstrate that alkalies, particularly sodium,[9] diminish the solubility of uric acid in the blood, and that the administration of hydrochloric acid seems in some way to diminish the alkalinity of the blood, rendering it thereby more disposed to take up the sodium from synovial fluids, etc., where its presence favors gouty deposits. The stronger affinity of hydrochloric acid for sodium prevents the latter from uniting with uric acid.[9] The most interesting articles along this line have been by Falkenstein,[10] Brugsch,[11] van Loghem and Cohn.[9] The practical deduction from the foregoing is the limitation by gouty patients of the ingestion of such vegetables as are high in sodium, and the administration of dilute hydrochloric acid in water or lemonade.

One of the most progressively interesting lines of metabolic work during the past few years has been the development of our knowledge of the therapeutic effects of radium. This subject has received very little notice in America, but for the past two years the German journals have been fairly teeming with it. The reports of forty investigators might be cited from the German medical journals. The British medical press is beginning to notice with enthusiastic approval this German activity.[12] During the past two years there have been seventeen references to radium in British medical literature, eight in the United States, four in Canada, and one in Australia. Most of the notices outside of Germany have been abstracts of or comments on the German work. At the thirty-second Balneologic Congress held in Berlin in March, 1911, one whole session was given to the consideration of the therapeutic effects of radium.[13]

When radio-activity was discovered in the waters of various popular springs, it was at once suspected that this radio-activity might be the essential therapeutic feature of the springs. Roughly speaking, it was noticed that the springs which seemed to have been the most successful in the treatment of gouty conditions were those which showed the highest radio-activity. Artificially prepared radio-active waters were then experimented with and seemed to show the same therapeutic effects. Animal experiments (His,[7] Kionka,[14] Cohn,[9] Fofanoff[15]) were then undertaken with radium, with the result of demonstrating that the action of radium, therapeutically used, is elective, affecting most the embryonic tissue (the ectodermal tissue), the pathologic tissue of tumors, etc.; that it attacks foreign bodies such as uric acid which has been artificially introduced under the skin or in the peritoneal cavity; that it modifies the phenomena of inflammation and stimulates the action of various ferments as the pancreatic, peptic and lactic acid, and the autolytic ferment in the tissues.[16]

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[5] Shirokauer: Abhandl. a. d. Geb. d. Verd. u. Stoffwechsel Krankh., i, No. 3.

[6] Mendel, Felix: Deutsch. med. Wchnschr., 1911, No. 3.

[7] His: Berl. klin. Wchnschr., 1906, No. 46; 1907, No. 35; 1908, No. 3; 1910, No. 7; Med. Klin., 1910, No. 16; Deutsch. med. Wchnschr., 1911, No. 5, Vereinsber.

[8] Magnus-Levy, A.: Zur Diagnosis der Gicht a. d. Purinstoffwech., Deutsch. med. Wchnschr., 1911, No. 17.

[9] Cohn, S.: Deutsch. med. Wchnschr., 1911, No. 10.

[10] Falkenstein: Deutsch. med. Wchnschr., 1911, No. 9, Vereinsber.

[11] Brugsch: Der Nukleinstoffwechsel u. seine Storungen, Brugsch und Schittenhelm, Jena, G. Fischer, 1911.

[12] Brit. Med. Jour., Feb. 4, 1911, p. 267 (editorial).

[13] München. med. Wchnschr., 1911, No. 12.

From experiments on man, it was found that radium emanations have no action on the glycolytic ferment in diabetic cases, and no action on the elimination of purin bodies in normal cases, but an accelerating effect on the elimination of purin bodies in gouty cases in which the elimination is delayed. It prevents the rapid change of urates circulating in the organism from a more soluble to a less soluble isomeric form and even reverses that change.[1, 15] It increases the elimination of uric acid as well as its destruction into ammonia and carbonic acid.[1] It increases the general metabolism.[17] It increases the chemotaxic and phagocytic properties of the white blood-corpuscles (Fofanoff). At the various cures, the radium emanations find their way into the organism by inhalation, by penetration through the skin, or by the drinking of the radio-active water, and much has been written as to the relative merits of these different methods.[18, 19]

The most recent method of using radium in these cases was proposed and developed by Felix Mendel[20] of Essen. It consists in the intramuscular injection of a radio-active liquid of standardized strength. By this method Mendel has obtained very definite results in cases of gout, also in certain cases of chronic arthritis. This seems to confirm the statement of Minkowski, in his classic work on gout, that there is a close relationship between gout and certain cases of chronic atrophic and hypertrophic arthritis.

Of the many clinical reports of the application of radium to cases of arthritis, and to the so-called gouty diathesis, His[7] has given us the largest series of cases, including twenty-eight cases of gout and one hundred cases of chronic arthritis. Of the twenty-eight cases of gout, four were not improved, twenty-four were considerably improved, several without return of symptoms for one year up to the time of writing. Many of these patients had tried severe dietetic and other measures without benefit, and three patients had been on rigid purin-free diet for some time without benefit until the radium treatment was begun. His observed the disappearance of tophi in two cases, and some cases were clinically much improved, although uric acid persisted in the blood, while rare cases showed many tophi with repeated gouty attacks and no uric acid could be demonstrated in the blood. Of the one hundred cases of chronic arthritis, forty-seven were improved, twenty-nine much improved, five almost cured, thirteen showed no change that could be attributed to the treatment, and six cases could not be followed. The best results were in the more acute or earlier cases, especially in young subjects. Gudzent,[1] Brugsch,[11] Strasburger,[21] Mendel,[20] Fürstenberg and Klemperer,[22] and Kemen,[23] have all recorded similar results.

In this brief reference to the effects of radium on certain pathologic conditions, enough has been said to show the desirability of having an official investigation and standardization of the most important American springs in regard to their radio-activity, and I should be very glad to see a recommendation to this end from this Section to the House of Delegates.

5431 Fifth Avenue.

Note.—In addition to the articles previously cited, the following references will be found of interest:

Wichmann: Radium in der Heilkunde, Leipsic, Leopold Voss, 1911.

Lazarus: Radiumemanation, Deutsch. med. Wehnschr., 1911, No. 18, Vereinsberichte.

Eichholz: Ueber Aufnahme and Abgabe von Radiumemanation, Deutsch. med. Wehnschr., 1911, No. 18.

London, I. S.: Das Radium in der Biologie und Medizin, Leipsic, Akad. Verlagsgesellsch., 1911.

Eichholz: Absorption der Radiumemanation im menschlicher Körper, Deutsch. med. Wchnschr., 1911, No. 3.

Sommer, Y.: Heilquellenactivität, Schweiz. Cor. Bl., 1910, No. 6.

EXPERIMENTAL INTESTINAL OBSTRUCTION

REPORT OF FURTHER PHYSIOLOGIC, CYTOLOGIC AND CHEMICAL STUDIES *

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In general, those things which we see in mass are most certain to fix attention. The mucous lining of the dog's small intestine spread over 3 meters of tubular surface is more apt to be thought of in microscopic than in macroscopic terms. Possibly this is why certain of its functions relating to the animal economy may have been overlooked. Yet, in weight and, as some believe, in metabolic importance of secretions, it is the analogue of other great glands of the body. Its weight ratio to the thyroid is about as 7 to 1, and to the pancreas as 3 to 4. Its part in the balancing of metabolism has been overshadowed by its more obvious though measurably less important digestive function. It differs from other glands, not alone in its tesselated length, but in having a less free vascular interchange throughout its long course. What peculiar conditions as to function do these morphologic characteristics impose? If any, are they of significance in the perverted condition following intestinal obstruction?

On the other hand, take a spherical gland like the thyroid, for example; how are its cells activated to like function in like time? What more convenient method than by the interwoven blood-stream with its hormones and varying coefficients of osmotic pressure? How different seems the arrangement of the intestinal mucosa!

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[14] Kionka: Die Radioaktivität der Mineralwasser, Deutsch. med. Wchnschr., 1911, No. 17.

[15] Fofanoff: Ztschr. f. klin. Med., lxxi, Nos. 3-6.

[16] Loewenthal and Wohlgemut: Biochem. Ztschr., 1909, p. 476.

[17] Silbergleit: Berl. klin. Wchnschr., 1909, No. 26.

[18] Strasburger: Behandlung mit Radiumemanation, München. med. Wchnschr., 1911, No. 15; Deutsch. med. Wchnschr., 1911, No. 17.

[19] Loewenthal: Deutsch. med. Wchnschr., 1910, No. 44, "Ueber Nessmethoden u. Einheiten in der Biolog. Radiumforschung.

[20] Mendel, Felix: Die Emanationstherapie mittels intramuskularer Radiogen Injectionen, Deutsch. med. Wchnschr., 1911, No. 5, Vereinsber.

[21] Strasburger: Deutsch. med. Wchnsch., 1911, No. 12; München. med. Wchnschr., 1911, No. 15.

[22] Fürstenberg and Klemperer: Deutsch. med. Wchnschr., 1911, No. 5, Vereinsber.

[23] Kemen: Gicht u. Radiumtherapie, Petersb. med. Wchnschr., 1911, No. 13.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Laboratory of Surgical Chemistry and Physiology, Rochester, Minn. Continuation of studies begun at Columbia University, New York, and reported before the Johns Hopkins Medical Society, March, 1909. (Am. Jour. Med. Sc., May, 1909.)

§ J. W. Draper Maury has taken the name John William Draper

From these epithelial cells we know that the blood carries certain bodies which stimulate certain secretions.[1] This is a recently acquired habit and a highly specialized function, though older and less specialized than either sympathetic or central nerve control. Blood-stream messengers were doubtless used by our acardiac ancestors, for Draper[2] demonstrated nearly seventy years ago that hearts were a secondary contrivance and quite unnecessary to the maintenance of circulation. A more remote ancestral method of interglandular communication may have been the bathing of one pavement cell by the secretion of its next fellow. This method of stimulation in vertebrates is universally recognized in the activation of trypsinogen by enterokinase. Do not certain other substances follow the path of habit and of least resistance through the intestinal lumen? Surely, the experimental studies of Roger,[3] Matthews[4] and Pilcher[5] as well as our own, suggest this view. Furthermore, what other significance is to be attached to the terminal arrangement of the circulation in the small intestine? Free and lavish as is this blood-stream, its avowed architectural plan seems throughout the vertebrates merely for the purpose of hastening great volumes of blood to and from the intestine at the digestion period. Direct vascular interglandular communication appears minimized—definite lateral communication must have been provided had it been found functionally advantageous or necessary.

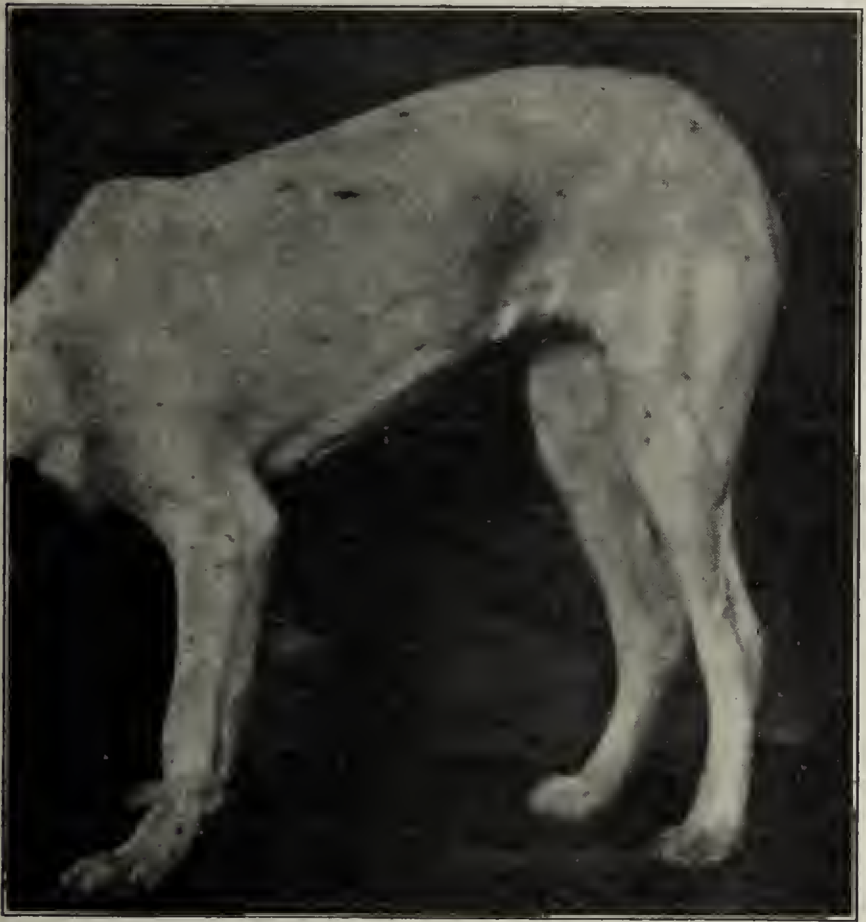

Fig. 1.—Animal in late hours of untreated duodenal obstruction. Posture is due to tonicity of hind leg muscles. Often walk on hind toes. Tendon reflex exaggerated.

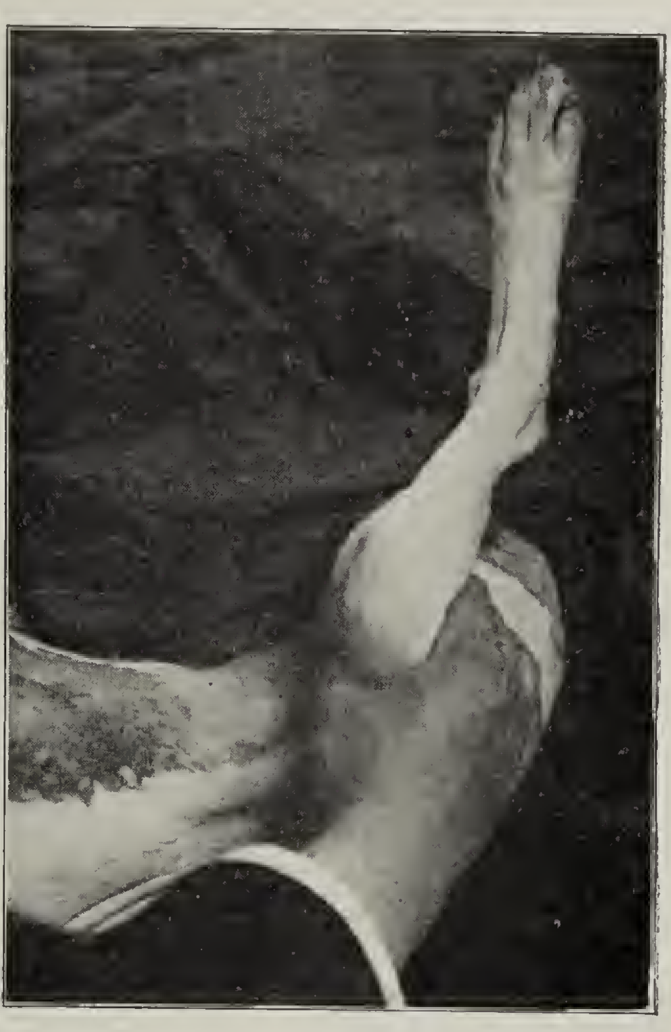

Fig. 2.—Relaxed hind leg of duodenally obstructed dog. Note that toes are together. Hand grasping thigh, gently.

Embryologically, as Schulz[6] says, the analogues of the digestive tracts of the higher forms are first met with in mollusca. This relationship must not, however, be thought of as too close, because, among other things, so important an element as pepsin, for example, has not yet been positively identified in the invertebrates. It is significant, however, and germane to a study of obstruction that the great mid-gut gland of mollusks, although it contains glycocoll and is commonly looked on as liver, partakes at least as much of the nature of the vertebrate pancreas as of liver. Necessarily, being the chief organ both of assimilation and of digestion, it also functionally resembles our own highly specialized intestine. Originally there existed a free channel of communication between the cells of this gut-hepato-pancreas—a sort of general cellular washway. In vertebrates, however, a wide anatomic separation of the gland units (the liver and pancreas) with resulting ducts, has restricted the primitive method of cell-bathing to the intestine alone.

These abstract considerations are valuable because of their vital importance in every-day work. If we would seek for the cause and relief of human ailments, recourse must be had for intelligent hypotheses, not in purposeless leaps in the dark, but in the friendliest possible adaption of both our phylogenetic and ontogenetic evolution to experimental thought.

The belief that death in duodenal obstruction is caused by the actual interruption of enteric exchange thus seemed logical. What had been put together through untold ages of striving by millions of ancestral species could not without quick fatality be rudely set apart. Walter Cannon, in a personal note, justly complains that certain of us have too long looked on the alimentary canal as a highly ingenious contrivance of rubber tubes to be spliced and lopped at will. In the same connection, Pavlov[7] says, "The digestive process is a synthetic construction, all parts of the organism working together." The human animal in altruism and in intelligence surpasses all others. Physically, however, even among the invertebrates, as Schaler[8] says, man has many superiors. His glandular functions, as shown by Starling,[9] are as subject to the first-formed primitive influences as are those of any other vertebrate. How close is the relationship between biology and executive medicine! Finney's[10] conclusions as to the fundamental importance to surgery of a biochemical rather than a purely mechanical interpretation of the problems of gastro-intestinal perversions, are certainly pointed and timely.

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[1] Bayliss and Starling: Chemical Regulation of the Secretory Process, Proc. Roy. Soc., 1904, lxxiii, 310.

[2] Draper, J. W.: The Chemistry of Plants, 1845, p. 37.

[3] Roger, H.: L'occlusion intestinale, Presse méd., Jan. 4, 1911, p. 1.

[4] Matthews, S. A.: One of the Functions of the Duodenum, The Journal A. M. A., July 23, 1910, p. 293.

[5] Pilcher, J. T.: Cause and Relief of Pain in Duodenal Ulcer, Am. Jour. Med. Sc., 1911, cxii, 687.

[6] Schulz, F. N.: Handbuch der Biochemie (Oppenheim), iii, Part 1, 228.

[7] Pavlov: Work of the Digestive Glands, p. 167.

It was not then by fortuitous guess that we began to feed the mucosa of the jejunum and ileum of one dog into the stomach and short intestinal segment of a duodenally obstructed dog. A reestablishment of the hypothetic simple signals of our primitive ancestors by putting together what the obstruction had taken apart should theoretically restore physiologic equilibrium and thus delay death. In a measurable degree this proved true.

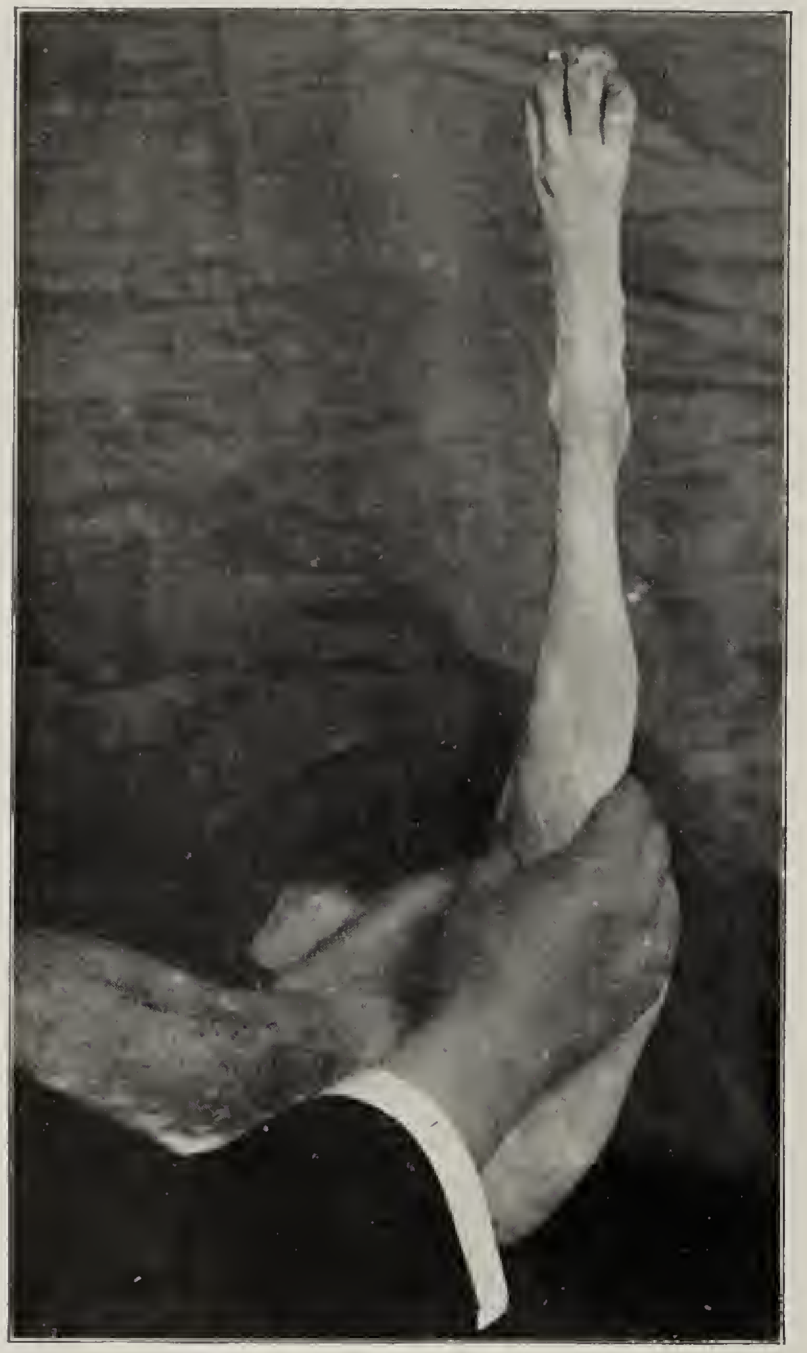

Fig. 3.—Spasm of leg shown in Figure 2, caused by pressure of fingers. This can be produced in normal dogs, but not so constantly. Toes separated.

Is there anything new under the sun? That the ancient Greeks attached a high sacrificial value to the entrails is humorously suggested by the following lines from Homer:[11]

"They taste the entrails* and the altars load
With smoking thighs."

This method of epithelial medication has in part answered the question suggested by earlier studies, "Does the intestine detoxicate by the addition of an antienzyme or does it save life by offering a larger field for absorption?" It is also germane to Bolognesi's[12] thoughtful studies on the chemistry of the blood in intestinal obstruction.

As in the case of delayed chloroform poisoning, the muscular twitchings spoken of by Howland[13] and Whipple[14] were good clinical evidence of the degree of obstructive toxemia.

The posture which was due to the tonic spasms of the hind extremity muscles was frequently characteristic. So also was the carriage of the hind leg in walking. It is not unlike the swing of paraplegia in man. If death be due to glandular inactivation, the various coefficients of the pulse should afford reliable measures of the intoxication, for Rogers,[15] quoting Loeb, thinks that the heart-beat itself may be due to enzyme action. Adult dogs seem to have as unstable thermo-dynamics as young humans.

TABLE 1.—SERIES A; DOGS FED MUCOSA *

NO. OF DOG	AVERAGE PULSE RATE	HRS. LIVED AFTER OBSTRUCTION	REMARKS
6	---	120	First dog fed Mucosa;only moderately sick.
8	---	127	Moderately sick.
20	148	103	Animal was a pup seemed resistant to toxemia,rapid emaciation.
40	146	174	Operated on at end of168 hrs.for gastroenterostomy. death in 6 hrs.
45	114	102	Operated on at end of 96 hrs. for gastroenterostomy. death in 6 hrs.
49	160	120	Pulse rose from normal to 180 in 15 hrs. Animal very toxic.
63	144	127	Peculiar condition:abduction of outer toe clonic spasms,rapid emaciation.
72	123	163	Operated on at end of 6th day for gastroenterostomy. died in 19 hrs.
75	140	180	Mucosa stopped at end of nine days Spontaneous intestinal fistula.
78	109	150	Very marked muscular tremors.
94	140	102	Condition very good throughout.
99	138	118	Condition good up to last 24 hrs. when marked tremors began.
112	128	57	Very marked tremors.condition good.
116	151	102	No tremors but marked rigidity of hind-quarters.
117	146	102	Condition good but animal extremely weak.

13 |1787 -15|1847
137=Av.P.—123=Av.length-of-Life-when-fed-Mucosa

* In several animals a late gastro-enterostomy was made in hope of saving life. Futile because too much toxemic damage had already been done.

Hence, the rectal temperature has not appeared to be a reliable guide. It was usually but little changed by uncomplicated duodenal obstruction. Length of life, measured in hours after obstruction, obviously afforded the surest index of the efficacy of any form of treatment.

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[8] Schaler, N. S.: The Individual, p. 126.

[9] Bayliss and Starling: Uniformity of Pancreatic Mechanism of Vertebrata, Jour. Physiol., March 16, 1903, p. 174.

[10] Finney, J. M. T.: Some Problems in Gastro-Intestinal Surgery, The Journal A. M. A., June 3, 1911, p. 1625.

[11] Homer: Odyssey, Book iii, line 12.

* Presumably the liver and heart.

[12] Bolognesi, Giuseppe: Recherches physico-chimiques du sang dans l'occlusion intest. exp., Jour. de physiol. et path. gen., March 15, 1911, xiii, No. 2.

[13] Howland and Richards: Jour. Exp. Med., 1909, ll, 344.

[14] Whipple, G. H.: Chloroform Poisoning, Liver Necrosis and Repair, Johns Hopkins Hosp. Bull., xx, No. 222.

[15] Rogers, C. G.: Am. Jour. Physiol., xxviii, No. 3.

METHODS

Two series of fifteen dogs each have been prepared as follows: Under profound ether anesthesia in each case, the duodenum has been sectioned and infolded just aboral to the major pancreatic duct. All animals were treated exactly alike as regards dressings, postoperative care and free access to water. In Series A, however, each dog was given by mouth four times daily, about 30 c.c. of a watery suspension of mucous membrane scraped from the jejunum and ileum of healthy dogs which had been sacrificed by chloroform for the purpose. Approximately 400 c.c. of water were added to the entire scrapings and it was found that this suspension would keep on ice for about five days. No effort at standardization was made, but it was early observed that immediate treatment seemed more important than size of dose or later treatment.

One is tempted to speculate on the fate of numerous colon bacilli thus transplanted to unusual regions from the terminal ileum. Surgical introduction of such bacteria by implantation of a segment of the bacillus-bearing ileum into the duodenum had no visible clinical effect on two healthy dogs.

TABLE 2.—SERIES B: DOGS NOT FED MUCOSA *

NO. of DOG	AVERAGE PULSE RATE	HRS. LIVED AFTER OBSTRUCTION	REMARKS
1		60	Characteristic attitude of obstructed dog
2		72	
18	168	54	Characteristic attitude.
55	171	54	Tremors, high pulse, rigidity very marked.
57	175	126	Pulse high and rapid, animal very resistant to toxemia.
58	162	90	Marked rigidity and rapid pulse.
70	146	103	Marked tremors, spasticity violent reaction 14 hrs. after operation.
86	175	104	Very high irregular pulse, marked tremors.
87	161	78	High pulse condition excellent. walked up three stairs 12 hrs. before sudden death.
88		103	Marked tremors of whole body. Too vicious to take pulse.
89	194	54	Extremely high pulse but no rigidity or tremors.
90	194	30	Very high pulse but did not appear sick.
91	161	140	A young pup, very resistant to toxemia.
92	179	165	Marked tremors but condition otherwise good.
93	152	78	Very powerful dog shows relation between vital and physical strength.

12 | 2038 - 15 | 1311
170-Av.P. 87-hrs-Av.-length-of-life.

* The largest, strongest dogs were often the first to die. Physical strength no safeguard against obstructive autotoxemia.

In this connection the brilliant work of Moraschi, Ruiz and Natale[16] of Buenos Ayres should not be forgotten. They have shown conclusively, by injection into rabbits, that the intestinal contents from the obstructed segment became less toxic directly as the obstruction neared the rectum. While the obstructed duodenal contents were the most toxic, the feces of the sigmoid were definitely the least toxic of all. This intoxication these authors would attribute to a symbiotic action of the bacteria.

This is a totally new conception, for prevailing opinion until recently has been that these bacteria themselves were the source of the fatal toxemia. The impression that we have gained, however, is that the bacteria were facultative parasites and that at least the major part of detoxication was accomplished by the epithelial cells themselves. Orojejunal regions which bacterially are almost sterile have well defined power to limit the toxemia of obstruction.[17] It is not easy to see why this primitive autogenous function, on the existence of which the interpretation of our provisional results is based, should have been relinquished by the cells most directly concerned, to be turned over to parasitic cells of alien species. It presupposes a true obligate symbiosis which is confessedly rare in nature.

There is another point; if these bacteria played so very important a part in intestinal metabolism, the giving of large doses of calomel, which Baumann[18] proved to have the power of suspending bacterial action, should be followed by quite remarkable changes in the host. Ought not the healthy to fall sick and the obstructed to recover promptly? Still another point tending to refute the bacterial origin of the toxemia has

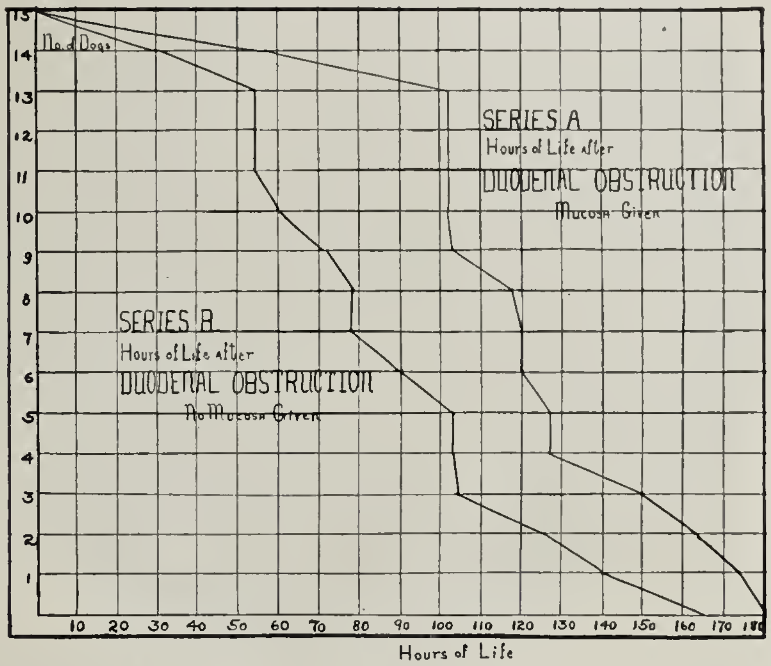

Fig. 4.—Graphic chart showing that the effect of epithelial medication is noticeable during the first 100 hours only of obstruction. This fact and the parallelism of the subsequent charts strongly suggest a biologic reaction. Average difference in length of life between treated and untreated animals was thirty-six hours.

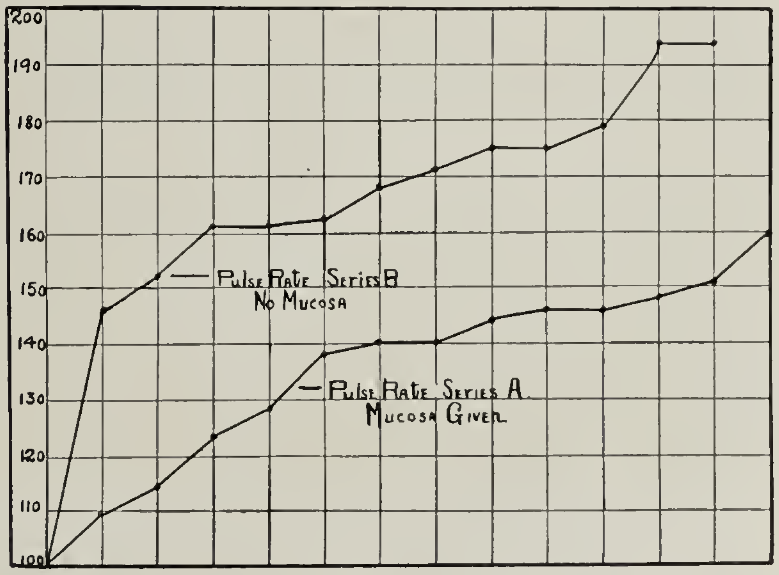

Fig. 5.—Graphic chart showing average pulse-rates in treated and untreated animals from operation until death. Note parallelism after initial separation of charts. Average lowering in pulse, 33 beats. Onset of high pulse usually within eighteen hours of operation. Too early for bacterial toxemia.

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16. Moraschi, Ruiz, Natale: El proceso de la digestion y la toxicidad del contenido intestinal (Occlusiones experimentales hipotoxia fecal relativa), Sem. méd., Buenos Ayres, 1909, p. 1603.

17. Draper, Maury: Intestinal Obstruction. An Outline for Treatment Based on Cause of Death, Am. Jour. Med. Sc., May, 1909, cxxxvii, 725.

18. Baumann: Ztschr. f. physiol. Chemie, 1886, x, 123.

been made by Frank Wood, who says (personal communication): "We not infrequently see cases of fecal vomiting, in which, as soon as the obstruction is relieved, the patients recover promptly."

However this may be, those interested in the subject certainly owe a debt of gratitude to Roger and his pupils, who were the first to call our attention to the autogenous origin of obstructive toxemia. Whatever helpful parts the bacteria may or may not play, it is a healthful sign of progress that they have been relegated to minor positions in the consideration of death in duodenal obstruction. Emancipation is welcome from the hereditary text-book dogmas of "nervous influences," "shock," "stagnation of contents" and "passage of bacteria and bacterial products through the stretched intestine." These interesting symptoms should be set aside in favor of the underlying modern conception of glandular interaction, interference with which is probably the fundamental cause of obstructive death.

Jejunal and ileac mucosa, if capable of prolonging life and lowering the heart-beat in duodenally obstructed dogs, might reasonably be expected to modify any cellular tissue changes produced by the toxemia. One might expect such changes to be seen in the liver. So widely differing, however, is the morphology of the liver-cell under what appear to be normal conditions that we have as yet been unable to determine, with any degree of certainty, that duodenal obstruction caused any visible changes in the liver-cells. E. T. Bell[19] of the University of Minnesota has shown that the amount of fat present in a liver varied widely with the amount and quality of feeding.

How reliable an index of function, therefore, the presence or absence of morphologic changes in an organ might be after duodenal obstruction remains to be seen. Schlutz[20] has recently worked on a newly devised chemical method which Tollens[21] hopes may ultimately add to our knowledge of liver function. Dr. Schlutz suggested its possible usefulness in these studies, and I have the privilege of reporting his provisional findings.† The method deals with the quantitative determination of glycuronic acid. This substance combines with certain poisons, notably camphor, and this pairing or detoxicating is thought to take place entirely in the liver. By giving camphor hypodermatically, therefore, it seemed possible to find some true index of the functional condition of the liver before and after duodenal obstruction.

TABLE 3.—EXPERIMENT 1. DOG 30. EXCRETION OF NITROGEN *

Date of Exp.	Length, Hours	Vol. of Urine c.c.	Total N gm.	Urea N gm.	Ammonia N gm.	Urea and NH_3 N gm.	Creatinin N gm.	Creatin N gm.	Creatinin and Creatin N gm.	Undeter. N gm.	Per Cent. of Total Nitrogen						
											Urea	Ammonia	Urea and NH_3	Creatinin	Creatin	Creatinin and Creatin	Undeter. N
5/5–6	23	520	13.60	10.4160	0.3998	10.8158	0.1830	0.2270	0.410	2.3472	76.58	2.20	78.78	1.346	1.670	3.014	18.205
5/6–7 †	25	460	15.40	11.060	0.580	11.640	0.210	0.280	0.490	3.270	71.81	3.76	75.57	1.364	1.819	3.182	21.248
5/7–8	25	350	14.0	12.46	0.414	12.874	0.210	0.288	0.498	0.628	88.99	2.95	91.94	1.50	2.057	3.557	4.503
5/8–9	18	282	12.40	11.08	0.340	11.420	0.137	0.333	0.470	0.5098	89.35	2.74	92.09	1.103	2.685	3.789	4.1214
5/9–10‡	25	246	9.30	7.21	0.168	7.3780	0.1954	0.1298	0.3252	1.5968	77.52	1.8064	79.33	2.101	1.395	3.447	17.177
5/10–12§	47	325	12.20	9.10	0.680	9.780	0.2867	0.3318	0.6185	1.8015	74.59	5.5137	80.16	2.35	2.72	5.07	14.76

* Weight of this dog at beginning, 17 kg.; at end, ? † Five gm. camphor subcutaneously. ‡ Obstruction. § Cage—contaminated specimen. Vomitus mixed with blood and possibly urine or fecal matter. Total quantity, inc. wash water, 885 c.c.; total N, 6.797 gm.

TABLE 4.—GLYCURONIC ACID AND CAMPHOR-GLYCURONIC EXCRETION

Normal period = 1 c.c. of urine = 0.00081 gm. glycuronic acid.

Date of Exper.	Length of Period, Hours	Volume of Urine c.c.	Nor. Amount of Glyc. Acid gm.	Amount Act. Passed as Comb. Camph. Glyc. Acid gm.	Increase Over Nor. gm.	Per Cent. of Theoretical Total Excreted in 48-Hour Period
5/5–6	23	520	0.4222	......	......	5 gm. camphor = 11.20 gm. combined camphor-glycuronic acid.
5/6–7 *	25	460	0.3726	3.2195	2.8469	
5/7–8	25	350	0.2835	2.1144	1.8309	Preceding obstruction: Total excretion for a period of 48 hours after giving camphor = 4.6778 gm. or 41.76 per cent. of a theoretical total of 11.20 gm. camph. glycuronic acid.
5/8–9	18	282	0.2284	0.6144	0.3860	
Operation	..	...	0.8845	5.9483	5.0638	
5/9–10	25	246	0.1992	0.5904	0.3912	Following obstruction: Total excretion for a period of 47 hours after giving 5⅓ gm. camphor =3.2498 or 27.19 per cent. of a theoretical total of 11.95 gm. camph. glyc. acid.
5/10–12†	47	325	0.2362	3.4860	3.2498	
....	..	...	0.4354	4.0764	3.6410	

* 5 gm. camphor subcutaneously. † 5⅓ gm. camphor at beginning of period.

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[19] Bell, E. T.: Anat. Rec., May, 1910, iv. Also article soon to be published in Internat. Monatschr.

[20] Schlutz, F. W.: Die Fraction der Aminosauren im Säuglingsharn, Jahrb. f. Kinderh., lxxii, 97, 1910; Das Verhalten des Kamphers im Organismus des Säuglings, Ztschr. f. Kinderh., i, No. 2, p. 197.

[21] Tollens: Ueber Glucoronsaure u. Aetherschwefelsauren im Menschlichen Harn., Ztschr. f. physiol. Chemie, 1910, lxvii.

† From the Laboratory of Physiology, University of Minnesota.

In the single study of Schultz completed to date the tables showed, first, that the nitrogen metabolism during camphor administration was well within the normal, both before and after duodenal obstruction; second, that the glycuronic camphor pairing decreased from 41 to 27 before and after obstruction. This may indicate that the liver function had been impaired.

SUMMARY OF RESULTS

1. Epithelial cells of jejunum and ileum given by mouth to duodenally obstructed dogs prolonged life in a series of fifteen animals by about thirty-six hours over a similar series to which they were not given.
2. The average pulse-rate of the treated dogs was thirty-three beats lower than that of the untreated.
3. The belief that we were dealing with a cytologic product was strengthened by the trend of the charts. These showed that beneficial action occurred early, just as in the case of any successful treatment by antibodies.
4. The chemical determinations in one animal showed a normal nitrogen metabolism after duodenal obstruction and suggested a decreased functional power of the liver in terms of glycuronic camphor.
5. This series is far too small to justify any positive conclusions. Its value is simply that of a suggestive working basis.

THE USE OF CALCIUM CARBONATE IN SOLID MEDIA FOR THE DIFFERENTIATION OF SUGAR-FERMENTING BACTERIA

ESPECIALLY OF THE COLON-TYPHOID GROUP *

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Media containing lactose with litmus as an indicator for acidity have been extensively used for growing the colon bacillus and differentiating it from closely allied organisms. This type of medium is well exemplified in Wurtz's lactose litmus-agar which consists of a 1 per cent. lactose-agar colored with litmus. These media have several defects, chiefly due to the rapid diffusion of the acid, causing a general reddening of the adjacent medium. This necessitates having plates with few colonies and examining and counting while the colonies are still small. Also gas formation often occurs, ruining the plate.

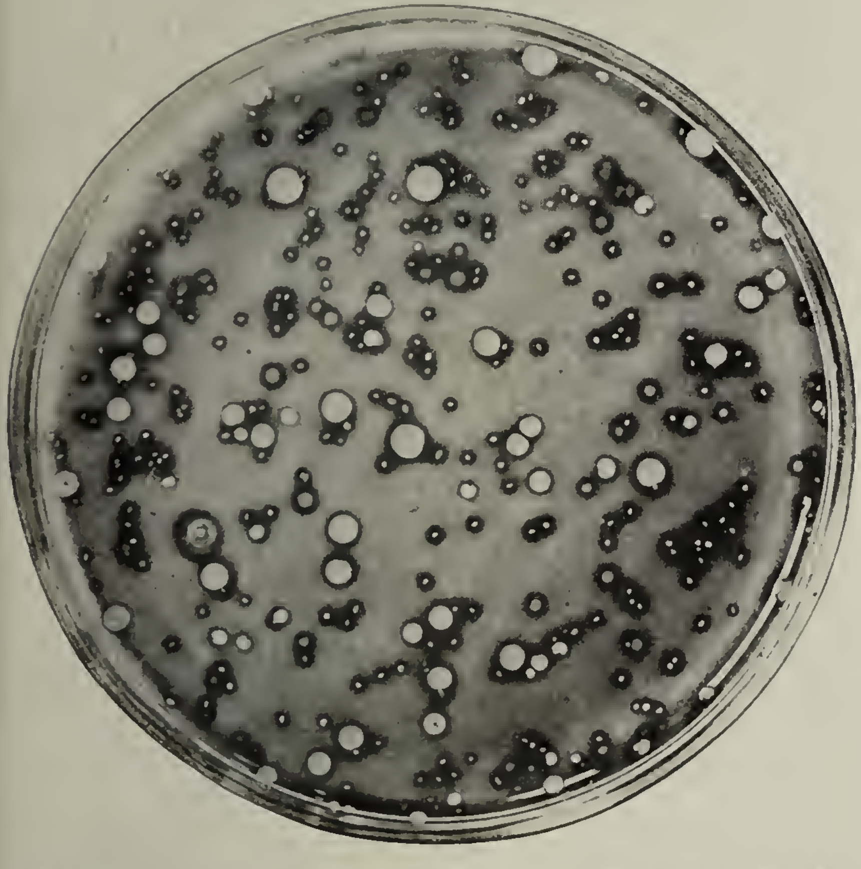

Fig. 1.—Culture of the colon bacillus, showing the clear area about each colony, where the chalk has been dissolved by the acid.

To overcome these disadvantages, media consisting of stiffer agar have been devised, on which surface smears are made. This is the type of the Conradi-Drigalski medium, which consists of a special nutrient 3 per cent. agar, to which crystal violet is added as an inhibitor for less resistant organisms than the typhoid bacillus.

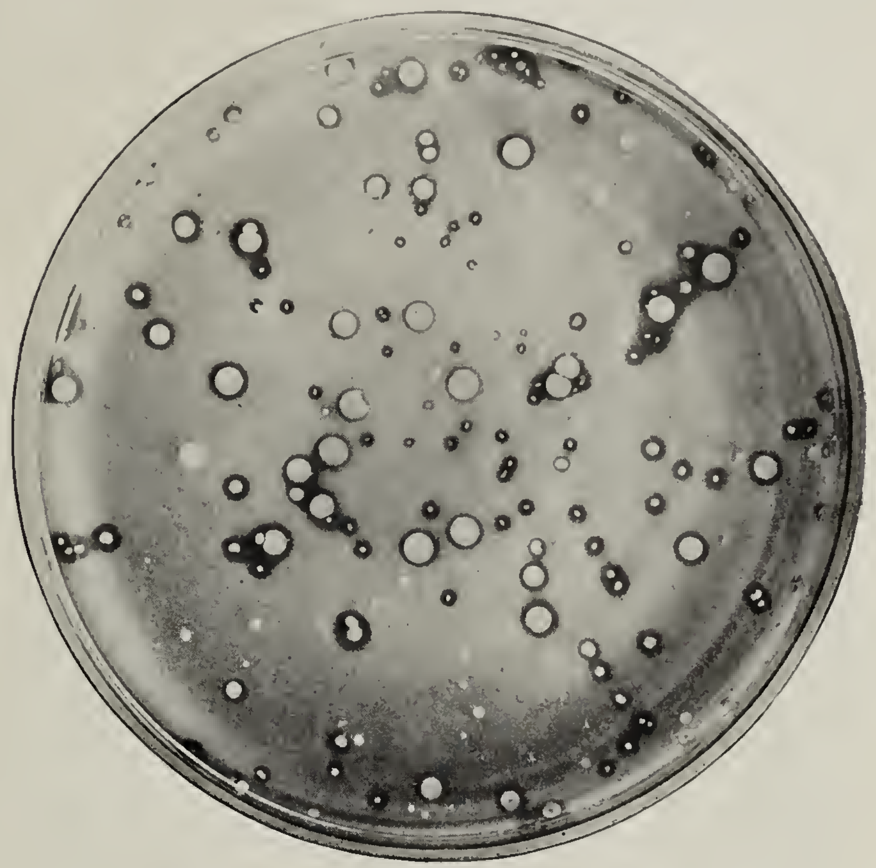

Fig. 2.—Mixed culture of the colon and typhoid bacilli. About each colon colony there is a clear, translucent zone, appearing as a black zone in photograph on account of plate being placed against a black background. This transparent zone is absent about the typhoid colonies.

With the intention of limiting the diffusion of the acid formed by the splitting of the lactose, I began to experiment by adding various alkalies to the medium. But such alkalies as NaOH and $NaCO_3$ when added in sufficient quantities had a deleterious effect on many of the organisms, and besides colored the medium an intense blue, which completely masked the production of alkalies, which production is of value in identifying typhoid colonies and those of the organisms of putrefaction.

A neutral agar was desired in which the acid produced by the fermentation of the sugar would be neutralized in order to prevent its diffusion. This result can best be obtained by using an insoluble alkali or alkaline salt.

The simplest and most efficient of the insoluble alkalies seems to be calcium carbonate — precipitated chalk. Being an impalpable powder, it is readily distributed throughout the medium, it exerts no inhibition on the organisms, is readily obtainable everywhere, and is inexpensive. Furthermore, the chalk in combining with the acid is dissolved; hence acid-forming colonies are surrounded by a clear zone. This clearing of the medium is a valuable aid in recognizing acid-forming colonies.

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* From the Department of Bacteriology, College of Physicians and Surgeons, Columbia University.

The medium consists of:

	Gm. or c.c.
Agar	15
Liebig's extract	5
Salt	5
Peptone	10
Lactose	20
Calcium carbonate	4
Litmus solution	100
Water	1,000

The agar, Liebig's extract, salt, and peptone are dissolved in one liter of water either in the autoclave or over the free flame. This is then cleared with the whites of two eggs and filtered through cotton. No titration or adjustment of reaction is necessary. The medium should then be flasked, 250 c.c. to a flask preferably of 500 c.c. size. One gm. of powdered calcium carbonate is then added to each flask, and the whole sterilized in the autoclave. Finally to each flask is added 25 c.c. of Kahlbaum's aqueous litmus—according to Kubel and Thieman—(or an equal quantity of a solution of azolithmine); and 5 gm. of chemically pure lactose. Tube by pouring direct from flasks to tubes, keeping contents well mixed. Sterilize in an Arnold sterilizer for fifteen minutes on three consecutive days.

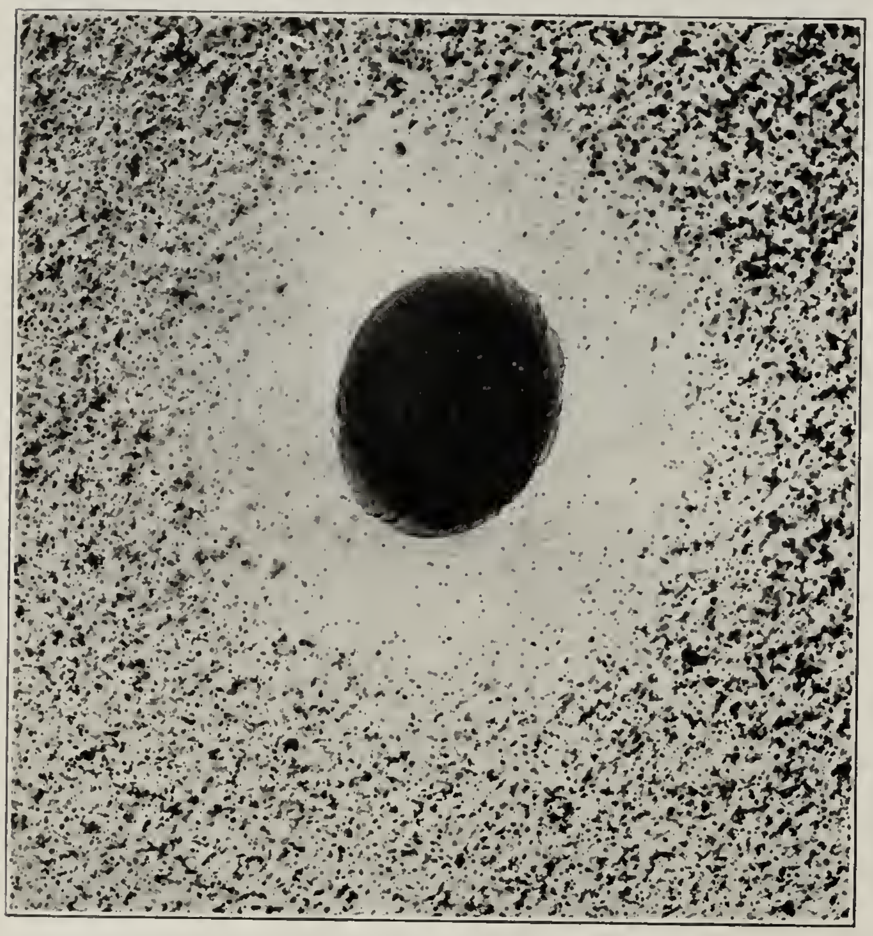

Fig. 3.—Deep colon colony, showing clear area.

In using this medium either surface smears may be made on plates or the tubes inoculated and poured. For most uses the poured plates give best results. To obtain a uniform distribution of the chalk throughout the medium, the tubes should be rolled rapidly to and fro between the palms of one's hands, and then by alternately depressing and raising the plugged end of the tube combining this with a rotary motion. This mixing should be done as soon as tubes are melted and while still hot. They are then cooled to 42 C. They may then be inoculated and poured.

Inoculated plates may be incubated fourteen to forty-eight hours at 37 C., or from two to five days at room temperature. Usually eighteen to twenty-four hours at 37 C. gives best results.

Acid production in this medium is shown by:

1. Dissolving of the chalk about the colony due to its combination with the organic acids.

2. Reddening of the colony due to the litmus.

3. Microscopically by the deposition of crystals of the calcium salts of the organic acids.

Differentiation between colon and typhoid colonies on this medium is readily made.

COLON COLONIES

1. *Surface.*—These are large disk-shaped colonies, slightly depressed in the media. There is a variable amount of clearing about them due to the solution of the chalk. The extent of clearing depends on the length of time the plates are incubated. Microscopically on focusing up and down, the chalk is seen to be dissolved just below the colony and about its periphery. Crystals of the calcium organic acid salts are usually seen.

2. *Deep.*—These are rounded or spindle-shaped, showing a very distinct clearing of the chalk for a considerable area about the colony.

TYPHOID COLONIES

1. *Surface.*—These are large white or bluish-tinged colonies showing no clearing of the chalk. Microscopically the amorphous granules of the chalk are seen to be both within and about the colony. No crystals of the organic salts are present.

2. *Deep.*—These are distinct colonies lying embedded in the chalk without solution of the chalk occurring.

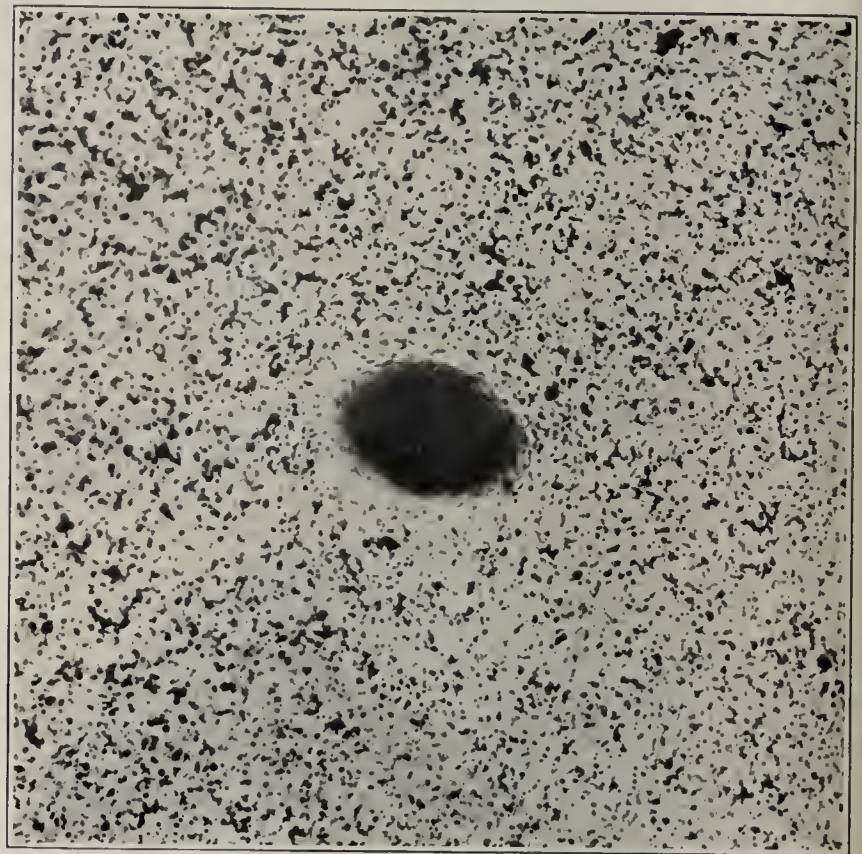

Fig. 4.—Deep typhoid colony.

For isolating the typhoid bacillus from feces, sewage, or contaminated water, 1 per cent. lactose and 1 per cent. saccharose may with advantage be substituted for the 2 per cent. lactose. Plates should be incubated fourteen to twenty hours at 37 C. Suspected typhoid colonies should be fished and inoculated into Hiss tube media or other suitable media for identification. I have on several tests isolated typhoid bacilli direct from the feces without enrichment.

The advantages of this medium are:

1. Neutralization of the acid as it is produced.

A. Crowded or well-diluted plates may be used with equal advantage.

B. The period of incubation is not limited.

C. Gas formation is greatly lessened, probably owing to the neutralization of the acid as soon as it is produced, thereby preventing it from being further broken down.

D. Acid formation is more clearly shown and its extent may be gauged.

2. Simplicity of the medium:

A. Stock meat extract agar may be used by simply adding chalk, lactose, and litmus.

B. The medium is neutral in reaction without titration or adjustment. The acidity of the meat extract is neutralized by the chalk, giving a neutral agar on which slight alkalinity or acidity is readily shown.

This type of medium may be used in growing and identifying any organism in which the fermentation of any sugar is the basis of its differentiation. For some organisms such as the pneumococcus and streptococcus, meat infusion agar may be substituted for the meat extract agar. Any of the sugars may be used instead of the lactose. The percentage of sugar may be varied from 1 to 5 per cent.

In conclusion I desire to acknowledge my indebtedness to Prof. P. H. Hiss for many valuable suggestions, and to Mr. Bosse for the accompanying photographs.

409 Broadway.

PINNING FRACTURES THROUGH A CANNULA WITH THE AID OF THE FLUOROSCOPIC SCREEN *

ROBERT T. MORRIS, M.D.
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NEW YORK

Last year I had occasion to remove a pin from a bronchus with a pair of alligator forceps inserted through the trachea. The fluoroscopic screen was employed for watching the movement of the forceps within the chest cavity. An account of this procedure was published in *Surgery, Gynecology and Obstetrics*, May, 1910.

It occurred to me at the time that if pins could be removed so easily with the aid of the fluoroscopic screen a reversal of the process might allow pins to be put in with facility in certain fractured bones which are not readily kept in place with splints.

At the present time I am engaged in experimental work along this line of observation, and publish a preliminary note on the subject quite as much for the purpose of pointing out difficulties in some cases, as in showing how this resource facilitates our work in other cases. We are now enabled to avoid open operation in certain cases in which open operation is otherwise indicated, and we can hold the ends of fractured bones in position in some annoying cases in which open operation would not be quite justifiable.

The work can be done in large part with such instruments as most surgeons have at hand, but it has seemed best to make up a case of instruments particularly adapted for the new work. A special table also was constructed with various slides, so that any part of the anesthetized patient could be conveniently exposed to the x-ray in front of the fluoroscopic screen. Dr. L. Kast made the first helpful suggestions in ways for using the fluoroscope for this work, and Dr. Howard T. Lewis, under the direction of Dr. F. H. Albee, has assisted in much of my work and in planning conveniences.

In fractures of the smaller bones the fluoroscopic part of an ordinary fluoroscope can be detached and used to better advantage than the large screen.

The instruments consist of trocars and cannulas, which are inserted obliquely to points of fractures; bone-drills for cutting channels for dowel-pins; tampers for pressing dowel-pins into place; an alligator forceps for removing badly placed dowel-pins; and segments of silver or German-silver wire of different diameters, to be cut up into requisite lengths with the file for dowel-pins.

When a dowel-pin is to be inserted the patient is anesthetized. Up to the present time I have depended on general anesthesia, but shall use local anesthesia in selected cases after a little more experience.

The steps in order are as follows:

1. A proper area of skin is sterilized.
2. The fluoroscopic screen is held in a convenient position for observing the site of fracture.
3. One or more assistants make traction and manipulate fragments until they are seen to be in position.
4. A trocar and cannula are inserted through the skin, and carried obliquely to a chosen point near the site of fracture.
5. The trocar is removed, leaving the cannula in position.
6. A drill is passed through the cannula, and transfixes both fragments which are to be pinned.
7. The drill is removed, and a dowel-pin of suitable length dropped into the cannula.
8. The pin is pressed into place in the drill holes with the aid of a tamper.
9. The cannula is removed, and a trifling dressing applied over the skin puncture.
10. Customary splints are applied to relieve stress on the dowel-pin.

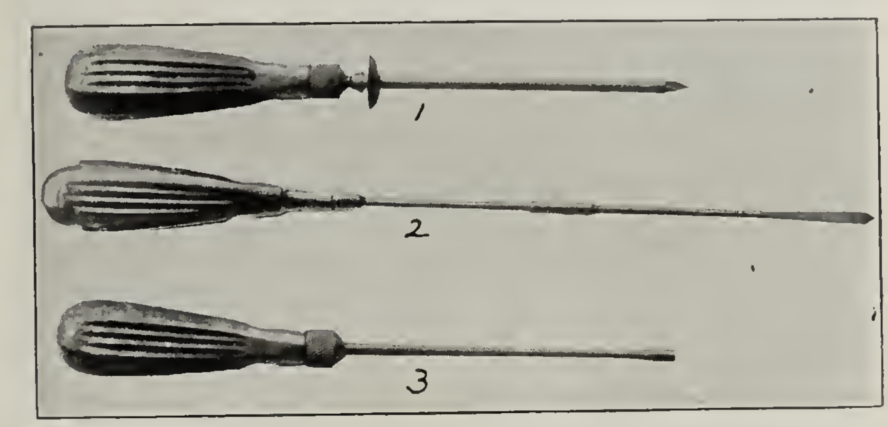

Fig. 1.—Three instruments of the special set (Kny-Scheerer Company, New York): (1) cannula and trocar with short point; (2) drill to fit snugly into the cannula and to project beyond its lumen; (3) tamper for pressing dowel-pins into place.

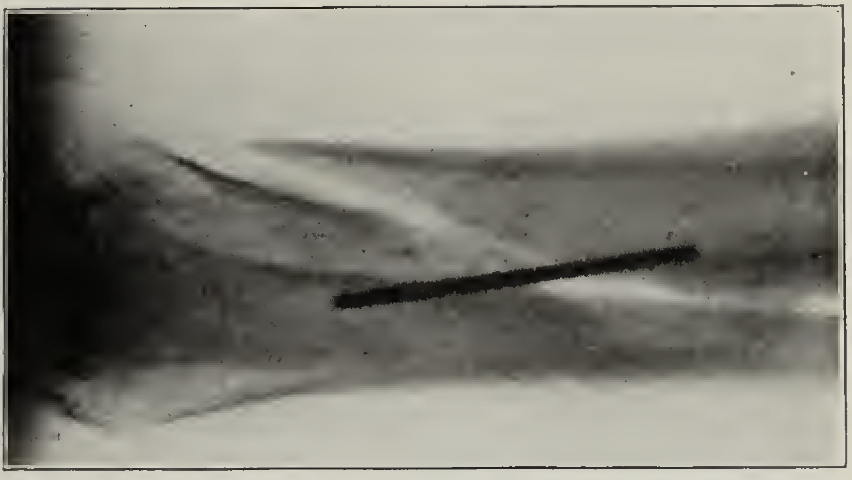

Fig. 2.—An accident to be avoided. Fragments were held accurately in position and pin appeared to be entered properly. This radiograph, taken next day, showed fragments out of position.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Now that surgery is leaving the interior organs and getting back to bones again, this simplification of method for fastening fragments together promises to become a resource of considerable value, in well-selected cases. The entire procedure of introducing the trocar and the cannula, drilling fragments, and putting in the pin, is observed through the fluoroscopic screen as though one were watching his work through a window.

Dowel-pins are supposed to be left permanently in place, and I have so far had to remove only one which worked out of a fracture of the neck of the femur after union had been obtained. The number of pins to be used in any given case and the length of pins will depend entirely on the judgment of the operator. For a fractured rib or clavicle a single pin less than an inch in length should commonly suffice. In fractures of larger bones I have used pins two or three inches in length. When we are dealing with a short fragment, easily rotated, as in fracture of the inner condyle of the humerus, two pins are likely to be required for accuracy of adjustment.

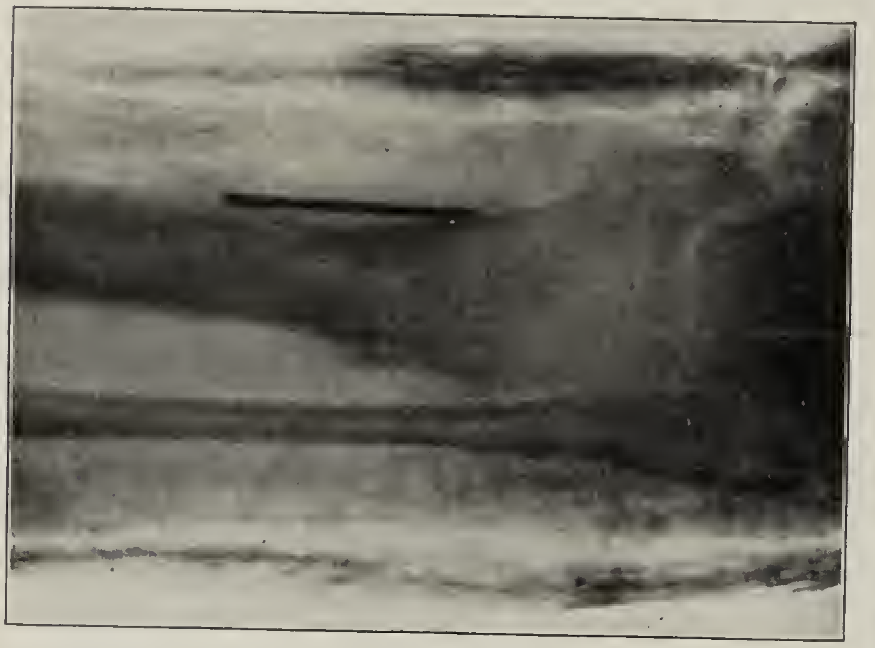

Fig. 3.—Same case as Figure 2; observation from another point of view showed pin not traversing fragments at all, but pushed alongside of tibia instead.

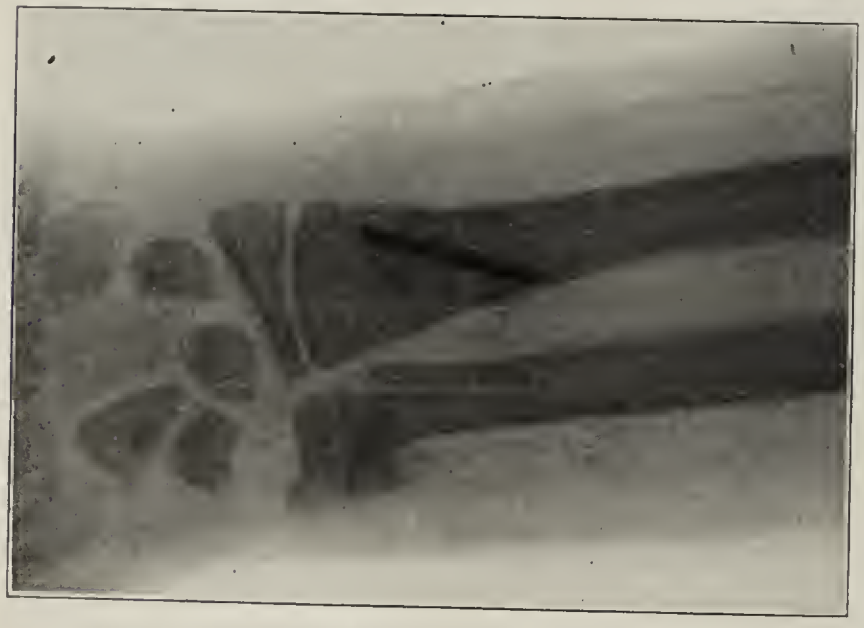

Fig. 4.—Pin appears to traverse both fragments of radius properly.

In cases in which fragments of smaller bones are not readily brought into position by assistants, an incision sufficient to allow the entering of a tenaculum or bullet forceps may be made (a refractory fragment is thus held in place), and the procedure is then completed with the aid of the fluoroscopic screen. This avoids the necessity for long incisions required for the introduction of Lane plates, and avoids extensive injury to soft tissues such as occurs in common methods of wiring fractured bones.

In one case of separation of the distal epiphysis of the humerus, and in another case of fracture of the radius with interposed tissue, it was necessary to abandon the work with the fluoroscopic screen and to make long open incisions, because neither traction nor manipulation, nor yet the use of fracture forceps, allowed the fragments to be brought into good position. I mention this point to show one of the limitations of the new method.

In a number of cases examined with reference to the idea of introducing dowel-pins, it was observed that ordinary splints sufficed to hold fragments in good position, and nothing further was attempted. It would have been meddlesome.

The chief accident likely to occur in the introduction of a dowel-pin is sliding the pin alongside of a bone instead of through the drill openings. This I have done twice, once in a spiroid fracture of the tibia (Figs. 2 and 3) and once in a fracture of the humerus. If one watches the fluoroscopic screen closely and has a clear picture, with the screen moved to two or three points of observation while he is at work, the accident is not likely to occur. It is best avoided by pressing the cannula against the bone with considerable force, and keeping it snugly in place between the moments of removing the drill, and of entering the pin.

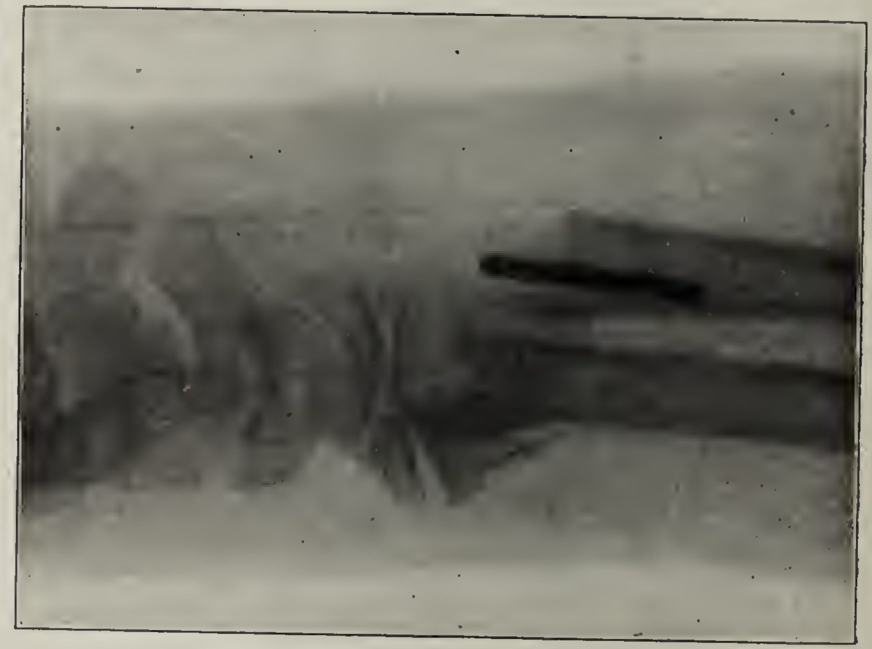

Fig. 5.—Same case as Figure 4; from another point of view. Pin traversing upper fragment of radius but missing lower fragment.

In Figures 4 and 5 the pin traversed the drill opening in one fragment properly, but missed the opening in the other fragment, even though I took away the screen, made a small incision, and then held the lower fragment in what appeared to be good position with a pair of bullet forceps.

One of these failures, illustrated in Figures 2 and 3, was due to observing the site of fracture from one point of observation only. In the other case (Figs. 4 and 5), with a small open incision, failure was due to my allowing the lower fragment to slip out of place at the moment when the pin was introduced, not using the screen for that point of procedure. No matter how well fragments seem to be kept in position with dowel-pins we must use the customary splints in addition, because during the period of osteoporosis pins might loosen under stress.

In old un-united fractures I have preferred up to the present time the long open incision and the use of Lane plates or wiring, for the reason that the ends of bones in such fractures usually need to be freshened. In selected cases of old un-united fractures I shall later experiment with dowel-pins, adding the resource of Bier (blood injection), but suitable cases for this experiment have not as yet been found in my clinic.

In cases in which we have interposed tissue, as for instance, in fractures of the patella, the dowel-pin will not be a proper resource, but it promises to have a field of usefulness in our every-day work.

The time for using the dowel-pin is ordinarily five or six days after the receipt of a fracture. At this time if we have used splints or extension apparatus, or both, exudates have undergone partial absorption, and the area is protected against infection by an established local hyperleukocytosis.

Just as this article is ready for the press, Dr. Kast suggests that accidents due to observing fracture sites from one point of view only, may be avoided by employing two *x*-ray tubes simultaneously, placing them at points which allow a view of fragments from two directions, without the necessity for changing the position of a fractured limb.

616 Madison Avenue.

EXPERIMENTAL AND CLINICAL WORK TO DETERMINE THE VALUE OF LANE'S BONE PLATING *

WILLARD BARTLETT, M.D., and W. R. HEWITT, M.D.
ST. LOUIS

A visit to Mr. Lane's clinic at Guy's Hospital inspired an inquiry into the practical utility of the traction appliance, one of the most ingenious mechanical procedures which has ever been adapted to surgical therapeutics. In pursuit thereof, thirty-four screws, about half of them infected, were driven into the long pipe bones of dogs, and withdrawn at intervals, varying from one hour to seventy-one days, to determine the force needed to dislodge them, it being presumed that our surgical interest in most fractures does or should cease in ten weeks if all goes well.

In addition fifty-two patients were operated on, at periods ranging from a few hours to eight months after the injury. A critical study of the results is undertaken after a lapse of from five weeks to one year, respectively.

REPORT OF EXPERIMENTS

Experiment 1.—Immediate withdrawal, small dog, March 18, 1911. No. 3 ⅜-inch screws.

	Pounds
Left femur	75
Right femur	74
Right humerus	78
Left humerus	90
Average	79¼

This animal died under the anesthetic, hence simply a preliminary test of resistance to withdrawal was made. The bones averaged about 1 cm. in diameter and the cortex about 2 mm. in thickness. I am indebted to Dr. Erlanger for suggesting a self-registering spring-balance which was used in this and all succeeding experiments.

Experiment 2.—Two days. Infected April 29, 1911. One No. 3, ⅜-inch screw in each femur and humerus. Medium-sized yellow dog. Tumor on lower jaw. No attention paid to asepsis; wounds not sewed up. Died May 1.

Dr. Garrey helped withdraw the screws with direct forceps, etc. Stinking yellow pus in each wound; peritoneum dissected by it extensively.

	Pounds
Left humerus	44
Right humerus	10
Left femur	40
Right femur	42
Average	34

Pulled with double wedge forceps may make result too low and not wholly the consequence of infection. It would seem early for screws to loosen.

Experiment 3.—Ten days. March 18, 1911. Small, white mottled bitch. One, ⅜-inch, No. 3 screw in each femur and humerus. All wounds aseptic and sutured. Brand No. "1." Right ham.

March 31, 1911: Withdrawn after death, three days ago.

	Pounds
Right femur	42
Left femur	80
Right humerus	75
Left humerus	100*
Average	74¼

* Wire broke.

All wounds aseptic, healed.

Experiment 4.—Twenty-seven days. April 22, 1911. Small, 4-pound grey bitch. One slit in each ear; without any asepsis; wounds left open. Six No. 3 screws, ⅜-inch long were driven in both humeri and femurs; one right radius, also one left tibia. May 19, killed by chloroform.

Original		Control
42	right humerus	44 (infected)
6	left humerus	66 (infected)
42	right femur	66 (clean)
58	left femur	76 (clean)
37	average	63 average

Radius and tibia not drawn.

Right humerus, skin healed. Granulation tissue around screw-head. Cortex absorbed (in bottle).

Left radius, open granulating wound, cortex absorbed on near side. Screw perforated bone through cortex of opposite side. No lesion on far side (bottle).

Right radius, skin healed, pus and granulation tissue around screw-head. Some absorption of cortex (bottle).

All bones on front leg showed great thickening of bone about absorption locus.

Right femur, healed, normal appearance.

Left femur, bone appearance normal.

Left humerus, granulating wound open; cortex absorbed. Screw pulled at 6 pounds, caught in cortex of one side only. Control-bone broke at lesion without pulling screw, 66 pounds.

Thickness of cortex, 1.5 mm.

Average diameter of bones, 7 mm.

Experiment 5.—Forty-two days. April 11, 1911. Largest black dog, weight 66 pounds. No. 3 screws, ⅜-inch in each femur, humerus, ulna and tibia, 8 screws in all. Killed May 23, 1911.

Original		Control
75	R. humerus	90
120	L. humerus	180 (fail)
166	R. femur	
136	L. femur	Thickening to level of head
160	R. radius	
82	L. radius	115 granulations
150	R. tibia	142
	L. tibia	
127	average	131¾ average

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Because of the space that would be required, the case reports are here omitted, but the complete article appears in the Transactions of the Section, and also in the authors' reprints, a copy of which will be sent by the authors or by The Journal on receipt of a stamped and addressed envelope.

* Experimental part from Surgical Department of Washington University. Clinical part from St. Louis City Hospital.

All wounds healed by first intention. Left tibia preserved to show screw-head embedded under tendon in fibroma, size of small marble. Around screw in left femur thickening to level of head. In left radius, evidently an infection. Granulations, absorption of cortex around screw and thickening of adjacent bone.

Experiment 6.—Sixty days. March 25, 1911. Brand III. Yellow bitch, weight 15 pounds. A screw in each femur and humerus, No. 3, ⅜-inch. Killed May 24, 1911.

Original	Control
57 R. femur	68 bone broken at normal hole
60 L. femur	69
96 R. humerus	63
110 L. humerus	48 granulations (Path)
80¾ average	62 average

All wounds healed clean, screws bright. Bones (three) look as if screws had just been inserted (except left humerus). In left humerus slight osteoporosis around screw, and cortex elevated in ring surrounding it (slight). Left humerus to pathologist.

Original at sixty days pulled higher than controls.

Experiment 7.—Seventy-one days. March 21, 1911. In each femur and humerus one screw, size No. 3, ⅜-inch. Smallest Lane drill. Brand "11," right ham. Killed May 31, 1911.

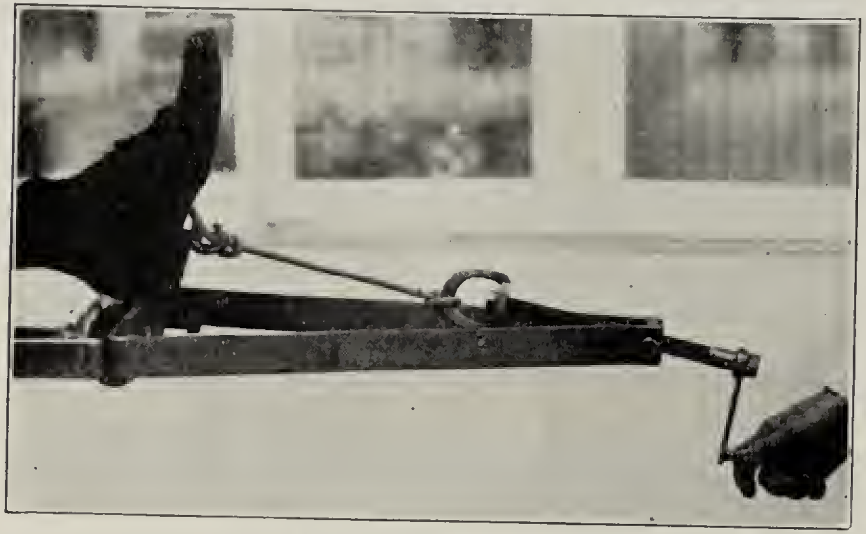

Fig. 1.—Traction appliance attached to table and in use.

Original	Control	Diameter mm.
100 R. femur	88	9
0 L. femur	112	11
130 R. humerus	128	9
125 L. humerus	110	
118 1/3 average	109½ average	

All skin wounds healed.

All except left femur looked as if screws had been freshly driven. Screws bright; contour of bone unaltered. Left femur infected, granulations, osteoporosis, thickening. Average thickness of cortex, 2 mm. Average diameter of bone, 10 mm.—1 cm. Screws are 1 cm. long. Dog smaller than average used.

An average pull of 95 4/5 pounds is required to dislodge clean No. 3, ⅜-inch screws, from dog bones with average cortex of 2 mm. after they have been in place from one day to seventy-one days. On the other hand 41 7/9 pounds will accomplish the same thing with infected screws. There was but one exception to this rule; here it required 110 pounds at sixty days to withdraw an infected screw, when the average of controls on this dog was but 62 pounds. In the dog the skin heals in a few weeks over the infected screw, but this has little effect in the tractive force required to dislodge it. An interesting phenomenon is the constant absorption of bone cortex around infected screws and a thickening around this area. Often the screw-head was almost hidden completely, so in one instance, apparently, Nature takes good care of an infected foreign body in dogs.

We are indebted to Drs. Opie and Smith for microscopic study of several bones in which screws had been driven and extracted. In Experiment 4, the left humerus presented an absorption locus around the screw and surrounding this crater there was an elevated ring. This latter proved to be young bone with osteoblasts to be seen in many fields. Osteoblasts were determined in the area where absorption was taking place and a diffuse infiltration of lymphocytes marked the tissue surrounding which was apparently the defect made by the screw.

The left humerus in Experiment 6 presented practically the same microscopic picture in every particular.

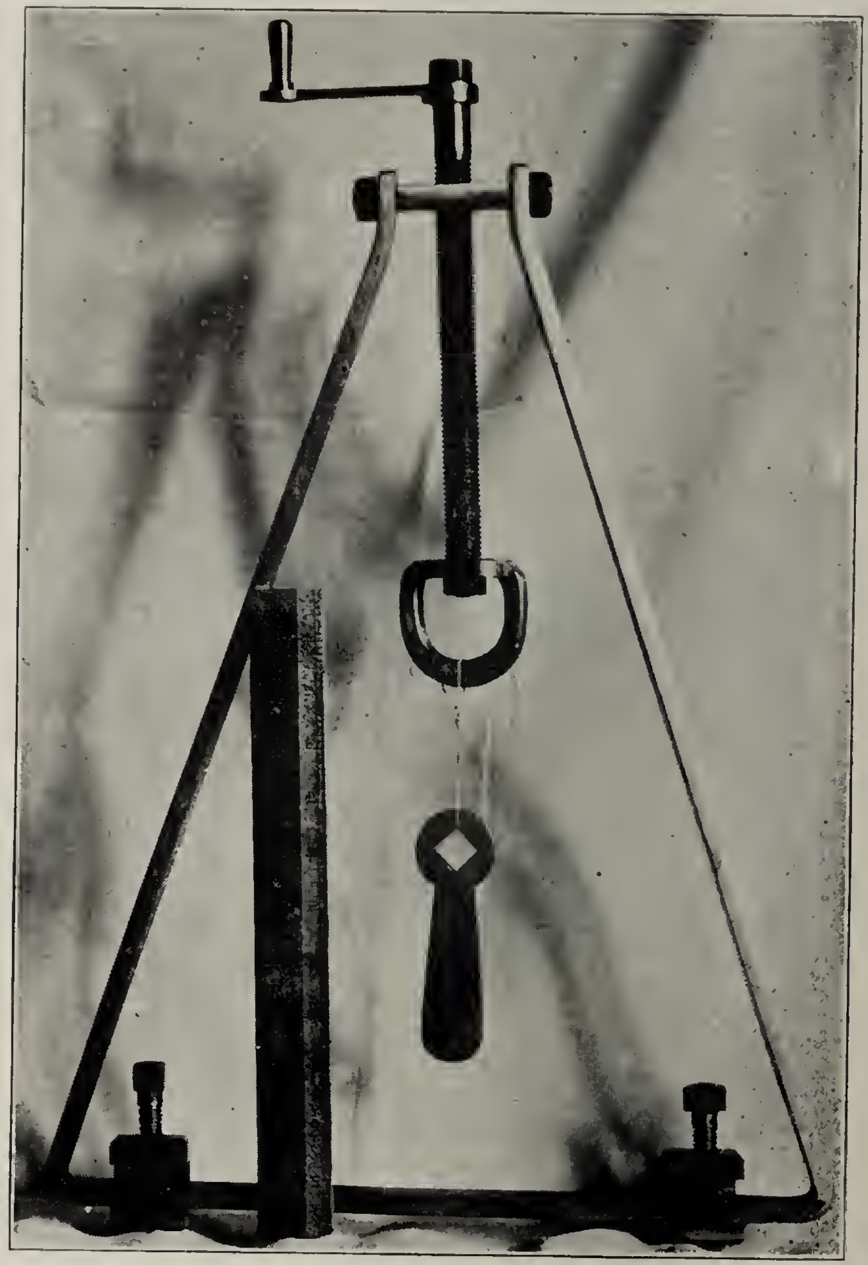

Fig. 2.—Traction appliance in detail.

A clean screw and the bone in which it is imbedded look just the same whether viewed when inserted or seventy-one days later. In other words, no macroscopic reaction occurs unless infection takes place.

It is of more than passing interest to note that clean screws, which have lain in bone for more than sixty days, required, in these experiments at least, more traction for their dislodgement than did their controls. If the same experience is had with the human subject, it is not devoid of interest so far as fractures are concerned in which union is delayed beyond the usual period.

As stated above, a pull of more than ninety-five pounds was required to withdraw the average clean screw of No. 3 gauge, from bones of about 2 mm. cortex. Now, the corresponding human bones have a much thicker cortex; moreover, we use No. 5 and No. 7 screws which are much larger in every dimension, to say nothing of the fact that as many as ten of them are imbedded at one time. It does not require much mental effort to picture the great amount of force needed to tear such a plate out of an aseptic wound at any time in its history, provided only it has been correctly applied; viz., by means of a drill the size of the screw barrel with the screw threaded to its head.

Of course, we take into consideration only a direct pull on the screws. As to leverage sufficient to break a plate or tear out a screw, that is quite another matter; it is for this that splints are used. Since not an infected screw dropped out in all my experimental work, it stands to reason that it is some external influence which loosens them in the human subject when infected. No doubt, this is the leverage exerted by the fragments which are not kept immobile long enough for healing to take place in the presence of a foreign body, as one experience with compound fractures has shown to be possible in certain instances.

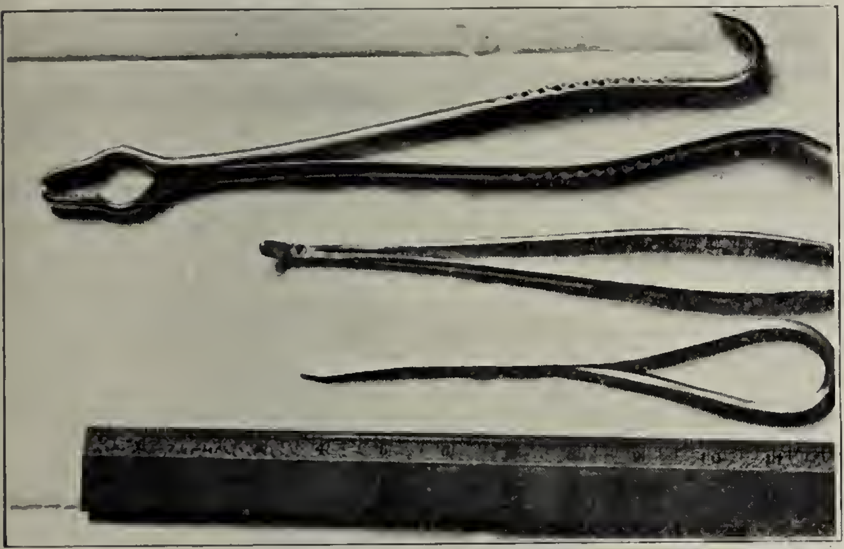

Fig. 3.—Bone forceps (Lane's), screw-holder (Lane's) and screw-driver.

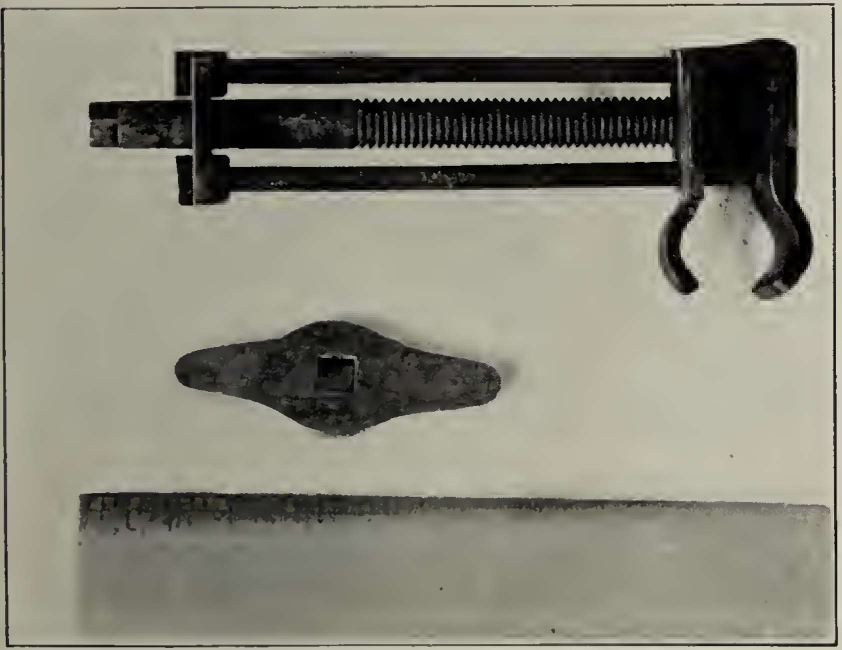

Fig. 4.—Embracing instrument.

CLINICAL DATA

At the end of this article* will be found the full histories of our fifty-two patients. We are unable to trace twenty-three from the time they left the hospital, and one is too recent to be of value; thus, we have for final study twenty-eight end-results.

Forty-three wounds healed by first intention, five were infected, one was left open to granulate, and in three instances, the history makes no mention of this feature. Only three of the above infections were in clean cases.

A solid union was obtained in twenty-five cases; non-union resulted once; two patients have died, and one operation was performed only five weeks ago.

Eight plates were removed; five of them being in simple fractures. One had compressed the musculospinal nerve; one occasioned a refracture (Case 11), one was infected at the time of operation, but as to indications for removal of the other two, we are not certain, since we did not take them out.

Five of these fractures were compound; two of them healed by first intention; two were infected; one granulated over the plate and went on to complete healing. Three of them got solid union, and in three the plate had to be removed.

There was a fatal result in two instances:

Patient 2, a chronic alcoholic, died of pneumonia, eight days after a fractured clavicle was plated. This case was badly chosen.

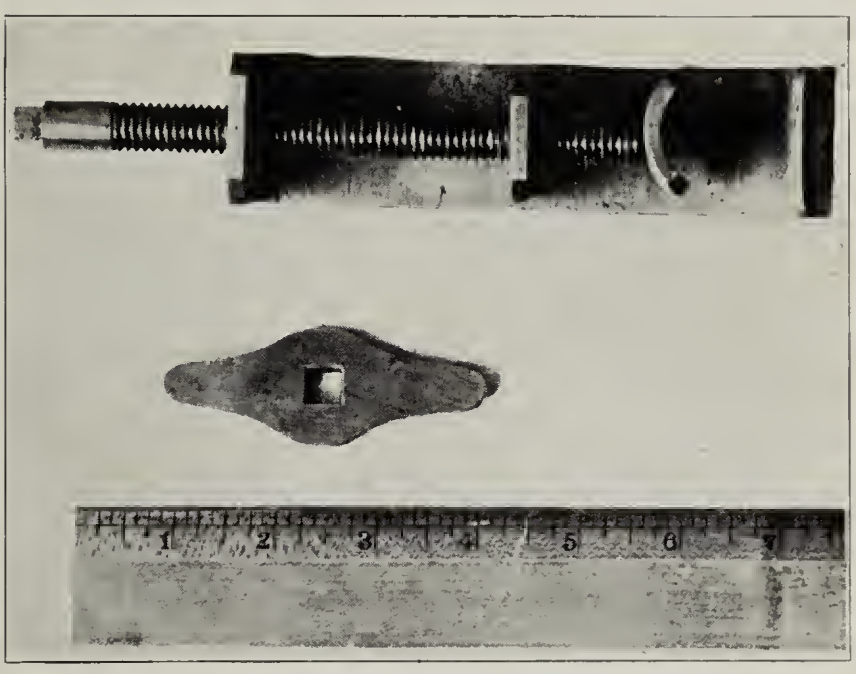

Fig. 5.—Embracing instrument.

Patient 5, another chronic alcoholic, managed to obtain whiskey from a friend a few days after the operation, became intoxicated, developed delirium tremens, saturated a thigh dressing with urine and feces, became infected and died on the fifteenth day.

This gives us a mortality of 3.84 per cent., which is not to be treated lightly where the operation is done for cosmetic or functional impairment alone.

We regret that we cannot give ultimate details in more cases. By letter, personal calls, etc., every effort to follow our patients was made, but many of them were "floaters," who had no permanent address.

If then, these statistics leave something to be desired, it must be remembered that most of these were cases picked as being too difficult for other forms of treatment, and that our city hospital patients are frequently poorly nourished and of the worst possible habits. In private practice one of us traced all his eight cases. Every patient got first intention, also solid bone union with perfect functional result. (W. B.)

Our city hospital is a training-school for doctors, hence the possibility of infection is greater. Doctors and nurses change, misunderstandings as to splints and dressings occur and hence a method gets an unusually severe test, to say the least.

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* See footnote at beginning of the article.

A refracture which occurred in Case 11, after plating, is of singular interest. Seventeen days after his humerus had been plated, this patient took off his dressing, swung his arm free, and something snapped. On a second operation, the three screws in the upper fragment were as they had been left, while the remaining three held firmly a triangular fragment of bone which they had torn out of the lower half of the shaft. No 11 is really not a plating case at all. We failed to make a plate hold here; the case is included merely for its allied interest.

Cases 13, 14 and 16 are interesting from the fact that all three illustrate successful surgical treatment of greatly impaired musculospiral nerves. Surely this is an argument in favor of the method at times.

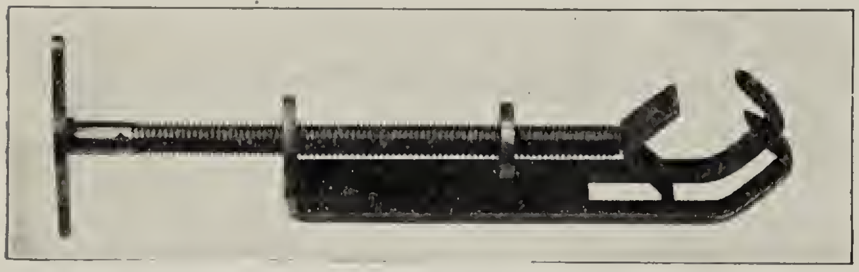

Fig. 6.—Embracing instrument.

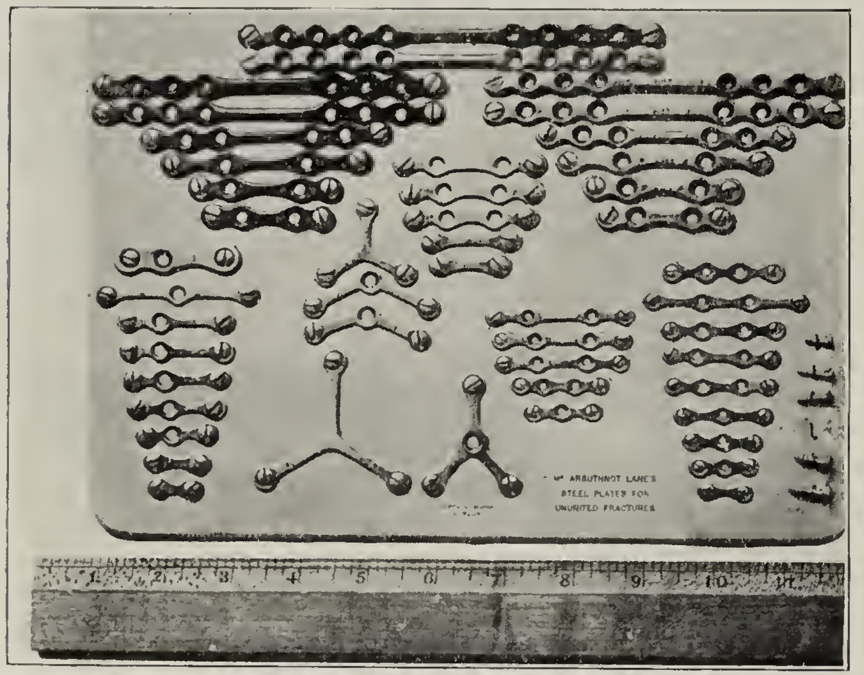

Fig. 7.—Lane's bone plates.

Case 24 will repay a perusal in its entirety. Here the ulnar nerve was sutured, the ulnar artery ligated, a number of tendons sutured, the ulna plated and other structures partially approximated in a compound injury; all these processes were accomplished with an ideal result.

A rather extensive operation was done on Patient 28. After plating an oblique fracture of the tibia, we did the same thing for a fibula which was broken in two places with a 2-inch fragment disposed at right angles to the axis. As a result, both wounds healed promptly and the man now does hard work on foot all day long.

Patient 36 was carrying trunks for a living—if his statement is to be believed—six weeks after we had plated a spiral fracture of the tibia, also a double one of the lower end of the fibula.

No amount of abstract reasoning can govern every case. Merely an effort is made here to show what our experience would indicate regarding a choice between forms of treatment.

	Open	Closed
GENERAL ANESTHESIA	Always used, fairly long.	Often used, short.
INFECTION	Can almost certainly be prevented in clean case by modern technic.	Not to be reckoned with.
DISABILITY	Much shortened, especially in lower extremity. Of great importance to wage-earners and the aged; more so in summer.	Much longer, especially if an oblique fracture and if extension is required.
NON-UNION	Preventable as far as interposition on tissues is concerned.	Interposition of soft tissues apparently a common cause.
ANATOMIC	Perfect if primary healing.	Rarely perfect, often deforming.
FUNCTIONAL	Perfect, provided primary healing is secured.	Often better than anatomic would lead one to expect.

If we heard Mr. Lane aright, he told us in London, last summer, that he plates every case. It is our opinion, however, that the surgical world will never be quite so radical.

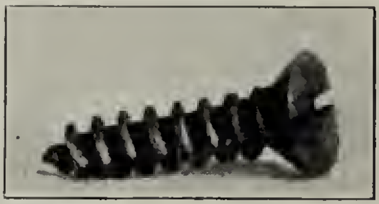

Fig. 8.—Lane's screw.

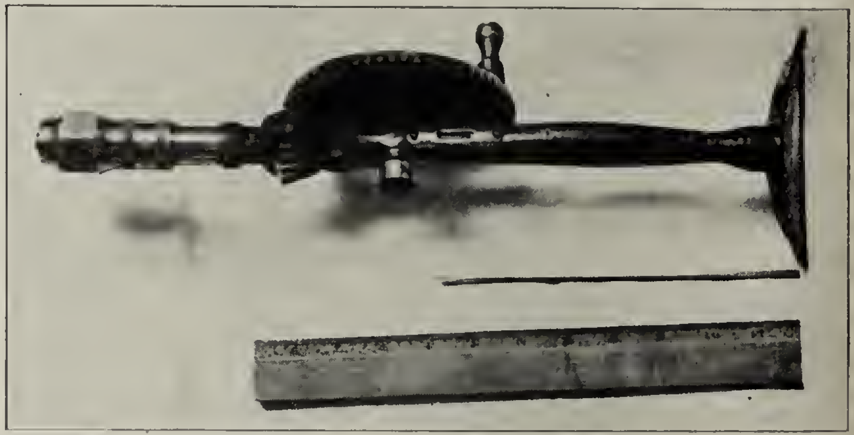

Fig. 9.—Drill-press and drill.

We try to get a result by the closed method in any fracture of any bone that can be placed and held in accurate position as shown by x-rays. Lane's treatment is never applicable to one who is a bad operative risk. No consideration of function can offset a risk to life.

Lane's plating is the best form of treatment known to us, for non-union or mal-union, and is indicated in all fractures which cannot be readily kept in place. It cannot, however, be recommended as a harmless procedure in the hands of surgeons generally. It is something of a specialty and requires its own extensive armamentarium; at the same time it will tax the mechanical resourcefulness of the best operator.

We advise waiting a few days before operating, or until the initial shock is past, bleeding has ceased, and a wall of granulation tissue partially protects from infection.

For a leg fracture not too near the ankle, traction to any degree required can be obtained and the force rather evenly distributed by applying it at the heel of the patient's shoe. A lace-shoe large enough to permit of free dorsal padding is used after a "screw-eye" has been driven through the mid-line just in front of the heel and anchored in a thin steel plate similar to an insole (Fig. 1). Our traction appliance is shown in Figure 2.

Make an incision that reaches the bone by the most direct route, which permits important vessels and nerves to be avoided. Where there is over-riding, the incision does not have to be as long as one would suppose, since traction lengthens it markedly. None but the most rigid asepsis can avail here. The skin is covered with towels, clamped to its cut edge. No fingers go into wounds and no instruments that have been touched are allowed to come in contact with exposed tissues. All needles and threads are handled with forceps, threads being mildly antiseptic.

Long-handled instruments permit of great leverage; they also enable an operator to work without danger of a hand getting into the wound. Figure 3 depicts Lane's bone forceps and screw holder, together with our own simple screw driver which any mechanic can make.

One need not concern oneself about periosteum; in fresh cases the work will be done within this envelope, but where the operation is undertaken for deformity or non-union at remote date, the periosteum is not likely to be opened. In any event, one should hug the bone and handle the soft parts as gently as possible.

It will often be found when the fragments are exposed that the *x*-ray is not an infallible guide. We occasionally met with a double fracture when the *x*-ray showed but one, and were frequently surprised in other ways.

In a recent fracture, over-traction is exerted until the ends of the fragments are separated by ¼ to ½ inch, after which one of the embracing instruments shown in Figures 4, 5 and 6, is applied. This lines up and guides them as the tension is relieved, with the effect that all spiculæ are forced to dovetail by muscular traction so perfectly that the break can hardly be seen. The "embracer" holds a Lane plate of the desired size which can now be screwed in at leisure.

This technic reduces the difficulties of the procedure to a degree which can be greatly appreciated by the operator, who has done this work with merely the armamentarium advertized as Lane's outfit, and especially appreciated by one who has attempted it with the instruments used in general bone work.

Another value of an embracing instrument is strikingly shown in two cases in which Dr. Carson, head of the department of surgery, recently operated. After applying the Martin instrument, he simply packed the wounds and allowed them to granulate. They healed within the usual time and both patients were discharged from the hospital with solid bony union. In a personal communication, Dr. Carson assures us that no harm was done to the bone by the long-continued pressure of the metal clamp.

We use Jessup tool steel and have many plates made to fit a given injury, after the *x*-ray picture has been seen. Mr. Lane's own set of patterns is shown in Figure 7. Plates of Jessup English steel can be molded during the operation to a bony inequality by heating in the flame, bending as desired, and then cooled gradually by dipping end-wise into boiling water, after which they are ready for air or fluid of any temperature.

Mr. Lane long ago called attention to the importance of using screws threaded to the head, as in Figure 8, and drills of the same diameter as the stem of the screw, the flanges being made thus to cut their own way into the cortex. These rather obvious mechanical principles have not been universally followed, and the results of such a neglect can be imagined.

The long drills used by us and the simple but effective mechanic's "press" used to drive them are shown in Figure 9. A screw may turn in its socket when a dull drill burns the bone; we have wrapped wire or silkworm around bone and plate in a few such cases with satisfactory results.

Wounds must be entirely dry before they are closed; this makes the use of a drain superfluous in clean cases, if, indeed, its use be not a menace to primary healing. Every tissue plane must be accurately reunited by layer sutures until the surface is reached.

The ideal skin closure is made with subcuticular suture of catgut, after which no change of dressing is recommended until the patient is discharged at the end of several weeks. Immobilization is required for as long a time as would be the case if no open operation had been done. We like to use plaster of Paris, though in many instances board or metal splints have been applied for a few days until swelling has subsided.

4257 Washington Boulevard—7116 Sanborn Avenue.

THIRTY YEARS' EXPERIENCE WITH FRACTURES AT MINNEQUA HOSPITAL: TREATMENT AND RESULTS *

R. W. CORWIN, M.D.
PUEBLO, COLO.

No attempt will be made to cover the field of fractures, but this paper will briefly state how we deal with fractures at the camps, plants, and hospital of the Colorado Fuel and Iron Company which employs from 15,000 to 17,000 men; including their families, about 80,000 individuals are to be cared for medically, a task made none the easier by their speaking forty-seven languages, and by the fact that not a few understand no English.

In the period above mentioned, 11,035 fractures have been treated by us. Many of our camps are located several hundred miles from the hospital.

A patient is prepared in the following manner for transportation:

SOFT PARTS

Contusion: Application of cold or wet dressings.

Slight lacerations: Dry sterile gauze dressings.

More extensive lacerations: Meddlesome cleansing avoided. Application of wet mercuric bichlorid, diluted alcohol, normal salt or 2 per cent. solution of iodin.

The covering of a wound with dry powder or closing it without free drainage is discouraged. Iodoform and other disagreeable dressings are strongly tabooed. The patient suffers enough from his injury without being made an object of disgust to fellow passengers en route. The well may tolerate or become indifferent to offensive odors, but the sick are distressed.

HARD PARTS

1. Wrap leg in plain cotton, bandaging very loosely with roller bandage, using simply enough to hold the cotton in place.
2. Elevate the leg for convenience of applying bandage. The leg should be extended and steadied by assistant making traction on foot. The leg should now be encased. Plaster-of-Paris bandage is the simplest method of applying plaster.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

3. To avoid constriction, always cut the cast on each side; also always cut bandage holding cotton.

4. Reapply upper part of cast and tie same in place with bandage, which may be easily loosened. Never fail to instruct attendant to loosen bandage if the foot swells. This sort of splint may be applied to any part of the body needing special support.

On train: stretcher and mattress, but no springs.

On arrival at the hospital: General rules (as many as practicable): preliminary examination, bath, rest, little manipulation; thorough examination, under anesthetic; *x*-ray, two planes at least; temporary dressing until shock and swelling will permit of permanent dressing.

SPECIAL FRACTURES

Cranial: General Rules: Explore all scalp lacerations, no matter how trivial: explore all severe scalp contusions, by incision if necessary.

For opening the skull, the Hudson drill is preferred.

In fracture of cranium, remove as little and replace as much bone as possible. If a large piece must be removed, place it in normal saline solution, return it to its proper place and anchor by sutures.

To control hemorrhage in diploe, apply wax or lightly pack with long fiber cotton.

In every skull fracture, give hexamethylenamin (urotropin) freely; the first three or four days, 100 grs. each twenty-four hours.

Basal Fractures: Hexamethylenamin (urotropin).

Decompression as a routine has proved somewhat disappointing, except in progressive pressure-symptoms when it should never be neglected.

The mortality from this class of cases must necessarily be high, whatever the procedure.

Facial Fractures: Next to life, deformity should be considered. Observe symmetry. Many fractures have been compound.

Check hemorrhage. Mop out wound with tincture of iodin.

Replace bones, even spicules, if there be a possibility of establishing union. Hold them in place by suturing periosteum, or by drilling bone and anchoring with chromic catgut or kangaroo tendon.

Risk closing wound without drainage; it will often heal kindly, but on first intimation of abscess, reopen and drain.

In fractures of jaw, remember that teeth are a guide to apposition.

Fine wire and dentist's clamp-bands will give greater satisfaction than external splints and bandage. They are cleaner, more easily observed and feeding is accomplished with ease.

SPINAL FRACTURES

Fractures of the spine at best are tragic. They usually mean a helpless and hopeless cripple, an object of pity, a constant sufferer, a living death, and a burden to self and friends. Often merciful would it be if paralysis from the seat of injury could extend upward as well as downward. Most of our spinal fractures occur at the mines, miles from the hospital.

Treatment: Immobilization at once, whether treated at home or transported. If the fracture be cervical, make gentle traction and support from the shoulder: if dorsal or lumbar, place patient on face between two tables. Make gentle traction and apply dressing, preferably plaster of Paris.

When to operate and when to treat otherwise, are vital questions needing prompt decision. Time may be an important factor. Theoretically, one's course is plain. When in doubt, explore. Practically, this is often unsatisfactory. Formerly our practice was to explore if in doubt. Now we hesitate. Our results are quite as satisfactory.

We never operate,
- When death seems inevitable.
- When the patient's consent has not been obtained.
- When the case seems hopeless beyond reasonable doubt.
- When the symptoms can be relieved by other means.

We hesitate to operate,
- When there is profound shock.
- When the case is of long standing.
- When there is every reason to believe the cord is completely severed.

We operate when convinced that pressure on the cord may be relieved, whether it be from blood-clot, bone, or foreign body.

Early operations have proved more satisfactory than delayed operations.

Laminectomy under the most favorable conditions is frequently unsatisfactory, and under unfavorable environment may hasten death. Immobilization has given as good if not better results.

After treatment should be carefully considered in all operations on the spine. Incontinence of urine, involuntary stools, danger of pressure sore, lack of tendency of wound to heal, and danger of infection demand hospital and not home care.

We are resorting to expectant treatment more than formerly. We have more living proportionately to-day from nonoperative treatment than from operative treatment.

In most of our cases the injury is in the dorsolumbar region, and the fracture is usually through the body of the vertebræ.

STATISTICS ON SPINE FRACTURE

Total number of fractures of the spine (including all cases in which there were complications of internal injuries and instant death)	242
Number of cases inoperable, from complications or instant death	188
Number treated	54
Number treated by operation	18
Number treated without operation	36
Number living	25
Number operated and living (33 per cent.)	6
Number not operated and living (69 per cent.)	19

Pelvic Fractures: Dr. Moses Gunn used to say: "For fracture of the pelvis the doctor should do what is most difficult for a doctor to do; that is, do nothing." However, we find that immobilization by means of three or four 4-inch adhesive straps about the pelvis, or by plaster-of-Paris cast extending from the last dorsal to 6 or 8 inches down the thighs, for immobilizing the hip-joints, add materially to the comfort of the patient and shorten the time of repair. The usual fracture-boards should be omitted; the patient finds greatest ease in a "concave bed."

STATISTICS ON PELVIC FRACTURE

Total number in thirty years	334
Number operated on for injury of soft parts, such as rupture of bladder, urethra or rectum	16
Percentage recovering	94
Fatalities, total number	30
In cases operated on	5
In cases not operated on	25

FRACTURES OF LONG BONES

In fracture of long bones, setting accurately and retaining permanently without pressure must be our chief aim.

In simple fractures, for external support, we depend much on plaster of Paris, which in most cases, if properly applied after the disappearance of swelling, may be fitted to any position, cut so as to prevent pressure, admits of wide latitude of body movement, permits free examination of parts, is essential to cleanliness, is comfortable, inexpensive, and always at hand. When the plaster-of-Paris splint fails to accomplish all this, other splints are substituted or used in conjunction with plaster of Paris.

For internal support, when external splints have been shown to be failures by the *x*-ray, bone plating has proved very satisfactory—more so than wire, kangaroo tendon or staples. We avoid plating when tendon will serve, and are extremely cautious when there is little covering of soft parts; for instance, about the ankle. Rarely have we been obliged to remove plates on account of infection or irritation. When they have been removed, however, they have usually accomplished their purpose, and union has been sufficiently established so that external splints suffice. Frequent observation by the *x*-ray should be made that the condition of the plate may be known. Results of experiments with plates will be mentioned later.

Classification without detail is difficult, our records show the following results:

Number of fractures	11,035
(About 0.5 per cent. of the 2,000,000 cases of all kinds treated).	
Results have been classified under the following heads:	
Perfect results, per cent	66.87
(Those in which function has been restored and deformity is not objectionable).	
Imperfect results:	
Partial—Slightly deformed, per cent	8.75
Functionally or seriously deformed, per cent.	7.25
Wholly—Loss of function, per cent	3.33
Loss of limb (including fingers and toes) per cent.	9.11
Death, including all in which bone fracture is a prominent feature of injury, per cent...	5.25

SOME DEDUCTIONS FROM EXPERIENCE

The first dressing of a compound wound is important; it cannot be done too carefully; it is often made worse by improper efforts. Better is it to let Nature cast off the foreign matter than to force it more deeply into the tissues by careless, meddlesome handling or too much scrubbing.

The closing of a compound wound without drainage is pernicious, and to add dry powder to a complete closure shows lack of experience. Suppuration is almost sure to follow a lacerated compound wound thus treated.

Provision for swelling is of the utmost importance; it cannot be emphasized too strongly; every physician knows that, but occasionally it is neglected.

The first examination cannot be too thorough. The condition of the patient, use of fluoroscope, *x*-ray, anesthetic and proper environment for future treatment, are of vital importance to both patient and physician.

We should neglect no opportunity to teach the laity the advantage over the home of a hospital, where there are nurses, resident physician and every convenience in case of emergency.

In head injuries the use of hexamethylenamin should be emphasized.

In spinal injuries act promptly but not hastily.

In fractures of long bones we should remember that

> "Functional results are more important than anatomic accuracy."
>
> Simple fractures, if possible, should always be treated by external support; but if reduction be difficult to obtain and maintain, unhesitatingly resort to the open method.
>
> The patient's general condition must always be considered.
>
> The medicolegal aspect must not be overlooked.
>
> Danger from infection, injury to a joint, vitality of bone, and environment for operation must be weighed.
>
> An incision should be sufficiently large to expose well the parts involved and make much manipulation unnecessary. Blind surgery involves risk.

The splint should be one that supports but causes no undue pressure, which may be removed at will for dressing or massage, and which permits the patient being taken out of doors for fresh-air treatment. Plaster of Paris will meet these requirements if properly applied and used, if need be, in conjunction with other mechanical devices.

The result of plating depends on method, material and position. Only he who is thoroughly prepared to do perfect aseptic surgery in a delicate and mechanical manner may expect uniform success in bone plating. Possibly electrolysis should be considered in connection with plate and screws of different material, or plate and screws each of two or more metals. Non-irritating material is imperative. A plate where there is little tissue over it, where the tissue is drawn over it, or where it fits poorly—or becomes loose—is apt to give trouble, and sooner or later must be removed. Better wait for swelling to subside before plating, if possible. Early plating is most apt to find firm bone.

Experiments with plates the past winter on lower animals indicated the following:

> Copper and brass plates or screws irritate and produce serious pathologic changes.
>
> Silver-plated plates, steel or iron plates and screws are non-irritating.
>
> A plate placed on the periosteum, or on the bone where the periosteum had been removed, produced the same favorable result.
>
> Arched or elevated plates resting as little as possible on the periosteum or bone are no better than flat plates resting throughout on the periosteum or bone.

Fortunately we are no longer obliged to resort to the Sir Astley Cooper method of reducing fractures and dislocations by bleeding, administering tartar emetic and placing patient in a tub of hot water until fainting results, in which condition, relaxed from exhaustion, the patient is treated.

Was is not Syme who said to Lister when a student, "We have reached the climax in surgery—you need look for nothing new"? That was only a generation ago. Another generation will do more for fractures than the past. Splints will no longer be needed, and plates, staples and wire will give way to a process of artificial welding, or better, artificial growing of new tissue.

Now, as a final word, I am aware of the little scientific worth of this report of thirty years' experience. It lacks detail, but detail would not improve it; but it does contain my effort of a generation, and I thank you for the privilege of presenting it; and if you will extend the privilege another generation, I will promise to give you a good report.

I wish to acknowledge the aid of my associates at the hospital, Drs. Adams, Senger, Dunlop, Schwer and Wilson, who have been of the greatest assistance to me in my work and in compiling statistics for this paper.

THE OPEN TREATMENT OF FRACTURES OF THE SHAFTS OF THE LONG BONES *

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PHILADELPHIA

The limitation of the subject as indicated by the title is based on the hope that thereby there might be suggested a discussion more detailed than could have been provoked by a wider consideration.

The general indications for the open treatment of a fracture are afforded by the presence of a break accessible to intervention, which cannot be reduced and retained so efficiently that union without disfiguring deformity or crippling disability is reasonably assured. Further indications are afforded by the presence of a wound communicating with the seat of break and by non-union or vicious union.

The general indications governing the open treatment of fractures are:

1. Surgical cleanliness carried to its furthest development.
2. Operation as soon as it is clear that this is needful.
3. The securing of apposition with the least possible stripping of periosteum from bone or soft parts from periosteum.
4. The selection of an internal splint or support of the smallest bulk and of the easiest application compatible with the strength and persistence of the fixation desired.
5. Instruments and appliances which make the application of the fixation apparatus of choice easy and non-traumatizing.
6. The application of an external support which, during the period needful for union, prevents twisting and angling strains at the seat of fracture.

Surgical cleanliness necessarily implies that the fingers must not be put into the wound since patched rubber gloves often leak even before they are put on, and new ones, though they be of extra thickness, are generally torn or punctured at once if the rough bone ends are

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

handled. Even in simple operations, as hernia and appendicitis, a large proportion of the rubber gloves used by the operator and his assistants are punctured. This can readily be demonstrated by blowing up the gloves after the operation and holding them under water.

Early operation is indicated because then complete reduction is most readily accomplished. Moreover, when one careful effort made under anesthesia fails to reduce, this end is rarely attained by subsequent efforts or by splints and bandages supplemented by extension; nor, if the principle of immediate operation when indicated be adopted is there need of a second anesthesia.

When *x*-rays are available, and this should be always, when operation is contemplated, they give such complete knowledge in regard to the position of the broken bone ends, that methods of examination other than inspection and measurement should be omitted, since the latter traumatize and give pain without compensating advantage.

The incision by which the fracture is reached should conform to the general principle that it is so planned as to injure no important structures, and is so placed and spaced as to make the seat of operation most accessible. Since it is rare that the convenient skin incision accommodates itself to the natural line of cleavage, the final skin suture, which should be most accurate, is sometimes difficult. The percutaneous and the lock stitch will be found serviceable.

The seat of the fracture having been exposed, apposition is secured by longitudinal pull, lateral traction, torsion and angulation.

Lateral traction may be applied by means of a metal hook passed over the broken cortex into the medullary cavity, or by tape carried around the shaft of the bone by means of a blunt curved needle.

By angling out over the arm of an assistant, the broken ends can be placed in apposition; straightening the bone then overcomes the resistance of the soft parts.

In many fractures which have not been operated on within a week of the time of injury, and particularly in old fractures, these measures of reduction often fail to overcome shortening. Unless this be so great as obviously to require resection, it can best be reduced by longitudinal traction applied directly to the upper end of the lower fragment. The simplest device for the attainment of this end is a stout canvas band, the middle of which is placed over the proximal end of the distal fragment. The two ends are then brought parallel with the limb, and into the loops with which each is provided is passed a rope, to which in turn are fastened weights.

In the case of fractured femur 100 pounds are required, sometimes double this; and we have been compelled to use nearly as great force in fractures of the forearm bones. The weights are allowed to exert their pulling effects for from five to ten minutes, traction being continued until there is an actual lengthening of about one-quarter of an inch. This over-stretching is distinctly serviceable in lessening the strain to which the buried fixation apparatus will be subject. Moreover it allows an easy apposition of the broken bone ends after the weight is removed.

Apposition having been secured, and in the least traumatizing way, at times by simple incision and slight moulding of the parts, if there be no tendency toward reproduction of the deformity and if it seem probable that the good position secured by operation can be maintained by external splints, without internal bracing or support, the wound may be closed without placing in it any foreign body. If it seem clear that a bone suture supplemented by external splinting will be adequate, kangaroo tendon may be used. If the fracture be oblique and not likely to be subject to severe strain, screws, nails, staples or even tendon suture through drill holes will prove adequate. If by none of these means can the reduced fracture be retained in position, the steel plate is indicated.

If the fracture be of the femur and transverse not only is the steel plate indicated, but one of considerable strength, particularly in fat, muscular subjects, since by no means of splinting can we put the break completely at rest or protect it entirely from twisting or angling strains.

Since the tolerance of tissues to foreign bodies is inversely proportionate to the bulk of the latter, it is of vital importance, if plates be used, that these be of the smallest size compatible with the strain to which they are to be subject.

An experimental trial of the plates sold by instrument makers has demonstrated that these break at greatly differing stress, and that in some instances the force required to break them is comparatively slight. The break usually occurs at the screw hole nearest the seat of fracture, the point of greatest strain, and, as the plates are made, the point of the greatest weakness of the plate.

Because of such an accident having happened in our clinical work, we have endeavored to secure a stronger material than that usually supplied, and have had constructed of vanadium steel, by Lentz, a plate much stronger than that now supplied and so planned that it is reinforced at the usual point of breaking. It is probable that these large strong plates will have no application in regions other than that of the thigh, but since the femur is the most difficult bone in the body to protect from cross-strain after plating, there is distinct need when operating on this bone of an implement on which entire dependence can be placed. The major advantage of the vanadium steel is incident to the fact that great strength may be secured in small bulk, and that under ordinary clinical conditions it would seem almost impossible to break buried plate made of this material.

If plating be the operation of choice, it is absolutely essential that the drill for boring the screw holes be of such size that the screws may be driven in easily and yet may cut their own threads; as manufactured, they so vary in pitch and diameter that a tap is not serviceable. Many screws should be provided so that if one drives hard it may be readily replaced by another. The screws should be threaded to their heads and be of such length that they will reach the medullary cavity and not pass far into it.

In testing plates we have found that two screws on each end of a plate, driven through one thickness of the cortex will hold beyond the breaking strain of the plate, therefore, through-and-through screws and more than four are unnecessary.

On general principles the nearer the screws to the seat of fracture, the stronger the fixation; if, however, the screws be placed nearer to the line of break than one-quarter of an inch they are likely to tear loose if subject to a severe angling strain.

The fixation of the plate is greatly facilitated by instruments which will hold it in place while holes are being drilled and screws driven home. The most universally serviceable instrument is the Lohman clamp. These smaller clamps are often useful. The Lambotte forceps, or rather Lentz' modification of it, is useful, not only as a plate holder, but as a means of accomplishing that complete reduction which is sometimes prevented by spicules of bone.

The screw-drivers used should be those which hold the screw in jaws while it is being driven home.

When a strong plate is firmly fixed by screws the surgeon may feel that he can almost, if not quite, dispense with external support. Indeed the union seems as firm as would be, for instance, that accomplished in the same manner with dried bone. This is not the case. By twisting and rocking motions of the limb peripheral to the break, the line of fracture can always be made to perceptibly widen and close. In other words, there is always potentially slight motion at the seat of plating, or fixation by any other mechanical means. Unless this slight motion is reduced to its possible minimum by external splinting, loosening of the screws or other support is inevitable. This we have demonstrated by many experiments, having conceived the idea that it might be possible to apply an internal splint of such strength and firmness that without any external support it would hold the bone in place till healing had been accomplished. Moreover, there are many *x*-ray pictures which prove the same fact.

The after-fixation of fractures treated by the internal splint is best secured by a plaster-of-Paris casing, so applied that not only the joints on either side of the fracture are fixed, but that the muscles which act on the bone ends are also for a time kept at rest. This implies in fractures of the leg bone an envelopment carried up to the middle of the thigh. In fracture of the femur a cast from the foot to the ribs. In the forearm bones a cast from the midphalangeal joint to the shoulder. In the arm bone a casing including the shoulder and extending to the midmetacarpal region. These casings should be split while soft so that in part they can be removed, allowing the seat of operation to be inspected and massage and passive motion to be applied as soon as advisable.

As to the results of the open treatment of fracture, many are good, some indifferent and a few distinctly bad.

It is noteworthy that union is usually delayed, that the time of treatment is not materially shortened, that the results are not uniformly good. But, taken as a whole, they are infinitely better than could possibly have been secured by other than operative means.

Even in the cases clean at the time of operation, there have been a few instances of infection; this infection has, however, in two of my cases of femoral fracture, been of a peculiar type, becoming manifest in about three or four weeks after the time of operation and characterized in the meantime by a very slight elevation of temperature well below 100. The infecting organism was the *albus* and had no communication with the plate or seat of fracture, involving the subcutaneous tissues alone. In one instance, for example, the indolent abscess, formed some weeks after operation, was not even near the site of incision.

There has seemed to be a relation between the size of the internal splint and the promptness of final union. In other words, we have felt that the less foreign matter we put in the wound the quicker it got well.

As to the fate of the plates: We have taken them out unnecessarily, finding them clean and as firmly fixed as though they had been driven into wood. We have taken them out because of continued suppuration. We have left them in now for years nor have they excited any untoward symptoms. A woman recently presented herself, who was plated five years ago. She made a fairly prompt and complete recovery. For the last three months she suffered from pain in her leg. She had a varicose ulcer beneath the outer malleolus and a softened area over her plate in the lower third of the tibia. This had been perfectly quiescent in the intervening time. When proper support was given to her dilated veins the pain disappeared, as did the softened area over the plate, and she became completely able-bodied. What proportion of these buried plates, if any, give subsequent trouble remains yet to be proved.

Given the proper tools and appliances and intervention shortly after the injury, the operation is usually not a difficult one. Having performed it, we regard the subsequent external splinting as equally important in the securing of an ultimate satisfactory functional and cosmetic result.

ABSTRACT OF DISCUSSION

ON PAPERS IN THE SYMPOSIUM ON FRACTURES BY DRS. CORWIN, MORRIS, MARTIN, AND BARTLETT AND HEWITT

Dr. Herman E. Pearse, Kansas City, Mo.: I like to operate early. I have been told that it is better to operate late. I find a bone is the crystallization of lines of force, and that the crystallization ceases when the force is not applied, and begins again when it is applied; and so, if two pieces of bone overlap badly, I find rarefaction of bone, and the screw holds better if these cases are plated early.

As to cleanliness, we do not boil long enough; we do not get the skin clean enough; it is useless to paint it with iodin and begin to operate. It is criminal. It seems to me that every one who intends to do this work should at least read and follow the preparatory technic of Mr. Lane, which has been worked out by fifteen years of constant application. Nothing short of that is safe.

I have examined the stock of splints at different surgical instrument houses. They are all useless. They are all less than the minimum weight shown by Dr. Martin to be proper. They are capable of being bent readily between the thumb and finger and they break easily and will not hold. I commend particularly the remarks of Dr. Martin as to the weight, strength, size and material of splints.

I would again urge your attention to the remarks of Dr. Martin in which he speaks of the external application of splints. This external application should be made, but not by any means for so long a time as suggested. In the conduct of the fracture wards of our general hospital of some 300 beds (in an active city like Kansas City, many people are hurt). I have had occasion repeatedly to see most disastrous results from neglecting this. The proper internal splinting of the bone, with the closing of the external wound, gives such a degree of security that the limb is used with entirely too much freedom, unless motion is thoroughly restricted.

I should like to request those very active minds who are so constantly improving the size and the shape and the material of Mr. Lane's splint, and who are in so many ways improving the technic by shortening it, that before any further attempts are made to improve this operation, they prove out the technic as already established. For reproach is being brought on this operation by death from suppuration and by splints that are literally vomited forth when carelessly placed with poor technic. It is worth while to study the technic of the master who has placed this matter where it is, before attempting to improve it on reading his literature.

Dr. Fred B. Lund, Boston: We have treated fractures entirely by external apparatus, and the reason is that until the worth of Lane's plates was proved we had no other method of treating them. I know that for several years, with external apparatus alone, we have been getting a great many bad results; and I, too, was impressed last summer, as Dr. Bartlett was, with seeing the application of Lane's plates. I have tried them and I have succeeded and I have failed; but I sincerely believe that this is the first efficient means of internal splinting that we have had at our command, and that it will prevent a good many malunions and a great many non-unions and much suffering; and if proper attention is paid to the technic and a proper instrumentarium provided, as Dr. Martin and Dr. Bartlett have so wisely insisted, it is going to do a great deal of good.

But nobody should attempt these operations without a study of the methods of the master, Mr. Lane, and providing himself with as complete and perfect a set of instruments as he can get. I think that Dr. Bartlett's traction apparatus is going to be a great help and will greatly lessen the labors of the operator. It substitutes a perfect and powerful mechanism for the imperfect and comparatively weak aid of an assistant.

I have treated thirteen patients since last October, as follows:

(1) An old ununited oblique fracture of the femur in bad position; united in perfect position after plating. (2) A very bad, old, oblique fracture of the upper end of the femur without union four months after the injury; good results from plating four months after operation. (3) A bad transverse fracture of the femur plated, with failure, partly through bad technic and partly through lack of efficient external support. (4) Malposition accompanied by great pain in a transverse fracture of the humerus ten days before in a woman of 60, in which case external apparatus was unsuccessful; perfect result from plating. (5) Ununited fracture of both bones of the forearm four months after injury, with interposition of the muscle between the fragments of the ulna; plating, with very good anatomic and perfect functional result; ulnar plate had to be removed at the end of three weeks. (6) Malposition in fracture of both bones of the forearm, plated; both plates had to be removed at the end of ten days; the result was good. (7) Spiral fracture of the tibia with very poor position; perfect anatomic and functional results from plating. (8) Angular deformity fracture of both bones of the leg, three months after injury. Excellent results from plating.

The prolonged suffering which men get with non-union and malunion makes it worth while to operate on these cases and to use efficient operative means to secure good results. If one takes the trouble to learn how to plate these cases and to do the operation skilfully, the results are more than satisfactory.

Dr. W. Le Moyne Wills, Los Angeles: The greatest advantage of this method is that by the proper application of apparatus you can maintain from the first, perfect apposition of fragments. I operated on a patient by the Lambotte method two years ago. This case was one of epiphyseal fracture of the head of the left humerus. Seven days after the patient was hurt in the mountains, I operated on him. The effect is really not cosmetic; but he does not wear a low-necked dress. He now works in a brass foundry. He has a perfect functional result and I have the plates to prove it.

I have never claimed that this is an ideal method. It is not applicable to all cases. Nobody should do this operation who has not seen Lambotte do it or one equally skilled in use of his apparatus. I would be willing to have it used in case of fracture of my own femur.

When I reported nine cases two years ago at the San Jose meeting of the California State Medical Society, and admitted 25 per cent. of infection. I was severely criticized for that. I operated in this case since I reported those other cases. A man often does not admit that pus is present in his own work, but always sees pus and bad results in other people's work. It is a case of the beam and the mote. I have tried to be honest and report failures. But there is a perfect functional result in the case presented.

Dr. William Fuller, Chicago: It is my belief that practically every fracture, regardless of its location, type or kind, that is difficult to reduce or difficult to hold reduced, should be treated by the open method. On the other hand, fractures without obstacles to reduction, and calling for simple devices or means to retain the fractured ends of the bones in apposition, should be managed by non-operative measures.

I desire, especially, to endorse some of the points brought out in the papers by Drs. Martin and Bartlett. As to the somewhat complicated apparatus which is described and used by Dr. Bartlett for exerting traction on the extremities, it undoubtedly has a place in this work, but I am inclined to the opinion that it would be the exception. Personally, I prefer two strong assistants, besides the one directly concerned in the operation, who can generally make sufficient traction and counter-traction, evert or invert the limb, or employ other desired manipulations at a moment's notice. This leaves the operator and his first assistant free, and removes the necessity of touching anything but the instruments and the field of operation.

The dangers resulting from the open method of treating fractures are, in reality, slight. It has not been shown, to my knowledge, that tissues surrounding broken bones are more susceptible to infection than tissues elsewhere. If the organs within the abdomen were subjected to the same rough handling observed sometimes in operating on fractures; the stomach drawn out with vicious-looking hooks, the gall-bladder ablated without regard for adjacent structures, abdominal surgery would not stand where it does to-day. Tissues covering a fractured bone will heal just as kindly and promptly as abdominal tissues, if treated in the same careful, surgical manner. It is true that at present suppuration more often follows bone operations than other operations, but the reason is plain.

Just a word with reference to the postoperative treatment of fractures: Besides complete hemostasis, and accurate wound closure, nothing is so important in promoting satisfactory progress of the wound as extreme elevation of the extremity. It has a decided beneficial effect in preventing, as well as subduing, infection. The limb does not swell, all edema immediately disappears, the circulation is perfect, and pain is much less severe. This elevation is not accomplished by pillows, but by placing the limb on a well-padded splint, which should be suspended by pulley or otherwise at a right angle to the bed.

Dr. John Rogers, New York: The general impression which we carry away from this discussion is that "bone plating" is the best thing there is. I have had considerable experience with fractures in Bellevue. We have probably the largest collection of fractures there in the city. We have about fifteen or twenty surgeons there—all competent. Directly after this fixation method was first exploited, I think every fracture in the hospital was plated. As a result (I speak for myself as well as the others) we spent considerable time in taking these plates out. But there was one man in the institution who carried through his work with apparent perfect success, and I think he had only one failure out of fifty cases. On studying this result, to see why it was very much better than the results of the rest of us, I found that he had a complete set of these instruments, and kept his fingers entirely out of the wound. The rest of us were using the ordinary hospital appliances which were at hand and they were defective in the bone holder and one or two of the other instruments; and every one of those cases, in which the fracture was handled manually, suppurated, so far as I know. So not enough stress has been laid on the technic of doing these operations. Unless you have every appliance as originally introduced for holding these bones in place, do not try the operation. A little improvement on that bone-holder can be made by constructing it in the form of an obstetric forceps; so that the spread does not have to be so wide when the blades are put in the wound; but all the appliances must be employed or there will be trouble.

Dr. Frank Warner, Columbus, O.: I wish simply to emphasize the importance of position in the treatment of these fractures to prevent strain on the fragments. The surgeon should remember that if it be a fracture at the upper end of the femur, the tendency of the upper fragment is to draw forward and outward; consequently in the treatment of that fracture if plates have been applied or the fragments wired, the thigh should be dressed in flexion so as to avoid strain on the plates or wires. A fracture in this or in any other location, should be handled constantly with the cardinal thought in mind of preventing tension on the plates or wires by dressing the limb in such a position as will mean the least muscular tension on the fragments, for there is a constant tendency for any undue strain to break the wires or loosen the screws. As for example, take a fracture of the femur above the knee-joint: the tendency there, is of course for the gastrocnemius to draw the lower fragment back; so that in this locality the fracture should be treated with the leg flexed. The fractured member should be dressed in the same position as if there were no plate or mechanical appliance used to hold the displaced fragments in apposition. By adhering to this rule, less tension is put on the plates or wires by removing the muscular strain on the fragments. The splints should be constructed with proper windows so that the dressings may be changed without strain being put on the fragments. Or, if it be not practical to use a window, then in changing the dressings the greatest care should be exercised that as little strain be put on the fragments at that time as possible. Otherwise the wires will snap or the screws will become dislodged. A point equally important is that the surgeon himself or some one properly qualified should take care of the patients after operation. It is easy to have this operation made a failure if the surgeon looks after the patients only casually and occasionally, and substantially turns them over to an intern, an extern or a nurse to make the dressings. The success of the result will be in proportion to the subsequent personal attention given the fracture.

Dr. Rexwald Brown, Santa Barbara, Cal.: The kinds of apparatus now in use sometimes have discouraging features. Wires break and Lane's plates and staples frequently pull out or break because of leverage following their application. Lambotte and Parkhill apparatus invite infection, for along the screws are open pathways directly from skin to bone. Buried material only deserves attention: how much foreign material can be buried is open to investigation. The good reports following use of metal half-cylinders—a not inconsiderable foreign body—led me to devise a clamp which seems to have advantages over others used. [Dr. Brown then exhibited his clamp and explained the method of its application, all of which will be described in a paper to be published elsewhere.]

Dr. R. W. Corwin, Pueblo, Colo.: I should suggest that the plates be made thinner and smaller than some that have been devised. All who have seen Mr. Lane's work must appreciate the care he employs, and too much emphasis cannot be laid on this point. Iodin is of value in some cases, notwithstanding our Kansas City friend's views.

THE CLINICAL THERMOMETER AS A POSSIBLE DISSEMINATOR OF SOME COMMUNICABLE DISEASES *

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Until the discovery of the rôle played by insects in the transmission of disease, an air of mystery hovered over the means by which certain diseases were communicated. Probably no disease illustrates this point better than malaria. About twenty years ago, malaria was attributed to the miasmatic emanations which came, during the night, from marshes and swamps. When the anopheles mosquito was discovered to be the host of the malarial parasite, the puzzling atmosphere which had hitherto enveloped malaria vanished, and the etiology of one of our mysteriously transmitted diseases was placed on a scientific basis. We now know that the habits of the anopheles mosquito—so far as biting is concerned—are nocturnal and that marshes, swamps, etc., are its breeding-places.

At one time the fomites theory was regarded as practically the only way in which communicable diseases could be spread. This theory afforded such a simple and easy explanation of the subject that it became deeply rooted in the minds of both the medical profession and the laity. The discovery of bacillus-carriers and the recognition of mild cases (formerly unrecognized) of certain communicable diseases have contributed toward the displacement of the fomites theory, and sanitarians are relegating this theory to a rather minor position in the dissemination of communicable diseases.

The clinical thermometer, however, is an object which must be reckoned with when dealing with the spread of communicable diseases. The etchings on the clinical thermometer form ample harbors for countless bacteria. Very careful washing and drying, after use, will remove most of these organisms, but some will remain and they might as easily be of the pathogenic type as of the harmless variety. If an accurate clinical thermometer could be manufactured with an inner scale instead of the etchings, this source of danger would be partly avoided, but the construction of an accurate thermometer of such a type is, at the present time, mechanically impracticable.

It is a matter of serious regret that most thermometers receive a scant washing and drying after use. The presence of the mercury precludes the use of hot water and consequently a most careful washing becomes imperative, especially where no disinfectant is used. Only too often the thermometer is merely dipped in a glass of water and wiped; or else it is held momentarily under some running water and then dried.

It has long been contended that physicians, from time to time, spread communicable diseases. That their clothing on rare occasions has been responsible cannot be denied, but a more likely agent is the clinical thermometer which is used from person to person without the proper amount of care being taken in regard to its cleaning.

To test the bacteria-carrying power of clinical thermometers, a series of experiments was undertaken. Some thermometers were made, by a very well-known firm, to resemble clinical thermometers in every respect except that they contained no mercury. The mercury was left out so that these dummy thermometers could be easily sterilized by heat during the experiments.

Pure (twenty-four-hour) cultures of *Bacillus prodigiosus* and *B. pyocyaneus*—grown in Dunham's solution—were used to infect the thermometers. The general scheme of the experiments was to rinse the mouth for half a minute with the culture of *B. prodigiosus* and a sterile thermometer was then placed under the tongue. At the end of one minute the thermometer was removed and treated in one of the ways described later. Only one thermometer was infected after each rinsing with a culture. The method of procedure with the culture of *B. pyocyaneus* was identical with that of *B. prodigiosus*. These two organisms were selected as they are easily identified in mixed cultures and it is perfectly obvious that the thermometers must be infected, after use, with many varieties of bacteria found in the mouth. An additional reason for working with *B. pyocyaneus* was its pathogenicity, as it is this type of organism that we are most anxious to learn as much as possible about.

After treatment, the thermometers were dropped in sterile tubes containing Dunham's solution. This medium discourages heavy growths of most organisms and it has an inhibitory effect on oral bacteria as it is practically sugar-free. Those thermometers infected with *B. prodigiosus* were allowed to remain in Dunham's solution for twenty-four hours, at the end of which time a sterile platinum loop was inserted and several loopfuls were transferred to some sterile potatoes. Those thermometers infected with *B. pyocyaneus* were allowed to remain in the solution for four days, or until the green fluorescence of this organism appeared.

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* From the Department of Preventive Medicine and Hygiene, Harvard Medical School.

B. pyocyaneus is occasionally found in the mouth and there are also, at times, three organisms (*B. buccalis fortuitus; Bacillus b* of Vaginal and *Micrococcus doseus*) present in the mouth whose growth on potatoes might be confused with *B. prodigiosus*. In addition, tap-water, once in a while, contains some one of these organisms and consequently it was thought advisable to carry controls through with the infected thermometers. Great care was taken to see that the thermometers were kept free from outside contamination and during their exposure they were handled with sterile thumb-forceps. The controls throughout the entire series were negative.

The particular methods used in caring for the thermometers and the results are tabulated below: (+= growth; —= no growth.)

SERIES I

After infection, the thermometers were rinsed in a glass of water for half a minute.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	24 hours	result +
Trial 2	24 hours	result +	Trial 2	24 hours	result +
Trial 3	24 hours	result +	Trial 3	24 hours	result +
Trial 4	24 hours	result +	Trial 4	48 hours	result +

SERIES II

After infection, the thermometers were held under running water for one minute.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	48 hours	result +
Trial 2	24 hours	result +	Trial 2	48 hours	result +
Trial 3	24 hours	result +	Trial 3	72 hours	result +
Trial 4	48 hours	result +	Trial 4	72 hours	result +

SERIES III

After infection, the thermometers were rinsed in a glass of water for half a minute and then carefully dried with sterile gauze.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	96 hours	result +
Trial 2	24 hours	result +	Trial 2	96 hours	result +
Trial 3	24 hours	result +	Trial 3	72 hours	result +
Trial 4	24 hours	result +	Trial 4	96 hours	result +

SERIES IV

After infection, the thermometers were held under running water for half a minute and then dried with sterile gauze.

B. prodigiosus			*B. pyocyaneus*		
Trial 1	24 hours	result +	Trial 1	96 hours	result +
Trial 2	24 hours	result +	Trial 2	96 hours	result +
Trial 3	24 hours	result +	Trial 3	96 hours	result +
Trial 4	24 hours	result +	Trial 4	96 hours	result +

At this point *B. pyocyaneus* was abandoned for further experimental work with the thermometer as its fluorescence appeared both slowly and faintly.

SERIES V

After infection, the thermometers were kept under running water for three minutes and then wiped dry with sterile gauze.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	24 hours	result +
Trial 3	24 hours	result +
Trial 4	24 hours	result +

SERIES VI

After infection, the thermometers were rinsed in running water for half a minute, then dried with sterile gauze. They were then allowed to remain in sterile thermometer cases for half an hour before being placed in Dunham's solution.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	96 hours	result —
Trial 3	24 hours	result +
Trial 4	24 hours	result +

SERIES VII

After infection, the thermometers were treated similarly to those in Series 6, except they remained in the sterile thermometer cases for one hour.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	24 hours	result +
Trial 3	96 hours	result —
Trial 4	24 hours	result +

SERIES VIII

Identical treatment as Series 6, except the time in the sterile thermometer cases was increased to two hours.

B. prodigiosus		
Trial 1	24 hours	result +
Trial 2	24 hours	result +
Trial 3	48 hours	result +
Trial 4	24 hours	result +

SERIES IX

After infection, the thermometers were put under running water for half a minute, wiped dry with sterile gauze and then placed in sterile thermometer cases for three hours before finally being transferred to Dunham's solution.

B. prodigiosus		
Trial 1	96 hours	result —
Trial 2	24 hours	result +
Trial 3	24 hours	result +
Trial 4	24 hours	result +

In looking over these experiments, it will readily be seen that the dummy thermometers had superior advantages (in being freed from the infecting bacteria) over the thermometers in actual practice. In most communicable diseases the saliva of the patients is thickened and in some diseases it is very tenacious This condition would naturally give the bacteria a much better opportunity to adhere to the thermometer than where the saliva is thin and normal. The experimental thermometers were held under the tongue for only one minute, whereas, ordinarily in practice, they are allowed to remain from three to five minutes to insure good registration. In addition, the experimental thermometers were always washed immediately on being removed from the mouth, which fact did not allow the saliva to dry and become fixed. On the other hand, it would appear that conditions in actual practice seldom occur similar to those in Series 1. However, where two or more members of one family are ill at the same time, a careless physician might simply rinse his thermometer for a few moments and then use it on the second patient. Series 9 shows that a thermometer can retain live bacteria—capable of being recovered—after the thermometer is fairly well washed, dried and then placed in a case for three hours. Physicians in active practice must use their thermometers at more frequent intervals than this.

There are many diseases which might possibly be transmitted by clinical thermometers. Scarlet fever, diptheria, mumps, measles, typhus fever, cerebrospinal meningitis (epidemic form), acute anterior poliomyelitis, small-pox, whooping-cough, typhoid fever, tonsillitis, coryza, pneumonia, cholera, plague (pneumonic type), grip and some forms of tuberculosis may be mentioned as some of the diseases which might conceivably be disseminated in this manner.

In conclusion, it would seem necessary that physicians should keep their thermometers immersed in a true disinfectant if they would eliminate this source of danger to their patients. Formaldehyd solution would be a most satisfactory substance to use as, in contra-distinction to phenol (carbolic acid), it does no damage to the etchings of the thermometer. Until the city and state health departments give some attention to this subject, everybody who can afford to do so, should provide himself with a reliable clinical thermometer in order to avoid the use of an outside one which might prove to be the origin of some communicable disease.

EMPIRICISM AND PHARMACOLOGY IN THE MANAGEMENT OF POSTOPERATIVE CASES *

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> I never saw a purple cow—
> I never hope to see one;
> But I can tell you anyhow
> I'd rather see than be one.—*Gelett Burgess.*

I've never been a "postoperative case"—and I'd rather ee than be one. I am sorry for any one who must be "case" of any sort, but most sorry for those who in heir postoperative experience have had insult added to njury.

It is not long ago that we tied together the thighs f our patients in perineal cases; enforced a strict dor- al decubitus on our celiotomy patients; denied them ater for days at a time; forbade them food; refused o abate their sufferings with anodynes for fear of intes- inal stasis; purged them unmercifully on the second or hird day, and perhaps shot them full of nuclein. atients have often said to me: "Doctor, I did not mind he operation, but really if I had to be scrubbed as I as, and must go without water for three days as I id, I would rather die than submit again to such an xperience."

And while we are somewhat less strenuous to-day, till there is plenty of room for improvement in our fter-treatment. These errors in judgment, on our part, re due to excessive solicitude.

In the first place, we starved our patients prior to heir operation, fearing to have food in the bowels. The ay some people hate their intestinal canals is a shame. ne would think, to hear the average doctor talk, that e source of all earthly danger originates in this tube. e starved them so successfully before and after opera- ons that many patients, when subjected to the toxic fluence of an anesthetic, developed a fatal acidosis.

Acting on the assumption that postanesthetic vomit- g called for an interdiction of food, we heightened the gree of this acid intoxication by further starvation. r if we did give food, it was of such a nature that it as poorly calculated to combat the development of id intoxication. We gave beef-tea or malted milk hen we should have used carbohydrates, such as baked tatoes, cornstarch pudding or mush. I have often en postoperative vomiting which had resisted all palli- ive measures cease immediately after the giving of ese substantial starches.

Conti, in the year 1895, first demonstrated the pres- ce of acetone in the urine after general anesthesia, but it has taken fifteen years for this danger-signal to arouse some of the medical profession. Ladd and Osgood[1] reported that, in 173 ether anesthesias by cone, 88.5 per cent. of the patients later showed acetonuria, while of 222 anesthesias by the drop method, 26 per cent. became acetonuric.

The administration of alkaline substances as an antidote is markedly beneficial in this condition, yet this measure is seldom employed or, if used, in such insufficient quantities that no advantage is gained.

We must recognize that the factors at work in the production of the acetone complex are active and large, and oft-repeated doses of basic salts must be absorbed. If sodium bicarbonate be employed, it will require several ounces a day, given by mouth, colon, or hypodermically, to neutralize the acidemia.

After all general anesthesias, it is a good procedure to let the patient drink repeatedly, at intervals, a glass of water containing a dram of sodium bicarbonate. If this is vomited, it serves as a good gastric lavage; if retained, it tends to forestall acid intoxication.

For colon absorption, sodium bicarbonate can be added to the normal saline in a 2 per cent. solution.

For intravenous or subcutaneous injections, 1 per cent. sodium bicarbonate or sodium citrate solutions have been used, but neither is to be recommended except in extreme emergency, because of its hemolytic action on the blood. Food and proctoclysis will usually do all that is necessary to combat acidosis.

Closely associated with the subject of starvation is that of catharsis. It must have been because intestinal stasis is a prominent feature of peritonitis and postoperative ileus that in the past, and partially in the present, we have feared fecal retention. As a consequence, we have brought our most potent charms to work on this innocuous symptom.

The existence of constipation is no more harmful in a postoperative condition than in normal health, and in the normal state its effects are purely mechanical.

It is true that some gas distention or fecal impaction may add to the discomfort of the patient, of course I do not here refer to massive impactions (which in themselves constitute a pathologic lesion); but constipation itself has never been proved a source of intoxication. The experiments of Alonzo Taylor[2] absolutely demolish the contentions of those timorous physicians who so urgently plead for purgation. Taylor has shown that in the absence of a definite infection, no toxic absorption results from intestinal stasis. Where there is an infected bowel, there is always diarrhea.

Auto-intoxication is a state of mind, and the effects of cathartics are largely psychic. Indican is not a criterion of intestinal intoxication. Experiments on dogs, in which the intestine is ligated to simulate constipation and an invasion of bacteria into the portal circulation, with subsequent bacilluria result, are not to be taken as homologous to simple retention of feces.

Strasburger has shown that the bacterial content of the bowel is about 60 per cent. of the dried residue; and that in constipation this is reduced, while in diarrhea or after purgation the percentage of bacteria is increased. For this reason William Mayo refrains from giving any cathartics immediately before operations on the colon.

Not only is the routine administration of cathartics unnecessary, but it is frequently harmful. After the ingestion of calomel it is always possible to detect occult blood in the stools. It is simply another toxic element in the system, and does not inhibit the growth of intestinal bacteria.

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* Read in the Section on Pharmacology and Therapeutics of the erican Medical Association, at the Sixty-Second Annual Session, ld at Los Angeles, June, 1911.

[1] Ladd and Osgood: Ann. Surg., 1907, xlvi, 460.
[2] Taylor in Osler's Mod. Med., i, 273, 274, 276.

Magnesium sulphate is a decided cardiac depressant. It also has the capacity for abstracting needed water from the tissues, something that is exactly contrary to the demands of the occasion.

In fact, it should be our effort to keep the body well saturated with water before an operation. It is also true that the flat bowel of purgation, one whose muscular tone has been depressed by some cathartic, is that which later suffers most from distention.

And probably another demonstration of the paretic effect of chronic purgation is shown by the surgical cases recently reported by Lane, Finney and Mayo—those of colonic atony, redundancy, supposed fecal stasis, and auto-intoxication. Finney is unable to account for this atony; the habitual use of cathartics should be considered.

The bowels should be in a normal state for the average operation. This is best achieved by a restricted diet, low proteids and devoid of uncooked food. Vegetables that have not undergone the sterilizing process of cooking are a distinct source of danger at this time.

An enema on the morning of the operation is all that is necessary to relieve the colon of its contents and establish the most favorable intestinal condition. And on the resumption of feeding, the bowels will often move spontaneously about the fourth day, or if gas distention causes discomfort, or fecal masses in the sigmoid or rectum distress the patient, an enema will relieve the condition quite as thoroughly as a purgative, and will do no damage.

Certainly in postoperative vomiting or ileus or peritonitis, cathartics only add to the intestinal insult. It seems a hard lesson for us to understand, that in the absence of a definite endo-intestinal infection, it is not what is on the inside of the bowel that is doing the damage, but what is on the outside.

And in the use of enemata it is high time that we abandon the colon tube. Soper and many others have confirmed our suspicions; it is a miracle and a definite act of Providence when a colon tube ever enters the colon. It simply coils up in the rectum or sigmoid—in fact, it should be called a rectal dilator.

Fortunately for us, a high enema is not dependent on the necessity of being injected high. Any fluid placed in the rectum will be propelled into the colon by the normal reverse peristalsis. A short rectal tube is just as efficient as a long colon tube is supposed to be.

Where pain exists to a distressing degree after operations, we certainly have little justification for withholding morphin. By lessening pain we lessen shock and the possibility of postoperative ileus.

Yandell Henderson proposes the theory that excessive respiratory excursions produce an exhaustion of bodily carbon dioxid on which the respiratory center depends for stimulation. In the absence of carbon dioxid this center ceases activity, respiration stops, and a pathologic condition results, which he terms "acapnia," the circulation continues until oxygen failure ensues, vasomotor balance is destroyed and a vital crisis exists—this is shock.

Pain, by inducing rapid and full respirations, precipitates this condition—one actually gasps oneself to death.

It is also true that severe pain in any part of the body may produce meteorism. Bloating with gas may be just as marked from gall-stone colic as from strangulated hernia.

Morphin does not favor the production of ileus. It does constipate, but the production of one single cardinal symptom surely does not establish the disease. Used with judgment, morphin is a beneficent agent after operations. It masks nothing from the discerning eye; it fools only the foolish.

And when ileus does follow operations, the question first must be decided, is this mechanical or is it functional? Many patients are treated palliatively who should have their abdomens reopened.

If ileus really exists, its treatment is as varied as its nature is problematic. Certainly cathartics are to be excluded—they only excite reverse peristalsis.

Of all the enemata employed, from milk and molasses to kerosene oil, none have proved of constant value. In my own experience, alum—1 dram to the pint—has seemed to be of some service every time it was used.

In the treatment of tympanites and hiccough, the giving of carminatives, such as peppermint, Hoffman's anodyne, turpentine, and oil of wintergreen should never be permitted. These drugs should be relegated to the family medicine closet and never allowed to enter a serious situation of this nature. Their use is irrational and wholly futile.

Gastric lavage affords considerable relief. The hypodermic administration of physostigmin (eserin) has always seemed to me to be of benefit whenever it was used. This drug must be pushed to its physiologic limit.

Whether the demonstrations of Crile or the experiments of Henderson have proved the nature of shock or not, at least they have made it clear that the hypodermic medication usually indulged in at this time is foolish.

To employ nitroglycerin, digitalin, strychnin, ether, whisky, musk and camphorated oil indifferently, with an idea of helping the patient who is suffering from surgical shock, is simply shocking.

The person who indulges in this spectacular therapy has little conception of the physiologic discord with which he is contending, and less notion of the action of his drugs. To attempt to stimulate an already exhausted vasomotor center with an excitant like strychnin or a vasodilator like nitroglycerin is comic medicine.

The only saving feature of the whole performance is the fact that the usual hypodermic tablet is such an insufficient dose that it has little power for harm.

Oxygen, salt solution and epinephrin are the only chemical agents that have a legitimate excuse for being used in this emergency. Other measures, of course, are of service, but these are posture tongue traction, compression of the limbs, and heat.

Salt solution can be used to excess, let it not be forgotten, although Mummeny[3] has shown that salt solution has the power of transporting oxygen to the tissues, a state of hydremia should not be produced.

It is better to use conservative measures such as constriction of the extremities, than to flood the organism with water. Thiers has shown the advantage of using a combination of salts, sodium chlorid, calcium chlorid, and potassium chlorid, rather than the usual sodium chlorid solution.

In simple collapse no drugs are indicated. Here the physiologic balance of the vasomotor system will adjust itself, if given time. Where this fall in blood-pressure is due to moderate hemorrhage, it is probably a conservative action tending to produce hemostasis and coagulation.

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[3] Mummeny: Lancet, London, 1905, i, 696, 776, 846; ii, 780.

Our forefathers, in performing venesection, nearly always bled the patient until he fainted. I have frequently abstracted a pint or a quart of blood, in conditions that seemed to warrant it, and had my patients faint, lose the radial pulse, sweat, have their heart-sounds become almost inaudible, though the carotids could be seen beating slowly and rhythmically, the respiration unhurried. I have not been alarmed but, giving them due time, watched the return of vascular balance unaided and unimpeded by medication.

There are other conditions, however, arising postoperatively that require chemical therapy. One of the most frequent situations comes from infections of the urinary tract, incident to catheterization.

It is lamentably frequent that one undergoes a surgical operation for one pathologic feature, and develops another in its place. Many women, taking advantage of modern surgery to gain relief from some pelvic disease, come from the hospital with an unrecognized cystitis. Later they have an ascending infection and a pus kidney.

In every case demanding catheterization, hexamethylenamin should be given in sufficient doses, well diluted with water, to act as a prophylactic against this ubiquitous pest.

The experiments of Crowe[4] at Johns Hopkins Hospital, relative to the inhibitory action of hexamethylenamin on infections of the meninges, gall-bladder and serous cavities in general, should be sufficient to prompt the employment of this valuable drug in lesions or operative maneuvers involving the brain, spinal cord, gall-bladder, joints and urinary tract.

Many cases of supposed post-partum infection really are acute renal infections from a latent cystitis, or traumatic ureteritis. This is the frequent and unrecognized cause of puerperal fever.

It would be a highly salutary routine to give hexamethylenamin in every case of confinement, since 20 per cent. of all pregnant women present infected urinary tracts to some degree.

And more might be said on the subject, were it not that I have said too much already, and less would have been said were I wiser than I am.

But the burden of my story is this—that we do a lot of stupid things through thoughtless imitation of other men; that we should try to have a reason for what we do; that we should be governed more by the well-proved experiments of modern research, and that simplicity should be the dominant element in postoperative treatment.

401 Third Street.

Medical Research.—There is no realm, however, in which the ep satisfaction of seeing discovery applied to human service, more likely to be experienced than in the realm of medical search. Consider how great must have been the joy of steur and of Lister when they realized that the consequences their investigations must lessen forever plague and pestilence and pain in men, and in the lower animals as well, and st permanently remove much of the blind struggle against sterious agencies of disease and death. The letter which alter Reed wrote to his wife on New Year's eve, 1900, at the l of his experiments on the transmission of yellow fever, ls something of the joy of such service—"The prayer that s been mine for twenty years," he concludes, "that I might permitted in some way or at some time to do something to eviate human suffering, has been granted! A thousand ppy new years." And a thousand happy new years there ll be for thousands of men and women and children, because that one research in Cuba.—Cannon in *Science*.

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[4] Crowe: Bull. Johns Hopkins Hosp., 1908, xix, 109.

A CLINICAL STUDY OF MOBILITY OF THE HEART *

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It has long been known from bedside study, and more recently from the use of the *x*-rays, that the heart occupies no fixed position in the thorax. The heart is held suspended by its large vessels and is in intimate relation with the walls of the thorax, the mediastinal tissues, the lungs, and the diaphragm. It is evident that the position of the heart may, therefore, be modified by abnormalities of any of the supporting structures, as mediastinal tumors, pleural effusion, pulmonary disease, particularly deformities resulting from tuberculosis, and by abdominal conditions which modify the position of the diaphragm, such as enlargement of the liver, ascites, intra-abdominal growths, and pregnancy. The physiologic factors which modify the position of the heart are, (1) respiration and (2) changes in the position of the body. I have concerned myself only with the latter in this study. Other causes of cardiac displacement will be mentioned only incidentally.

Cherchevsky[1] first called attention to abnormal mobility of the heart. In forty cases studied to determine the effect of changes in position of the body on the apex-beat, he found the mobility to be normally from 1.5 to 3 cm. In nineteen cases it varied from 4 to 7.5 cm.; there was slight mobility in six cases and no movability in fifteen. He considered a range of mobility exceeding 3 cm. as abnormal. In arteriosclerosis, mobility was greatly diminished or absent.

Rumpf[2] concluded from a similar study that the absolute as well as the relative heart-dulness is normally movable about 2 cm. to the left in the left lateral position, and 1.5 cm. to the right in the right lateral position. In many cases the apex-beat remained in the same place, but it often showed a displacement of 2 cm. in a change of posture. Rumpf described five cases, in which the mobility of the heart toward either side amounted to 4 cm., which he designated as "movable heart."

Pick[3] examined 1,000 healthy persons. The majority showed no perceptible difference in the position of the apex-beat and in the percussion sound in different postures of the body. There was slight lateral mobility to the left on assuming a left-sided position in 60 per cent. of the cases, and the apex-beat moved from 1.5 to 2 cm. He described seven cases of movable heart, in which the apex-beat was displaced 4 to 6 cm. to the left.

Hoffman[4] found that the various grades of mobility of the heart were easily recognized by means of *x*-rays, and concluded that marked movability is of considerable importance to the state of health.

Schmidt[5] concluded that movable heart is often associated with cardiac neurasthenia.

Lensser[6] described several cases of movable heart and considered a displacement of the apex-beat of 3 cm. or more, to the left in the left lateral position, as abnormal.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Cherchevsky: La mobilité du coeur et sa valeur diagnostique, Gaz. méd. de Paris, 1887, p. 629.
2. Rumpf: Ueber Wanderherz, Verhand. d. 7 Cong. f. inn. Med., 1888, p. 221.
3. Pick, A.: Ueber das bewegliche Herz (cor mobile), Wien klin. Wchnschr., 1889, p. 747.
4. Hoffman: Verhandl. d. 16 Cong. f. inn. Med., 1898, p. 216
5. Schmidt: Deutsch. med. Wchnschr., 1901, No. 16, p. 242.
6. Leusser: Ueber Wanderherz, München. med. Wchnschr., 1902 No. 26, p. 1095

Rummo,[7] in addition to increased mobility of the heart, described a condition in which there was sagging of the heart from its normal position over the diaphragm, due to relaxation of its supports, and introduced the term to such cases as "cardioptosis." There was no necessary relationship between cardioptosis and enteroptosis. He found both a partial and a complete ptosis, where the heart rests entirely on the diaphragm.

Braun[8] maintains that cardioptosis should be differentiated from movable heart. He does not consider the latter a disease, nor does he think there is justification for attributing neurasthenic heart symptoms to increased mobility of the heart.

Einhorn[9] found cardioptosis in 2.4 per cent. of 926 cases, eighteen men and four women. In the cases of cardioptosis he found it associated with increased mobility of the heart in a number of cases. He regards nervous disturbance of the heart, palpitation, vertigo, and occasionally inability to lie on the left side, as due to cardioptosis. In his opinion, cardioptosis is a distinct clinical entity, equally with enteroptosis.

Hunter[10] described a case of paroxysmal tachycardia and arhythmia with an unduly movable heart. The movability of the heart amounted to 2 inches with change of position from one lateral posture to the other. He was unable to determine that change of posture influenced the paroxysms of tachycardia.

Elliott[11] recently studied the movability of the heart and aorta in health, as evidenced by radiographs taken in unusual positions. That the heart is fairly movable in health and that it may be forced into unusual positions by abnormal physical means is generally understood, but that it is as freely movable as it is, and that its mobility may be made to assist in the interpretation, or may lead to misinterpretation of radiographic findings, unless taken into consideration, has not been sufficiently recognized. A radiograph taken with the patient lying on the right side, respirations at rest, shows that the heart is largely moved to the right of the vertebral column. Similarly, with the patient lying on the left side, respirations at rest, the entire heart shadow is carried to the left, leaving the right border of the vertebral column free and unaffected by the heart-shadow. With the patient lying on the right side, the aorta casts a shadow which extends 4 cm. to the right of the vertebral column, whereas with the patient lying on the left side, the shadow cast by the aorta does not appear to the right of the vertebral edge at all.

Krehl[12] found that the position of the heart changes with that of the body and that the apex-beat is often found to be displaced to the left a few centimeters when the individual lies on the left side. In some cases, however, displacement was so great that the term "wandering heart" was justifiable. In the right lateral position, the apex-beat in healthy individuals either remains unaffected or is displaced only by very little to the right. The change from the horizontal to the vertical position, and vice versa, has no appreciable effect on the apex-beat. Krehl considers that extreme mobility of the heart is due to great loss of intrathoracic fat (starvation cures, tuberculosis) and that in these cases the cardiac displacement causes more or less distress when the patient lies on his side, possibly on account of contraction or kinking of the large vessels.

Determann[13] considered that in nervous persons abnormal mobility of the heart appears to be not uncommon and causes subjective cardiac symptoms. A comparison with movable kidney naturally suggested itself.

Hoffman[14] states that when the position of the diaphragm is high and the heart is abnormally movable so that the larger portion of its area comes in contact with the chest-wall, dilatation may be simulated. He believes that many cases of so-called cardiac dilatation are in reality only examples of this condition. Error can be avoided by testing the mobility of this organ.

Dietlen[15] and Moritz[16] have made extensive orthodiagraphic studies of the size and position of the heart under normal and pathologic conditions. Conner,[17] recently summarizing some of their many interesting facts on this subject, states: 1. With a change from the recumbent to the erect position, there is a distinct sinking of the heart from 2 to 4 cm., corresponding to the lower position of the diaphragm and liver, and that with this the heart assumes a more nearly vertical position while the width of the shadow is considerably lessened. 2. In old age there is regularly a lower level of the diaphragm and a correspondingly lower position of the heart, but in this case the organ, instead of having a more vertical position than usually occupied, was more nearly transverse. The explanation of this is probably to be found in the relaxation of the attachments of the great vessels, by which the heart is held in position. 3. In women the position of the heart is on the average an intercostal space higher than in men. 4. In asthma and emphysema there is a marked sinking of the diaphragm and heart, and to this fact often, more than to the overlapping of the heart by the voluminous lungs, is to be ascribed the great diminution of the heart sounds in the second intercostal space and the low position of cardiac dulness.

The present contribution to this subject is the result of a study of 193 cases. Of this number, forty-nine were apparently healthy. The remaining 144 were private patients or routine cases studied in my wards at the Los Angeles County Hospital.

In studying the movability of the heart in different positions of the patient, the absolute or superficial cardiac dulness was used and determined by feeble percussion. In determining the change of the apex-beat in different postures, the usual point of maximum intensity of the apex-beat was ignored. That point of the heart coming in contact with the palpating finger farthest downward and to the left was considered the true apex.

The conclusions obtained were the result of a second examination, or were controlled by two examiners, so that a fair degree of accuracy may be assumed. In all cases in which there was doubt as to the exact position of the apex-beat or of the border of cardiac dulness, opinion was suspended and these do not enter into the ultimate findings.

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[7] Rummo: Sur la cardioptose. Deutsch. med. Wchnschr. Vereinbeilage, 1900, p. 228.

[8] Braun: Ueber das Wanderherz, Centralbl. f. inn. Med., 1902, No. 35, p. 873.

[9] Einhorn: Cardioptosis and its Association with Floating Livers. Med. Rec., 1903, lxiii, No. 17, p. 647.

[10] Hunter: Case of Paroxysmal Tachycardia and Arhythmia with Unduly Movable Heart. Glasgow Med. Jour., lxix, 367.

[11] Elliott: Movability of the Heart and Aorta in Health as Evidenced by Radiograph Taken in Unusual Positions, Quart. Bull. Northwestern University Med. School, 1911, xii.

[12] Krehl, L.: Diseases of the Myocardium, Nothnagel's Encyclopedia, Am. ed. W. B. Saunders & Company.

[13] Determann: Ueber die Beweglichkeit des Herzens, Deutsch. med. Wchnschr., 1900, No. 15.

[14] Hoffman, A.: Acute Herzdilatation und Cor mobile, Deutsch. med. Wchnschr., 1900, No. 19.

[15] Dietlen: Arch. f. klin. Med., No. 88, p. 55.

[16] Moritz: Methoden der Herzuntersuchung, Deutsch. Klin., iv, pt. 2, No. 15.

[17] Conner: The Clinical Study of Heart Cases, Am. Jour. Med. Sc., June, 1908, p. 790.

One of the most striking facts observed was the dis-repancy between the amount of displacement of the pex-beat and that of the cardiac dulness in the change of position of the patient. The change in the apex-beat amounted in some cases to 5 cm. or 6 cm., while hat of the cardiac border of dulness was only 2 cm. or 3 cm., and vice versa, so that, as far as our experience eaches us, these two factors are not always as constant s one might expect them to be. This may be due to he fact that in changing the position of the body there occurs a twisting of the heart on its long axis, thus making considerable alteration in that portion of the heart which comes in contact with the chest-wall as the apex-beat.

In the 193 cases there were nine in which there was otal displacement of the heart downward, the so-called ardioptosis of Rummo. In seven of these there were linical signs of atheroma of the aorta.. The low posi-ion of the apex in these cases on first impression sug-ested aortic valve disease until the cardioptosis was discovered, which to me emphasizes the importance of nvariably testing the mobility and position of the heart efore assuming from an abnormal position of the apex-eat that dilatation or hypertrophy is present. Close xamination in all of these cases of cardioptosis showed hat the heart *en masse* was displaced downward from ne to two interspaces.

Of the forty-nine persons in health, consisting largely f high school students, the average displacement of the pex-beat from the dorsal position to the left lateral osition was 3.02 cm. to the left, while the right border f cardiac dulness changed only 1.04 cm. The greatest hange in the apex-beat was 5 cm. and that of cardiac ulness 8 cm.

The smallest change in the position of the apex-beat as 2 cm. and that of cardiac dulness was in patient I. K., aged 15, apparently well, in whom there was no hange in the movability of the heart from the dorsal o the left lateral.

Of the 144 patients selected routinely, suffering from arious diseases, the average change in the apex-beat ith the patient changing from the right lateral to the ft lateral position, was 3.9 cm., the change in cardiac ulness, 2.7 cm. The maximum displacement of the pex-beat was 14 cm. in a case of pulmonary tubercu-sis. In another tuberculous subject the displacement mounted to 10.5 cm.; in another, 13.5 cm. In one case mitral regurgitation the displacement of the apex mounted to 9 cm., in another to 7.5 cm., and in still nother to 8.5 cm. In other patients with the same iagnosis, however, the mobility of the apex was normal diminished, so that the movability of the heart in ese conditions was by no means characteristic. The eatest mobility of the cardiac dulness was 12.8 cm., a case of pulmonary tuberculosis. In a second case tuberculosis it was 12 cm. In the cases of cardiac ions, twenty-five in number, excluding six cases of ricarditis with adhesions, the displacement of the ex-beat was 3.6 cm., and the change in the cardiac ulness with change in position of the patient from the ght lateral to the left lateral was 3.3 cm. No differ-nces in the displacement of the heart were observed in itral and in aortic valvular lesions. In the six cases inically diagnosed as pericarditis, two being confirmed autopsy, with adhesion of the outer pericardium to rrounding structures, there was fixation of the heart; change in either the position of the apex-beat or rdiac dulness occurred when the patient changed from e right to the left lateral postures.

The impressions from this study, imperfect as it is, are, first, that the determination of the movability of the heart is of considerable value in the differential diagnosis of cardiac dilatation, and that before assuming that the heart is dilated to the right or to the left, the movability of the heart should always be determined.

Secondly, the immobility or fixation of the heart should always arouse the suspicion of adhesion of the pericardium to neighboring organs. There is probably no serious heart lesion diagnosticated less frequently, clinically, than pericarditis with adhesions. Since systolic retraction of the interspaces and other signs of this condition are so frequently absent, it seems that it would be well to emphasize immobility or fixation of the heart as one of the signs of pericardial adhesions.

My thanks are due Drs. J. W. Nevius and J. W. Bardill for assistance in the production of this paper.

In addition to the authorities already cited, the following may be consulted:

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Groedel: Roentgen Rays in Heart Diagnosis, Interst. Med. Jour., June, 1911, p. 615.
Satterthwaite: Mobility and Malpositions of the Heart, Internat. Clin., ii, ser. 21, p. 55.

THE BACTERIOLOGY OF THE EAR *

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Determining the variety of bacteria present in disease of the ear is an aid to prognosis and warns us of possible complications. Single infections are usually acute, while mixed infections are apt to become chronic. There are very few cases of sinus thrombosis reported as due to pneumococci, but streptococcus sinus thrombosis is of common occurrence. Streptococci also frequently cause brain abscess and may involve important structures by necrosis, or may cause a fatal septicema. Hence, it is important to know whether these organisms are present. Streptococci and pneumococci appear to be the most frequent cause of otitis and mastoiditis. Staphylococci are found in a large percentage of chronic cases, seldom in pure culture.

Most investigators do not consider infection with staphylococci likely to be serious, but operation is necessary in about half the cases of infection with *Streptococcus pyogenes* or *Streptococcus mucosus*. If meningococci are found we know the patient has, or is likely to have, meningitis.

Examination of ear discharges is important in cases infected with diphtheria bacilli in order that proper precautions may be taken to prevent the spread of the disease. Newsholme (1904) reports a case of infection with diphtheria from a case of otorrhea—a pure culture of diphtheria bacilli being obtained from the ear discharge. Graham-Smith (1904) reports five cases, infected with virulent Klebs-Loeffler bacilli from contact with a patient having otorrhea. Several others have obtained virulent diphtheria germs from the ear. Diphtheria-like bacilli are often found in ear cases; a small percentage of these are virulent. Nuttall and Graham-Smith found 10 per cent. virulent. It is necessary to make cultural tests and animal inoculations before making a positive diagnosis of diphtheria.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

In many reported cases, examination for bacteria was made only after puncture of the ear-drum. It is very difficult to sterilize the external auditory canal and drum-head so as to get uncontaminated cultures from the discharge. Leutert was the first to take cultures at the time of operation. He found streptococci predominating. In chronic cases staphylococci were most numerous. He thinks sinus thrombosis and brain abscess caused almost exclusively by streptococci. Newman and Rutten, in an article on "Etiology of Acute Otitis Media," come to practically the same conclusions. Libman found streptococci predominating. Barnhill and Wales report two-thirds of complications due to streptococci. McKenna says that *Streptococcus mucosus* is frequently found in otitis media, which explains its relative frequency as a cause of acute meningitis. Richardson mentions it as a cause of mastoid disease. Bacon thinks that most cases of acute otitis media are due to the influenza bacillus.

Infection may reach the middle ear through a ruptured drum-head, through the petrosquamosal fissure in the infant, through defects in the tegmen covered over with fibrous tissue, or in fracture of the temporal bone. It may travel along the nerve sheaths or blood-vessels, or the blood may carry infection to the ear. These cases, however, are rare. Microorganisms most frequently reach the ear from the nose and throat through the Eustachian tube. The chief predisposing factor is an inflammation of the nasopharynx or nasopharyngeal obstruction. Acute infection in the middle ear, with inefficient drainage or lack of proper treatment, is one of the most frequent causes of mastoiditis. A lowered vitality, exposure to wet and cold, and also certain constitutional diseases act as predisposing factors.

The question as to whether bacteria are present in the normal mastoid antrum is an important one. If they are present, then some relatively unimportant predisposing cause, as exposure to wet and cold, or loss of vitality from general or local causes, will give these bacteria an opportunity to develop and cause pathologic changes and loss of function, to a greater or less extent, and possibly serious complications.

Many investigators claim that the normal tympanic cavity and mastoid antrum contain pathogenic germs, few in number, which become active under favorable conditions. Others are just as positive that no pathogenic germs are present. The tympanum communicates with the Eustachian tube in front and with the mastoid antrum and cells behind. Since the Eustachian tube admits air to the middle ear, there seems to be no reason why it should not also admit bacteria from the throat.

A number of cases have been reported in which the mastoid was primarily involved. Two to 4 per cent. of typhoid patients have ear complications, the mastoid often being involved. Various organisms are found—staphylococci, streptococci, diplococci, colon bacilli, etc., thus apparently showing that a lowered vitality is the predisposing factor and that bacteria are already present.

In the following twenty-one cases, I have collected the material at the time of operation, made cultures and isolated and identified the bacteria. The material for examination was collected in sterile Petri dishes, and was then transferred to flasks containing 100 c.c. of sterile broth; an agar culture was also made by pouring agar on the material remaining in the Petri dish. These were incubated for twenty-four hours at 37 C. and then agar and gelatin plates were made. The plates were incubated from twenty-four to forty-eight hours. The colonies were then examined—methylene-blue and Gram stains being made, also hanging drops to determine motility, after which cultures were made from the different colonies on the various sugar media, on gelatin, blood-serum, milk, litmus milk, potato, and glucose and lactose bouillon. Where necessary, smears were stained for spores, capsules and flagella.

REPORT OF CASES

Following are given the synopses of twenty-one cases as taken from the history sheets:

Case 1.—N. G., aged 19. September 29, complains of a discharge from the left ear, a roaring sound in the ear, and constant headache. Trouble started four years ago and has gradually become worse. Complains of a slight sore throat. At first, ear discharged only when lying on left side. No pain at that time. Complains of pain only when she catches cold in ear. Discharge night and day. Cannot hear very well with left ear. Whooping-cough when 2 years old and measles at 12. Perfectly well at present except for ear trouble. In left ear bone, conduction is better than air.

Diagnosis.—Chronic discharge from left ear, chronic mastoiditis left.

Operation.—October 1, radical mastoid—left.

Bacteriology.—Staphylococci and an unknown bacillus in left tympanic cavity. Streptococci found in left ear. December 6.

November 19, double suturing of left mastoid wound. Discharged February 9.

October 5, ear began discharging last Thursday and has been discharging ever since. March 8, left ear has been discharging for last two weeks. Sense of fulness in left side of head. Dull ache back of left ear.

Result.—Complete recovery. No improvement in hearing in left ear.

Case 2.—E. T., aged 13. November 3, complains of ear-ache in left ear. Ear has discharged for many years. Some impairment of hearing. Aches only in winter. Trouble starts as soon as cold weather sets in. Discharge and ear-ache whenever patient catches cold. Past history not known, patient being an adopted child.

Examination.—Bone and air conduction equal in left. Drum-head badly scarred.

Diagnosis.—Adenoids and diseased tonsils, chronic otorrhea—left.

Operation.—November 5, left radical mastoid with dura exposed.

Bacteriology.—Streptococci, *Staphylococcus aureus* and *albus*.

Plastic Operation.—November 19.

An autogenous vaccine was prepared and given every seven days in the following doses:

First—	
Streptococci	5,000,000
Staph. alb.	100,000,000
Staph. aureus	100,000,000
Second—	
Streptococci	10,000,000
Staph. alb.	200,000,000
Staph. aureus	200,000,000
Third—	
Streptococci	15,000,000
Staph. alb.	400,000,000
Staph. aureus	400,000,000
Fourth—	
Streptococci	20,000,000
Staph. alb.	600,000,000
Staph. aureus	600,000,000
Fifth—	
Strept.	30,000,000
Staph. alb.	80,000,000
Staph. aureus	900,000,000
Sixth—Same as Fifth.	

Result.—Complete recovery; patient gained in weight, and health much improved.

Case 3.—H., schoolboy.

Diagnosis.—July 17, serous catarrh middle ear.

Operation.—Simple mastoid—left.

Bacteriology.—Staphylococci.

Operation.—August 4, adenoids and tonsils removed.

Result.—Complete recovery.

Case 4.—R. B., aged 2.

Diagnosis.—February 23, acute mastoiditis, both sides.

Operation.—February 25, right simple mastoid.

Bacteriology.—Streptococci. March 6, diphtheria bacilli ound in culture from right ear. The diphtheria bacilli were ested and found to be virulent.

Operations.—March 8, left simple mastoid. Sutured right. pril 1, sutured left mastoid.

Discharged May 14.

Case 5.—S. C., aged 22. April 24, complains of a growth n right mastoid. Commenced eight years ago. At times, atient says, it seems to puff up and then go down again. here has been no pain and no discharge. Never dizzy that he can remember. At times the growth is somewhat painful hen pressure is made.

Diagnosis.—Mastoiditis.

Operation.—April 24, simple mastoid.

Pathology.—Enlarged glands over mastoid region, tip of astoid somewhat diseased. Antrum normal. Laboratory eport: One of the glands was sectioned and found to be mphoid tissue, somewhat inflamed. Culture from the ntrum showed numerous bacteria, including *Staphylococcus lbus.*

Result.—Complete recovery.

Case 6.—N. N., complains of loss of hearing and discharg- g ear. About two years ago noticed hearing was affected. he discharge began about six months ago.

Operation.—May 20, radical mastoid—right.

Pathology.—Dura exposed over tympanic cavity. Exten- ve necrosis along posterior wall.

Bacteriology.—Gram-negative streptococci, *Staphylococcus bus.*

Operation.—June 4, sutured right mastoid.

Result.—Complete recovery, hearing normal.

Case 7.—F. A., aged 8. September 29. Ear trouble began vo years ago. Had scarlet fever with diphtheria following. ad tonsils removed when he had diphtheria. Left ear began discharge then and has been discharging nearly all the time nce. Some better the past year. Had ear-ache at times efore discharge began. Had to cleanse ear three or four mes a day. Odor offensive. Mastoid region painful once in while. Right ear discharged for a short time after attack. earing bad in left ear.

Examination.—Right ear normal. Left ear, high notes ormal. Bone conduction better than air. Whisper, one foot; eaking voice, four feet. Perforation of drum-head, dis- arge from ear.

Diagnosis.—Chronic otorrhea.

Operation.—September 3, radical mastoid.

Pathology.—Necrotic bone removed from middle fossa expos- g dura. Attic filled with granulations. Removed hammer. ound many cells about external auditory canal. Necrotic aterial next dura and pachymeningitis. Surface of dura flamed, dura not bulging.

Bacteriology.—*Sarcina aurantiacca* and rhodococcus.

Result.—Complete recovery, no improvement in hearing in t ear.

Case 8.—L. D., aged 17. October. Trouble began in right r about a year ago, caused by a bad cold. Had severe pain ear and mastoid tenderness for about a week. Could not ar well with that ear. There was a discharge for a few ys at first. Has not discharged since then but has had ich pain in ear and back of ear. For the last month pain s been constantly present.

Examination.—Right ear, high notes normal. Air conduc- n better than bone. Small hemorrhages on lower half of um-head. Whisper, 15 feet; speaking voice, 40 feet. Caloric st showed labyrinth functionating. Left ear normal.

Operation.—October 7, simple mastoid—right.

Pathology.—Necrosis below antrum and over angle of lateral us. All cells inflamed.

Bacteriology.—Sarcina was the only organism found. tient completely recovered.

Case 9.—Patient, aged 26. October 29 had had trouble with right ear for thirteen years, since scarlet fever. For the last three months it has been discharging constantly—pain at times.

Examination.—Perforation in drum-head. Right tube open. Ear might get well with packing and inflation. Right ear, whisper 4 inches; speaking voice 20 inches. Left ear, whisper 15 feet; speaking voice, 35 feet.

November 28. Needs radical mastoid.

Operation.—December 1, right radical mastoid.

Pathology.—Exposed lateral sinus at knee; sinus was thickened and covered with granulations. Necrosis down to facial canal; necrosis above and posteriorly. Polyps in tympanic cavity. Facial nerve unaffected after operation.

Bacteriology.—*Staphylococcus aureus.*

Result.—Complete recovery from operation; no improvement in hearing.

Case 10.—G. R., aged 10. November 9. Complains of ear trouble. Had tonsillitis four weeks ago, and after a few days his left ear began to discharge. Had ear-ache in left ear during his attack of tonsillitis and just before the ear began to discharge. The discharge stopped last Saturday, when he noticed a swelling behind his ear. Says it is not sore unless he presses it. Hearing somewhat impaired. Does not breathe through his nose at night and only a part of the time during the day. Had measles when 8 years old. Past medical history otherwise negative.

Diagnosis.—Acute mastoiditis.

Operation.—November 11, left simple mastoid. Adenoids removed.

Pathology.—Open sinus leading into antrum. Much pus present. Dura not exposed. Parasinus abscess and external dural abscess. Lateral sinus exposed full length.

Result.—Complete recovery.

Bacteriology.—Streptococci.

Case 11.—H. J., aged 16. November 18. Hurt in a runaway in March. Unconscious three or four hours. Has had trouble back of ear and in back of head since. Both ears discharged some at times since then. Has had paracentesis of left ear-drum once, and of right, three or four times. This relieves pain for a time. Pain begins in back of head and head throbs. Tenderness over right mastoid extending back almost to occipital protuberance since accident. Had vomiting spell just after accident but none since. Headache all the time.

Examination.—Right and left ears normal.

Diagnosis.—Traumatic mastoiditis or periostitis and osteitis.

Operation.—November 2, right simple mastoid. Removal of necrotic bone posterior to mastoid region, exposing lateral sinus and dura.

Pathology.—Circular area of necrotic bone below lateral sinus three and one-half inches posterior to external auditory canal. Extended to dura. Periosteum black over this area. Periosteum peels off with difficulty. Mastoid antrum and cells normal. Posterior emissary vein one inch posterior to mastoid. Lateral sinus exposed. Dura exposed in right occipital region and appears normal.

Bacteriology.—*Staphylococcus albus* and *aureus* and an unknown bacillus found in mastoid antrum.

December 17, ear began to pain and drum was bulging. Paracentesis done. Found only serum. *Staphylococcus albus* found in discharge. January 12. Paracentesis right drum. February 16, discharged—perfectly well.

Case 12.—R. F., schoolboy. November 1. Says his ears have discharged ever since he can remember. No other history obtainable.

Examination.—Right ear, yellowish discharge. Perforated drum-head. High notes normal. Bone conduction better than air. Whisper 3 feet; speaking voice 10 feet. Tests show labyrinth functionating. Left ear—yellowish discharge. Perforated drum-head. High notes normal. Bone conduction better than air. Whisper, 15 feet; speaking voice, 30 feet. Tests show labyrinth functionating.

Diagnosis.—Double chronic otorrhea.

Operations.—November 4, right antromeatal. Adenoids removed. November 11, left radical mastoid. November 18, plastic operation.

Pathology.—All mastoid cells necrotic. Lateral sinus not exposed. Pus in attic. Exposed dura. Pachymeningitis.

Bacteriology.—Pneumobacillus.

Pathology.—Tip necrotic. Necrosis anterior and external to facial—very extensive. Much necrosis at opening of Eustachian tube. One arm of incus gone. Malleus in fair shape. Cerebellum exposed just under lateral sinus.

Bacteriology.—Pneumobacillus.

January 2, left ear well; right improving. No improvement in hearing in left; about two-thirds normal in right.

Case 13.—L. C., aged 17. November 26. Left ear discharged when a baby. No discharge after that for six or seven years. Since then, whenever he catches cold the ear discharges. Discharge yellowish, has bad odor. No pain in ear. No pain or swelling over mastoid region. Thinks he cannot hear with this ear.

Examination.—Right ear, air conduction better than bone. High notes cut down. Whisper, 15 feet; speaking voice, 40 feet. Left ear, high notes cut down. Bone conduction better than air. Whisper, 6 inches; speaking voice, 25 feet. Tests showed labyrinth functioning. Perforation of drum the size of pea.

Diagnosis.—Chronic otorrhea.

Operation.—December 2, left radical mastoid.

Pathology.—Complete necrosis of mastoid. Posterior fossa exposed. Exposed dura. Shiny material in antrum.

Bacteriology.—*Staphylococcus aureus* and *Micrococcus tetragenus.*

Patient developed slight facial paralysis December 4, which lasted until December 13. Went home before ear was well. Not known whether he had further trouble.

Case 14.—W. W., aged 17. November 5. Had tonsils removed ten years ago. Two years ago adenoids removed. Since that operation, ears have been discharging almost constantly. Turbinates large and fibrous. Remains of tonsils infected. Left, voice, 8 inches; right, whisper, 10 feet. Advised to have nose repaired first, and at same time have ear treated twice a day. Later, if necessary, mastoid operation.

October 7, acute tonsillitis. October 19, left inferior turbinate trimmed. Has a very high arch with an overhanging bite. Arch should be widened. November 16, right inferior turbinate trimmed. November 26, paracentesis left drum-head.

Operation.—December 19, left meatomastoid. Dura exposed in middle fossa; lateral sinus exposed and whole mastoid necrotic.

Bacteriology.—Colon bacillus and *Bacillus diphtheriæ.*

Result.—Patient well, no further trouble with ear, hearing about one-fourth of normal.

Case 15.—E. G., aged 16, December 13, complains of discharging ears. Puffing noise constantly in right ear. Says hearing is impaired in right ear. Normal in left. When a baby, had discharge from both ears; does not remember how long it lasted. Seven years ago one discharged, does not remember which one or how long it lasted. Last April he had mumps on both sides and two weeks later measles. Ears both began to discharge when the patient had mumps. Left one discharged for two months, right one ever since—occasionally stopping for a day or two at a time. Some pain below right ear and in front of mastoid. No pain or swelling behind ear. Discharge was of a yellowish color, profuse and had an offensive odor. Has been treated for past three months.

Physical Examination.—Pus in external meatus. Drum-head thickened. High notes normal Air conduction better than bone. Whisper, 2 feet; speaking voice, 12 feet. Test showed labyrinth functionating. Adenoids present. Punctured right and left nasal antrum and found a small amount of old pus in left.

Diagnosis.—Mastoiditis, right.

Operation.—December 16, right simple mastoid, also adenoids removed.

Pathology.—Eburnated bone in cortex. Antrum and neighboring cells filled with pus.

Bacteriology—Pneumobacillus.

December 30, taken to isolation ward for erysipelas beginning about 1 inch anterior to right ear. Began December 28. January 2, had a little tenderness over tip of left mastoid. January 3, swelling on left side of neck just below mastoid.

Operation.—January 12, paracentesis—right. Discharged. March 1, comes back because her right ear is discharging—started two weeks ago. Discharged April 7. Ears well, hearing about one-half normal in right ear.

Case 16.—A. P., aged 16. December 15. Was slow in learning to talk. At times hears fairly well. When he takes cold, hearing is affected. To-day hears loud voice at 6 inches only. Sleeps with mouth open.

Examination.—Left drum-head scarred and retracted. Right external canal filled with pus. Right ear, loud voice, 6 inches; lef tear, cannot hear speaking voice. Tonsils and adenoids should be removed. Needs a meatomastoid operation.

Operation.—December 16, radical mastoid.

Bacteriology.—Colon bacillus.

Operation.—December 28, adenoids removed.

Result.—Complete recovery from operation; hearing in right ear about one-half normal.

Case 17.—E. V., aged 15, January 7. Ear trouble began one week ago last Monday. Left ear began to ache, continued to ache for a couple of days, and then began to discharge. Has been discharging ever since and is painful most of the time. Mastoid region swollen after ear began to discharge. Had influenza and sore throat about one week before ear trouble began. Says she had ear-ache a great deal about eight years ago; does not remember which ear or whether it discharged any. Breathes through mouth day and night. When she catches cold has a dull pain over right antrum. Had ulcerated tooth on right side above one or two years ago. Nose constantly discharges—yellowish—no odor.

Physical Examination.—Right ear normal. Left ear, perforation of drum-head with discharge of pus. Drum-head bulging. Tenderness over mastoid. Pain in ear most of the time. High notes normal. Bone conduction better than air.

Diagnosis.—Left otorrhea and mastoiditis.

Operations.—January 7, paracentesis left ear-drum. January 13, left simple mastoid.

Pathology.—Mastoid cells small and all filled with pus. Not much necrosis. Exposed lateral sinus at knee.

Bacteriology.—Streptococci, some of them Gram-negative. *Micrococcus catarrhalis.* Hay bacillus.

Discharged February 15. Ears normal.

Case 18.—M. G., aged 16. January 16. Has had trouble in right ear as long as she can remember. If she catches cold, she has ear-ache. Three or four years ago had ear-ache in right ear a great deal. One year ago, right ear discharged for two or three weeks. Discharge was purulent. Since then no discharge until middle of December, when she had measles. December 26, had a severe ear-ache; discharge began and has continued ever since, stopping at times for a day or two. Ear has been very painful; was swollen over mastoid region a part of the time. Ear and mastoid region have been massaged by an osteopath. Says she had tonsillitis several years ago, also on left side, when she had measles. Has had sore throat occasionally and could open her mouth only one-half inch.

Physical Examination.—Tenderness over mastoid. Pulsating ear-drum. Abscess under temporal muscle. High notes normal. Bone conduction better than air conduction.

Diagnosis.—Mastoiditis—right. Probably abscess under temporal muscle.

Operation.—January 20, right simple mastoid. Paracentesis right ear-drum.

Pathology.—Abscess in temporal muscle. Pus in mastoid antrum. Exposed lateral sinus. Badly necrosed bone extending to dura. Has pachymeningitis and perisinus abscess, with inflammation of walls of sinus. Dead bone lying next to brain and attached to dura. Bone between temporosphenoidal lobe and sinus all rotten. Granulations on lateral sinus. No evidence of leptomeningitis or local brain abscess. Dura not tense.

Bacteriology.—Staphylococci and Gram-negative streptococci.

February 10, sutured right mastoid. February 26, patient came back for examination; was to come twice a week for treatment. April 4, discharged—ear well.

May 11. Has come back for treatment of other ear. Hearing improved.

Case 19.—L. R., aged 19. January 26. Right ear began aching January 25. Discharge began January 26; purulent and bloody. Soreness over mastoid; left ear aching some at present.

Operation.—February 23, simple mastoid, right. Results good.

Pathology.—All mastoid cells necrotic; dura not exposed.

Bacteriology.—*Streptococcus* and *Staphylococcus albus.*

Results.—May 13. Discharged, complete recovery.

Case 20.—Mrs. L., aged 41. February 1. Sunday morning had an ear-ache. Right ear pains; has roaring in ears; hears water running, katydids, etc.

Examination.—Left drum-head retracted; pain on pressure over tip of right mastoid. Right ear, loud voice 4 feet; left, whisper 3 feet.

Diagnosis.—Right ear, abscess with mastoid involvement. Had ulcerated upper molar on right side. Just above second molar on right side is a discharging sinus. Has had discharge from nose before. Exploratory puncture of right antrum; lots of pus.

Diagnosis.—Empyema of antrum of Highmore secondary to necrotic tooth.

Operation.—February 3, right simple mastoid. Infected with gas-producing organism; gas bubbled up when antrum was approached and also when ear-drum was cut. Pain in antrum.

Bacteriology.—*Streptococci, Micrococcus aerogenes capsulatus* and *B. subtilis.*

Operation.—Right radical antrum, middle and third molars removed. With the third there came away a part of the alveolar process, which was necrotic, and left an opening into the antrum. Antrum was filled with polyps.

March 24, canal has been dry for several days.

May 2, mastoid and antrum well. Return for closure of opening between antrum and mouth. Result normal.

Case 21.—M. G. March 3. Last Wednesday had a sore throat and right ear started to ache, is still aching. Has a sense of fullness in right side of head. Mastoid region very tender. Glands at angle of jaw very painful. Six weeks previously had appendicitis and was operated on. A few days later temperature rose to 105 F., and examination showed an abscess at site of operation. Bacteriologic examination of the pus showed streptococci. She recovered from this and was about to be discharged from the hospital when the ear trouble began.

Ear discharged when she was a very small child. Also discharged last year. Tonsils become inflamed whenever she catches cold. Are inflamed now. Cannot see very well; wears glasses. Has headache, photophobia; eyes water a great deal.

Left ear normal. Right ear, drum head bulging and a little red. Slight tenderness at mastoid tip. Bone conduction better than air conduction. High notes normal; whisper, 10 inches; speaking voice, 6 feet.

Operations.—March 3, paracentesis, right ear. March 10, right simple mastoid.

Pathology.—Necrosis of antrum; dura over middle fossa and lateral sinus exposed. Granulations over middle fossa on dura.

Bacteriology.—Gram-negative streptococci.

This case is particularly interesting from the fact that the ear infection followed so soon after the appendicular abscess and was caused by the same organism. The infection was evidently carried by the blood. Recovery complete.

In two of these cases the mastoid antrum was normal and pathogenic bacteria were found. In one other case not included in this series, I found pathogenic bacteria in the normal antrum.

There were thirteen chronic cases and six acute cases. In seven chronic cases, staphylococci were found. In only two cases were they the only organism found. In three of the chronic cases streptococci were present, but not in pure culture. In two chronic cases pneumobacilli were found in pure culture. Colon bacilli were found in two chronic cases, once in pure culture, once with *Bacillus diphtheriæ.*

Diphtheria bacilli occurred as a secondary infection in one acute case. In the six acute cases streptococci were found, three times in pure culture. In one acute case Gram-negative streptococci were the only germs found. Staphylococci were found in one acute case—not in pure culture. *Micrococcus aerogenes capsulatus, Micrococcus catarrhalis* and *B. subtilis* were found in mixed infections. In many cases no history was obtainable as to the cause of the disease. In two cases ear trouble followed scarlet fever; in one mumps and measles; in one influenza; in one tonsillitis; in one removal of adenoids; in one the disease followed empyema of the antrum of Highmore, secondary to a necrotic tooth. One was made worse by an attack of measles. Five cases were aggravated by taking cold. In most of the chronic cases and in one acute case, necrosis was extensive. It did not appear to be worse where streptococci were present.

SUMMARY AND CONCLUSIONS

1. Bacteria are normally present in the mastoid antrum. This is to be expected since there is a continuous passage from the throat through the Eustachian tube and middle ear to the antrum.

2. Mastoiditis is caused by a variety of organisms. Those found in my cases were *Staphylococcus, Streptococcus, Micrococcus catarrhalis,* diphtheria bacillus, *B. coli communis,* pneumobacillus, *B. aerogenes capsulatus, Micrococcus tetragenus,* sarcina, and *B. subtilis.*

3. In three cases of ear disease Gram-negative streptococci were found.

4. The few patients who were treated with vaccines after operation were remarkedly benefited.

I wish to thank Dr. Dean for the opportunity of studying these cases, also for the suggestions he has given me in my work, and for the use of his private library.

207 North Capitol Street.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

CALCIUM PHENOLSULPHONATE—Calcii phenolsulphonas—Calcium Sulphocarbolate.—Calcium 1,3-phenolsulphonate. $[C_6H_4(OH)SO_3]_2Ca{=}Ca(C_6H_5O_4S)_2$ is the neutral calcium salt of para-phenolsulphonic acid.

Calcium phenolsulphonate occurs as a white, or faintly pinkish-white, almost odorless powder, having an astringent, bitter taste. At high temperatures the salt chars, emits inflammable vapors having an odor of phenol, and finally leaves a residue of calcium sulphate.

The salt is easily soluble in water and in alcohol.

An aqueous solution of the salt (1-100) should assume a pale violet color on the addition of ferric chloride test solution.

*If 5 Gm. of the salt be percolated with 25 Cc. of ether in a small filter, the solvent allowed to evaporate spontaneously and the residue, if any, dissolved in 5 Cc. of water, the solution should not give a white precipitate upon the addition of a few drops of bromine test solution (absence of *phenol*).

An aqueous solution of the salt (1-100) should not respond to the time-limit test for *heavy metals* prescribed by the United States Pharmacopeia, Eighth Revision.

An aqueous solution of the salt (1-100) acidified with a few drops of diluted hydrochloric acid should give no immediate turbidity after addition of 1 Cc. of barium chloride test solution (limit of *sulphate*).

If dried to constant weight at 100° C. (212° F.), the salt should not lose more than 2 per cent. of its weight (absence of an undue amount of *water*).

If from 0.5 to 1 Gm. of the salt be dried to constant weight at 100° C. (212° F.) and the dried substance be slowly ignited in an uncovered crucible (care being taken that the contents be freely exposed to the air) until the weight becomes constant, the residue should amount to not less than 35.0 per cent. nor more than 36.0 per cent. of the weight of the dried substance.

Actions and Uses.—Calcium phenolsulphonate has the actions and uses of other phenolsulphonates (sulphocarbolates). It is believed by some to be an intestinal antiseptic, but most pharmacologists regard the antiseptic powers of the phenolsulphonates as feeble.

It may be prescribed in diarrhea and in diseased conditions in which it is believed that there is an undue amount of intestinal putrefaction.

Dosage.—The average dose is 0.5 Gm. (8 grains).

Non-Proprietary Preparations:

Calcium Phenolsulphonate, M. C. W.
Manufactured by the Mallinckrodt Chemical Works, St. Louis.
Calcium phenolsulphonate, Abbott.
Manufactured by the Abbott Alkaloidal Co., Chicago.

Therapeutics

PRESCRIPTION-WRITING *

CHAPTER V.—DOSAGE

The dose of a drug should be based on the age, weight and individuality of the patient, and the necessity for a strong action of the drug.

The frequency of the dose is determined by the results obtained, by the length of time it takes the drug to be eliminated or cease its action, and the possibility of its causing a cumulative effect.

While age is an all-important element in the determination of the dose, the weight, unless in the obese, is the most important element, except in the case of narcotics given to children. Children have more central nervous system as compared to their weight than adults, and therefore are more profoundly affected by drugs which act on the brain, than are adults. In other words, a given dose of a narcotic, especially of the opium series, for an adult must be more reduced in size for a young child than any table of reduction computed by age or weight would determine.

The best simple rule of dosage by age is the following:

At 20 years, the adult dose.
At 10 years, ½ the age, ½ the dose.
At 5 years, ¼ the age, ¼ the dose.
At 2½ years, ⅛ the age, ⅛ the dose.
At 1 year, 1/12 the dose.

Children whose ages are between the ones here specified may readily be prescribed doses a little more or less than the dose determined by the age nearest theirs in the table.

The relation of size and weight to the dose is all-important. A large child of 2 years should certainly receive a larger dose than a weakly, small child of the same age. Also a small adult of 20 should receive less than a large muscular individual of the same age. The blood of an adult represents about one-thirteenth of his total weight. This is not true of children or of the obese. Hence the dose of an obese individual may be even less than if his weight were normal.

The following are the average weights for normal adult males. It should be remembered that females up to the age of 45 or 50 generally weigh less than males; also that a range of from 20 to 25 pounds above or below the average weight, the patient's general condition being good, is not necessarily considered a weight too high or too low for acceptance as an insurance risk. Above or below this range of 20 to 25 pounds from the average is generally considered over-weight and under-weight, and the acceptance of such an individual for insurance becomes questionable.

TABLE OF AVERAGE WEIGHT TO HEIGHT AT DIFFERENT AGES

	Year							
Ft. In.	15–24	25–29	30–34	35–39	40–44	45–49	50–54	55–60
5–0	120	125	128	131	133	134	134	134
5–1	122	126	129	131	134	136	136	136
5–2	124	128	131	133	136	138	138	138
5–3	127	131	134	136	139	141	141	141
5–4	131	135	138	140	143	144	145	145
5–5	134	138	141	143	146	147	149	149
5–6	138	142	145	147	150	151	153	153
5–7	142	147	150	152	155	156	158	158
5–8	146	151	154	157	160	161	163	163
5–9	150	155	159	162	165	166	167	168
5–10	154	159	164	167	170	171	172	173
5–11	159	164	169	173	175	177	177	178
6–0	165	170	175	179	180	183	182	183
6–1	170	177	181	185	186	189	188	189
6–2	176	184	188	192	194	196	194	194
6–3	181	190	195	200	203	204	201	198

In determining the dose it is most important to consider whether or not the patient has any exceptional susceptibility to the given drug. When an idiosyncrasy or abnormal susceptibility to a certain drug or to drugs of a certain class is known, the drugs causing it should, if possible, not be administered. That peculiar phenomenon, now known as anaphylaxis, is one which also should be taken into account in this connection.

Sometimes such undesired action of a drug occurs with the first dose only, notably in the case of quinin, and a tolerance to the drug is, after this first dose, temporarily acquired.

Another idiosyncrasy of a patient may represent a tolerance to a drug such that large doses must be given to produce any effect. This tolerance may be natural or acquired by previous use of the drug.

Still other very important predispositions of a patient are caused by the disease affecting him, by the condition of his digestive and absorptive system, and by the condition of his eliminative organs. The disease present may create a tolerance or an increased susceptibility to a drug. Slow absorptive powers may render the action of the drug almost impossible or allow accumulation of dangerous amounts of the drug (under which conditions the drug should be given hypodermatically, if it is needed). Slow or retarded elimination due to defective eliminative organs will allow cumulative action of many drugs.

The drugs which are most frequently found unexpectedly to cause undesirable or even serious symptoms in susceptible individuals are quinin, salicylates, atropin-containing drugs, iodin-containing drugs, and opium and its alkaloids.

The diseased conditions that most seriously modify (lessen) the dose of a drug are nephritis and cirrhosis of the liver.

A condition of shock precludes immediate absorption from the stomach, hence such a condition must be combated, if by drugs, hypodermatically.

Frequency of the Dose

It should be carefully learned how long, ordinarily, it takes a given dose of a drug to act, and how long before it is mostly eliminated. This determines the frequency of the dose. Also some drugs are eliminated so slowly that they tend to accumulate in the system or are deposited in the various organs so that medication may occur by autolytic action some days and even weeks after the cessation of the administration of the drug.

A few of the rapidly acting drugs are:

Alcohol
Ammonia
Camphor
Caffein
Chloral
Iodids
Salicylates
Strophanthin
Strychnin

These act in a few minutes to an hour or so, hence the intervals at which they may be given range from every hour to every three hours, or three times a day, according to the drug.

A few of the slowly acting drugs are:

Arsenic
Atropin
Bromids
Digitalis
Mercury
Quinin
Synthetic antipyretics
Synthetic hypnotics
Thyroid

These act in from several hours to twenty, hence should be given once or twice a day, according to the drug.

A few of the drugs that tend to accumulate in the system are:

Arsenic
Atropin
Bromids
Digitalis
Mercury
Strychnin

Many drugs cause eruption on the skin either due to irritation of the stomach and duodenum or to their being more or less excreted by the skin and irritating the glands during such excretion, or they may cause flushing of the skin.

Examples of drugs causing the first kind of irritation are: copaiba, chloral, opium, quinin, salicylates, synthetic compounds, volatile oils; drugs of the second type are arsenic, bromids and iodids; those of the third type are antitoxin, atropin and thyroid.

It should always be remembered that some drugs are excreted into the milk: hence if the mother is nursing her baby, some drugs should be avoided, and some given only infrequently; or on the other hand, the baby may be medicated through the mother.

Generally speaking most narcotics (opium, bromids, etc.): most so-called alteratives (arsenic, mercury, iodids, thyroid): most cathartics; and quinin are excreted by the milk.

CHAPTER VI.—METHODS OF ADMINISTERING DRUGS

Drugs and serums are more than occasionally administered intravenously, but as the technic requires skill, most perfect asepsis, and should require the enforcement of at least twenty-four hours of absolute rest, this method is not likely to be frequently resorted to. Moreover it seems to be a fact that, when a drug or serum is injected intramuscularly, the rate of absorption and activity of a substance is almost as rapid as when it is given intravenously, and the danger of accidents is much less.

The hypodermatic or subcutaneous method is of very great value in all emergencies, but should not be used too frequently. Of course the most frequent need for such medication is caused by pain, which must be combated by morphin or its equivalent, and the danger of acquiring a habit is greater when the drug is used hypodermatically than when it is given in any other way.

Of course the most frequent method of giving a drug is by the mouth, either in liquid, powder, pill, capsule or tablet. A drug will surely act more quickly if given in liquid solution, and more quickly on an empty stomach. If it is disagreeable, however, it should be given in capsule if the character and dose of the drug will allow it. Also if a drug is irritant, it should not be given on an empty stomach. A disagreeable liquid drug should not be combined with a syrup, which does nothing but prolong the taste and upset the stomach, but should be given in plain water to be followed by any kind of taste the patient prefers, such as orange, lemon, or by a peppermint or wintergreen candy for example. Or the liquid may be given in a sour mixture as lemonade or syrup of citric acid and water, or it may be given in a mineral or carbonated water. A powder may be given in milk or in an effervescing water.

Capsules are the nicest means of giving drugs disagreeable in taste and small in dose. The contents of a capsule should be dry for rapid solution, the principal advantage of a capsule over a pill. If rapid action is desired, or if it is feared that the capsule, slowly dissolving on a small part of the mucous membrane of the stomach will irritate the membrane, the capsule may be uncapped at the moment of swallowing, and the result is the same in the stomach as though the drug had been taken in powder. Alcohol in any form in the stomach will retard the solution of a capsule. Pills are not so much used as before the capsule became so popular. The solution and absorption of a pill must be slow, unless it contains some particles of a substance that swells with water, as starch. Sugar, chocolate, or gelatin-coated pills and tablets make the solution still slower, though in the case of drugs to act on the intestine this may be of advantage.

The much-used tablet, compressed or triturate, doubtless renders much medication valueless, and perhaps, fortunately, harmless. The speed of solution of most tablets on the market is problematical, hence if the action of a tablet is immediately desired it should be predissolved, or at least crushed by the teeth before swallowing. All antipyretic coal-tar tablets should be crushed before swallowing and then a good drink of water taken with them. It should not be forgotten that anything that may bite or irritate the membrane of the mouth will do the same to the mucous membrane of the stomach. Hence bromid tablets should never be taken undissolved. Potassium chlorate tablets dissolved in the mouth or swallowed are dangerous. Potassium chlorate solutions for the mouth and throat are valuable, but there is no justification for ever taking potassium chlorate into the stomach or into the system.

A very soluble tablet dissolved and absorbed from the mouth will give almost as rapid action as when given hypodermatically.

The rectum absorbs drugs given by means of suppositories or injections nearly and sometimes quite as rapidly as does the stomach. But sedatives and some laxatives only are ever administered by suppositories for systemic effect.

A few drugs are given endermically, but except in the case of mercury the method is uncertain.

Mucous membranes may be treated by douching, injection, insufflation, and those of the air passages by inhalation. Some drugs are absorbed by all of these methods, and if poisonous drugs are used, the possibility of too great an absorption must always be kept in remembrance.

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[*For other information see second page following reading matter*]

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THE ALLEGED HYGIENIC VALUE OF OZONE

We have already on several occasions discussed the use of ozone for the purification of drinking-water and have pointed out some of the reasons why under present conditions this is of limited application. There is no doubt that ozone is an effective sterilizing agent when added to water containing little organic matter, or that its use appeals to the popular prejudice in favor of a substance that leaves behind it no foreign chemical residue in the water treated. At present, however, the controlling factor in the installation of an ozonizing plant is its relative cost compared with other equally effective methods of water purification.

Attempts are now being made to extend the hygienic —and the commercial—uses of ozone still further. It must be admitted that in some directions at least these attempts are not justified by any evidence at hand. As a gaseous disinfectant of rooms and apartments ozone has never been widely employed, although a few experiments have seemed to indicate that it might be used for this purpose. It must be remembered that the ordinary method of production of ozone by electrical discharges at high tension rarely if ever yields a pure gas, but that the ozone is mixed with other gases, especially hydrogen peroxid and the oxids of nitrogen. Since these gases possess germicidal power and since the actual amount of ozone itself that is produced undoubtedly varies greatly with different machines and under different conditions and is not readily and accurately determinable, it is difficult to carry out conclusive experiments. Indeed, investigators generally recognize that some of the effects commonly attributed to ozone are due to the peroxids of nitrogen and hydrogen.

In view of this uncertainty regarding the more easily measurable effects of ozone it behooves us to look conservatively on the claims sometimes made for ozone as a substance which, inhaled in small quantities, is beneficial to health. The recorded evidence on which such a claim is based is extremely slender. Indeed, there is reason for believing that when the percentage of ozone in the air goes beyond a certain point, not only irritation of the respiratory tract is produced, but also other injurious effects. If the experiments of Schultz on chronic ozone poisoning are open to the objection that the effects observed were due to the nitrogen oxids mixed with the ozone rather than to the ozone itself, there is ground for reflection in the fact that such nitrogen compounds are always formed in greater or less abundance by the ordinary methods for producing ozone unless special care be taken to dry the air on which the ozonizer acts. In other words, untoward physiologic effects have been observed in animals treated with ozone and the mixture of gases with which ozone is practically always associated, and no physiologic benefit has been indubitably demonstrated.

Such facts justify hesitation in deciding on the installation of those forms of ozone-generating apparatus recommended for "purifying the air." There seems to be no doubt that disagreeable odors may be destroyed or neutralized by the gases formed by such machines, but one may be allowed to be skeptical as to the "sterilizing" of the air through their action. Certainly the benefits to health to be expected from the inhalation of varying and unknown quantities of ozone are purely conjectural. There is after all no more reason for accepting without investigation the statements of manufacturers about the hygienic properties of the machines they manufacture than for believing implicitly the assertions of nostrum-promoters.

THE PARATHYROIDS AND CALCIUM METABOLISM

It may be regarded as established beyond reasonable doubt that a relationship exists between tetany and removal of the parathyroid glands. MacCallum and Voegtlin[1] have suggested that this relationship may be due to the influence of the parathyroids on calcium metabolism. For they found that removal of the parathyroids was followed by increased calcium excretion with diminution of the calcium content of blood and brain, and that the tetany following extirpation of the glands could be avoided by the injection of calcium salts. This relationship between the parathyroids and calcium metabolism has recently received striking confirmation by Erdheim[2] and several co-workers, who have studied the effects of parathyroidectomy in white rats. In rodents the incisor teeth present the peculiarity of constant growth, resembling skeletal bone in this respect, so that they afford remarkable opportunities for the study of the details of calcium deposition. During a series of experiments on the relationship between parathyroid extirpation and tetany, Erdheim noticed that the incisor teeth of the rats became liable to repeated fracture, and a careful study of this phenomenon has led to several interesting observations. In the normal incisor tooth of the rat, the dentin forms the principal portion; a conical pulp cavity pierces this longitudinally, and a narrow zone of dentin adjoining this cavity is normally undergoing calcification, while the greater part has already received its complete deposit of calcium.

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[1] MacCallum and Voegtlin: Jour. Exper. Med., 1909, xi, 118.

[2] Erdheim: Frankfurt. Ztsch. f. Path., 1911, vii, 178.

On removal of the parathyroids, it was found that calcification of the dentin at once ceased more or less completely; the portion already hardened underwent no change, but as the effects of use wore down this older part, the new uncalcified dentin taking its place lacked strength, and fractures followed. Imperfections in the enamel deposit also occurred, though at a later period than the alterations in the dentin. By regulating the time between extirpation of the glands and examination of the tooth, all transitional stages between the normal tooth and one almost completely decalcified could be obtained.

Still more interesting results followed the transplantation of the parathyroids. Owing to the great difficulty of getting successful growth of the transplanted organs in a second animal, the earlier work was limited to the transference of the glands from the neck to the abdominal wall. This was successfully accomplished in nine cases, and in each of these there was found in the incisor teeth a zone of uncalcified dentin, corresponding to the period of parathyroid quiescence, interposed between two layers of normal dentin. Transplantation of the gland from one animal to another in which the parathyroids had been previously extirpated was successful in only one instance. In this animal, some time before the examination of the teeth, the transplanted glands were also removed. Corresponding to the period of removal of the animal's own organs, there occurred a zone of uncalcified dentin. Another partially calcified zone indicated the period of activity of the transplanted glands, and a third zone, completely lacking in calcium salts, recorded that of the second removal.

In the face of such evidence, there can be little doubt of the influence of the parathyroids on calcium metabolism. Additional proof has been afforded in the case of skeletal bones by Erdheim and by Canal, who have both shown that under the influence of removal of the parathyroids callus formation is greatly retarded, owing almost entirely to deficient calcium deposition.

Erdheim does not hesitate to call attention to the similarity between his findings and those in rickets and osteomalacia. As additional links between the two processes he cites the relative frequency of hypertrophy of the parathyroids in osteomalacia, and the almost exact similarity in the changes of rachitic teeth and those of his animals. Although a connection between tetany and rickets has long been noted, it would as yet be premature to ascribe all cases of both unreservedly to lesions of the parathyroids. It has been found by Badt and Klose[3] that changes analogous to those of rickets and osteomalacia occur in young dogs after removal of the thymus, so that at present the pathologic basis of these diseases cannot be stated with any degree of certainty. However, it is possible that as complicated a process as the calcium metabolism of the body may be influenced by any one of several factors, and that the similar clinical findings may have various sources, as for instance is the case with experimental diabetes. Apparently, however, the problem of the etiology of rickets and osteomalacia is in a fair way toward being made clear, and its ultimate solution should merely be a matter of farther work along lines already indicated.

SANITARY DISPOSAL OF EXCRETA WITHOUT SEWERS

Farmers' Bulletin 463, entitled "The Sanitary Privy," recently issued by the Department of Agriculture, is of interest not only on account of its contents but also because it shows useful cooperation between two federal departments for the promotion of public health. The pamphlet was prepared by Drs. Stiles and Lumsden of the Public Health and Marine-Hospital Service, and embodies material previously published in bulletins of that service, reference to which has already been made in The Journal.[1] Fortunately it is now published and distributed by the Department of Agriculture. We say fortunately, because the latter arrangement secures a wider circulation, since Congress, we believe, has authorized the printing and reprinting of farmers' bulletins up to 1,000,000 copies, whereas it limits the publications of the Public Health and Marine-Hospital Service to one or two editions of 5,000 each.

Drs. Stiles and Lumsden for some years have been making a study of certain diseases which are particularly incident to farm life, and in a preliminary statement Secretary Wilson appeals to the American farmers to consider carefully the facts presented in this bulletin and to make practical use of the suggestions.

The authors discuss in popular language the diseases spread on the farm by soil pollution, emphasizing especially typhoid fever and hookworm disease, but also referring to dysentery and various other diseases of parasitic origin. There are, it is said, 2,000,000 cases of hookworm disease in the United States, all the result of soil pollution and mostly on the farm, and about 400,000 cases of typhoid annually, and most of the cases are due to the lack of proper disposal of human excreta. With the rapid improvement of sanitary conditions in the cities, typhoid is becoming more and more a disease of rural prevalence and origin, and in the country its spread results largely from the use of insanitary outhouses. Hence the disposal of excreta on the farm is one of the great sanitary problems, one that affects the whole nation, and the appearance of this practical bulletin is timely.

The authors discuss the shortcomings of the conveniences usually found on the farm and then describe three types of sanitary privies—those constructed on the "dry system," the "wet system," and the type developed at the Hygienic Laboratory in which use is made of the principle of the septic tank. The advantages and disadvantages of each are pointed out. The question of the ultimate disposal of the excreta is also discussed. The use of human excrement as fertilizer, except after its thorough disinfection, is unqualifiedly condemned; this practice is prohibited by law in some states. Reference is also made to the striking experiments of Stiles and Gardner[2] which show that fly larvæ in human excrement, buried six feet under sand, are able to make their way in large numbers to the surface.

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[3] See editorial: The Function of the Thymus, The Journal A. M. A., March 25, 1911, p. 898.

[1] Discussion on the Sanitary Outhouse, The Journal A. M. A., Jan. 28, 1911, p. 255.

The practical character of the bulletin is shown by the fact that the authors have secured from a practical carpenter precise directions, with diagrams, for building a sanitary privy; they state that any 14-year-old schoolboy of average intelligence and mechanical ingenuity can, by following the directions, build such a privy at a total cost of five to ten dollars. Directions and estimates are also given for the building of sanitary outhouses for country schools and churches; they would be equally useful for country boarding-houses. Owners of the latter would do well to give these suggestions careful consideration, for already many city people are prevented from going to the country by the primitive sanitary arrangements existing there.

Some skepticism may be felt about the adoption by farmers of such suggestions as those contained in this bulletin; but when one considers how widely many other suggestions made to farmers (the building of improved barns, poultry houses, silos, the use of hog cholera serum, etc.), have been accepted although relatively expensive, there is reason to believe that these suggestions will before long be rather widely accepted by the intelligent element of rural communities. The physicians practicing in such communities can do much in this work, for people are in the most receptive mood for suggestions when they are suffering, or are threatened with suffering, as the result of the neglect of proper precautions. Such activity will also redound to the credit of the physician, for the public is judging members of the profession more and more by their attitude in respect to preventive medicine and their ability to protect the well from communicable diseases.

Physicians residing in a rural community, or having occasion to go there, will be interested in the perusal of this bulletin, which may be obtained by applying to the Department of Agriculture or to a congressman.

Variations in Male and Female.—The greater tendency of males to both physical and psychic variations from the normal, says Stewart (*Medical Record*), has been taken as an indication of their less stable character. Without enumerating the long list of well-known abnormalities and malformations, as clubfoot, harelip, cleft palate, supernumerary digits and nipples, common in both sexes, suffice it to say that, with the exception of congenital dislocation of the hip and a few other minor malformations, such variations are much more frequent in males than in females. The same rule holds good in regard to psychic variations. If geniuses, including musical and mathematical prodigies are more frequent among men, idiots and cranks are less frequent among women.

Current Comment

WHAT'S THE MATTER WITH KANSAS?

"Professor" Samuels of Wichita, Kansas, is a faker who claims to cure practically every disease in the calendar. He gets his victims through newspapers, and he evidently gets a great many, for he is able to carry full-page advertisements in the large metropolitan dailies, to say nothing of hundreds of smaller advertisements in less expensive newspapers. His "remedy" is an "eye-water." Analyzed by the chemists of the American Medical Association, it was found to consist essentially of a mixture of equal parts of salt and sugar in hydrant water. The price of the mixture is $25 an ounce. It does not take an expert to prove that such a mixture will not cure consumption, blindness, paralysis, Bright's disease or any of the hundred other ailments that Samuels professes to treat. Expert knowledge is not required to declare the treatment a fraud and the "Professor" a swindler. It is a conservative statement to say that a man who will take money from a consumptive, an epileptic or a victim of the morphin habit under the pretense of curing his disease with a mixture of sugar, salt and water is an unconscionable scoundrel. We believe that this man can be put out of business under the existing state laws in Kansas. If on no other grounds, he can at least be declared a swindler for obtaining money under false pretenses. Unless we are mistaken, this man tried to work the same scheme in Oklahoma, but the authorities there made life such a burden for him that he sought a more complaisant community. This he has apparently found at Wichita, Kansas. What's the matter with Kansas?

KEEP THE TOOTH-BRUSH CLEAN

Another time-honored and long-cherished institution has been attacked by the ruthless scientist and hygienist. This time it is the tooth-brush. Soap and the tooth-brush have hitherto been considered almost indispensable adjuncts of civilization. After years and years of patient teaching of the young that correct personal hygiene required the use of the tooth-brush, after its adoption as a necessary or desirable part of the accouterment of the United States soldier, who proudly carried it, stuck in the band of his hat, in the campaigns in Cuba, Porto Rico, the Philippines and in the Boxer Rebellion in China, where it was observed and commented on favorably by the observers of the sanitary departments of the armies of the world, it is now to be discredited because it is not conformable to modern hygiene and sanitation. The tooth-brush, according to Smale and Jones,[1] becomes septic after being used once, each bristle becoming an inoculating needle by which the person using it may become inoculated with the multitudinous germs which flourish on it, producing pyorrhea alveolaris, with such serious possible sequelæ as anemia, gastritis and arthritis. They propose as a solution of the difficulty that a new brush be used each time, or that the brush be boiled for five minutes after each using, or that it be kept in a 1 per cent. solution of trikresol or a 10 per cent. solution of formaldehyd. It is a bit disconcerting to think that we have been going along all these years teaching the correctness of the use of the tooth-brush only to find that instead of being an aid to good personal hygiene it has been an instrument for creating or perpetuating infections. How long will it be before that remaining bulwark of civilization—soap—is also attacked and the warning given that the unctuous substance that we smear over our faces and bodies daily is nothing more nor less than an emulsion of deadly bacteria, and that it is only because of our high degree of natural resistance that we have not succumbed? Seriously, however, the contention of Smale and Jones should not be ridiculed, nor, on the other hand, should this useful instrument be discarded lest a worse state follow. But the danger of auto-inoculation with bacteria from the mouth by the brush perhaps is not to be feared so much as its contamination by extraneous matter from lack of proper care in keeping. The methods of disinfection suggested by Smale and Jones, while ideal, are not practical, because they will not be carried out. An effective method, and better because practical and more simple, would be to wash the brush thoroughly after using, rinse it in an antiseptic solution (boracic, for example) and then keep it in a bottle corked with antiseptic cotton. The hygienic condition of the tooth-brush is certainly a matter worthy of attention.

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[2] Public Health Reports, Aug. 25, 1911, p. 1277.

[1] Smale, H., and Carmalt-Jones, D. W.: Bacteriology of Tooth-Brushes, Brit. Med. Jour., Aug. 26, 1911. Abstr. in The Journal A. M. A., Sept. 23, 1911, p. 1086.

EXPENSIVE SUGAR OR CHEAP SACCHARIN, WHICH?

We have already called attention to the fact that, based on the findings of the referee board, the government has declared the use of saccharin in foodstuffs illegal. This official decision, made in April of this year, was to go into effect July 1, 1911. Immediately the makers of saccharin brought pressure to bear at Washington to have the time extended in which the use of their product in foods would be legal. The appeal was granted and the sophisticators of foods—and others—were officially notified that they might continue to use saccharin in the place of sugar until Jan. 1, 1912. Now as the time of probation draws to a close, the saccharin-makers are again appealing to Washington. The summer of 1911 has been an exceptionally hard one on the sugar-refiners. As every one knows, the price of sugar has steadily risen and there is every indication that it will go still higher. Under such conditions, it is natural that those manufacturers of foodstuffs who are more concerned with personal profits than public health should see in the present shortage of the sugar-crop the chance of a lifetime to substitute saccharin for sugar. Evidently then the demand for saccharin is likely to be greater within the next few months than it has been for years. This fact has been taken into account in Europe by the calling of an international conference to prevent the illegal use of saccharin, reference to which has been made in The Journal.[1] Most European nations have long forbidden the use of saccharin in foodstuffs. Great Britain, while not forbidding its use, puts a prohibitive tax on the product so that in that country it is practically as cheap to use sugar as saccharin. It now remains to be seen whether the three secretaries—the Secretary of Agriculture, the Secretary of Commerce and Labor and the Secretary of the Treasury—will again extend the period of probation for the use of this drug.

THE VIABILITY OF HOOKWORM EGGS

Completing some experiments begun in 1910 by Stiles and Gardner, a partial report of which was given last year, Stiles and Miller now make a final report[1] in regard to the viability of hookworm eggs. One object of the experiments undertaken was to ascertain how long the eggs would remain viable under methods of treatment similar to those present in connection with the barrel privy devised by Stiles for use in country districts. Stiles and Miller summarize their findings as follows: In fecal material kept in water in the examinations made after 68, 117, 144, 317, 323, 349, 357 and 358 days, all the hookworm eggs identified were dead. The longest period after which they found eggs alive under the conditions described was seventy days. They conclude that it seems fairly well established that fermentation for four months in the privy devised by them kills all the hookworm eggs, and that fermentation for three months will kill nearly all of them. This shows that the hookworm eggs are most tenacious of life. They survive probably for a longer time in the earth. Efforts to eradicate all possibility of infection in the highly polluted soil of some of the southern communities will, therefore, be a long, difficult task.

BOGUS SCIENTIFIC INSTITUTIONS

To a certain type of men the sign is of more importance than the thing signified. Europeans have long ridiculed what they are pleased to call the American weakness for bizarre and pseudo-scientific degrees, although, as a matter of fact, this foible is less an American than a European characteristic. In the Berlin Letter of this week,[2] reference is made to a fake scientific organization called the "Italian Physio-Chemical Academy" (Accademia fisico-chemica Italiana) of Palermo, Italy. This concern, which has been previously exposed in these pages,[3] issues "medals" and "certificates of membership" to such individuals as are willing to pay what these questionable honors cost. This Italian degree factory is not the only institution of its kind in Europe. In England, there is the notorious "Society of Science, Letters and Art of London,"[4] which for the mere nominal sum of one guinea ($5) will furnish an ornate "diploma" in sonorous Latin to those who are desirous of writing the magic letters "F. S. Sc." after their names. The "College of St. Columba," another English degree emporium, dispenses the titles "A. Ph." and "F. Ph." with the privilege of permitting the recipient to wear a hood of scarlet cloth lined with green velvet—all for 63 shillings ($16). Coming nearer home, most readers of The Journal remember the notorious "St. Luke's Hospital,"[4] which, from Niles, Michigan, issued "certificates of merit" at $20—when it was unable to get $25. After the demise of St. Luke's, it was resurrected as the "Christian Hospital"[5] in Chicago. This, too, after a brief period of activity, received its quietus. Presumably so long as there are individuals whose vanity can be gratified by the possession of a "diploma" or "certificate of membership" whose value is measurable only in dollars and cents, so long—provided the government does not interfere—will degree factories and diploma mills flourish; so long as there are shallow egotists to pour dollars into the hopper, so long will degrees and diplomas be ground out.

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[1] Contraband Trade in Saccharin, Paris Letter, The Journal A. M. A., Oct. 7, 1911, p. 1219.

[1] Public Health Reports, U. S. P. H. and M.-H. S., Oct. 13, 1911.

[2] Page 1380.

[3] The Journal A. M. A., June 29, 1907, p. 2196.

[4] Exposed in The Journal A. M. A., May 29, 1909, p. 1773.

ANOTHER INTERFERENCE WITH THE FREEDOM OF CATTLE

This dispatch from Jackson, Miss., appears in a recent issue of the Natchez *News*, regarding the efforts being made in Yazoo County to suppress the cattle-tick:

> "The quarantine placed on cattle from Yazoo County appeared to have little effect until the stockmen of that county awakened to the realization that their stock would not be admitted to the Mississippi State Fair, at Jackson, during the latter part of the month. The embargo stung the farmers and they decided to take some drastic measure to eradicate the dreaded tick."

The *News* then gives the proceedings at a meeting of the city council, where strenuous measures were urged to wipe out this blot on the fair name of Yazoo County, and to permit her cattle to appear at the state fair. This is right, nor would any one object to any measures which the Jackson City Council might adopt, to rid the cattle of disease. But, incidentally, how many human beings are there in Yazoo County, Mississippi, to-day who are suffering from tuberculosis and typhoid fever, for example? Nobody knows! Will there be any quarantine against the people of Yazoo County on that account? Oh, no, they can all go to the fair and if any of them are suffering from these diseases, they can communicate the infection to others without hindrance. If one cow died of foot-and-mouth disease in Yazoo County to-morrow the fact would be known in Washington in twenty-four hours, and live stock inspectors would immediately invade Yazoo County. How many women and children died in that county last year? Nobody knows! They are only human beings, not live stock, and in a majority of the states in the union and in all of the southern states, the state pays no attention to the birth or death of a human being. A blooded calf or a pedigreed colt has its birth carefully registered, but the birth of a child is not worth recording. And when it comes to dying, if you are a human being, you can die whenever you like. The state has no money to waste in such "scientific nonsense" as finding out how many of its citizens have died during the past year, or whether the death-rate in Mississippi is growing or decreasing, or what diseases are killing its people. But ticks in cattle—that is a different matter. The cows must not be kept away from the state fair.

Medical News

ALABAMA

Fresh-Air Camp Open.—The Montgomery Antituberculosis League formally opened its fresh-air camp, September 11. The camp is 10 acres in extent, located on a piney hill, and has in addition to a central dining room and kitchen, seven cabins already furnished. The secretary of the league appeals for funds for the maintenance of the camp.

Condemns County Jail.—Dr. William H. Oates, Mobile, state prison inspector, reports that the Madison County jail at Huntsville is more insanitary and less fit for habitation that any other jail he inspected. He has therefore ordered the sheriff to remove all the prisoners from the jail to the Marshall County jail at Guntersville, so that the Madison County jail may be renovated and made habitable.

CALIFORNIA

Insists on Vaccination.—The school board of Fresno has issued an ultimatum that all school children who have not been vaccinated, shall be barred from the Fresno public schools.

Personal.—Dr. John T. Culver, Oak Park, was thrown from his automobile in San Francisco, October 5, and sustained painful injuries.——Dr. Josea O. Perrone, San Francisco, fractured his right leg and suffered internal injuries in a runaway accident near his summer home in Montebello.——Dr. Edwin D. Ward has been appointed assistant health commissioner of Los Angeles, vice Dr. Irving R. Bancroft, resigned.

Many Committed to Asylums.—During August the greatest number on record of commitments to the State Insane Hospital was made. In March, 1910, the month of next highest record, 180 commitments were made, while in August 263 individuals were sent to the state hospital. The number of liquor and drug addicts committed during August was eighty-three, an increase of forty-nine over the figures for the previous month.

Tuberculosis Research Board.—The investigation of tuberculosis conditions in the state for which an appropriation of $5,000 was made by the last legislature, was initiated by the State Board of Health, September 2, when an executive board to have immediate charge of the work was named, consisting of the five following members: Dr. George H. Kress, Los Angeles, president of the State Tuberculosis Association; Charles C. Browning, Los Angeles; Mr. A. Bonnheim of the White Crusaders of Sacramento; Dr. Richard G. Brodrick, executive secretary of the San Francisco Tuberculosis Association, and Miss Katherine Felton, formerly secretary of the Associated Charities of San Francisco.

CONNECTICUT

Appropriation for Epileptic Colony.—The governor-general has signed a bill passed by the general assembly appropriating $147,550 for the construction of buildings, sewage system, water-supply system, power house, etc., for the State Colony for Epileptics, Mansfield.

GEORGIA

Free Typhoid Vaccination.—Dr. J. Payson Kennedy, health officer of Atlanta, announces that he is prepared to administer antityphoid vaccine free of charge to any one who desires.

Personal.—Dr. Lewis M. Gaines, Atlanta, has been elected professor of neurology in the Atlanta School of Medicine and appointed neurologist to the Tabernacle Infirmary.——Drs. John Funkle and E. C. Thrash have been elected assistant pathologists at the Grady Hospital, Atlanta.

New Clinics Opened.—Under the direction of the faculty of the Medical College of Georgia, Augusta, the south side clinic was opened in that city at Twelfth and Mauge streets. The clinic is in charge of Dr. William C. Lyle and will be principally for the use of colored people.——The Morris Hirsch Memorial Free Medical Clinic, Atlanta, was opened October 4, in the Jewish Educational Alliance Building. The clinic is strictly non-sectarian.

Sanatorium News.—At the September meeting of the trustees of the State Tuberculosis Sanatorium, Alto, Captain W. G. Raoul resigned as chariman of the executive committee and was succeeded by Dr. Jeff Davis, Toccoa. Dr. Henry R. Slack, La Grange, was elected vice-chairman. The board decided that as the legislature had reduced the appropriation for maintenance, a charge of $3.50 per week for 75 per cent. of the inmates would be made, beginning October 1; the balance of the inmates will be treated free of charge. The sanatorium has seventy beds, all of which are occupied.

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[4] See The Journal A. M. A., June 24, 1899; Oct. 21, 1899; Nov. 16, 1901.

[5] See The Journal A. M. A., May 23, 1903; June 6, 1903.

ILLINOIS

Sues for Hospital Permit.—Mandamus proceedings to compel the Oak Park Board of Trustees to issue a license for the construction of a hospital in that village, were filed October 2 by counsel representing the West Suburban Hospital Association.

Personal.—Dr. and Mrs. Benjamin Gleeson and family, Danville, and Dr. Abner G. Downer, Princeton, have returned from Europe.——Dr. Albert E. Campbell, Clinton, has been appointed assistant to the chief surgeon of the Illinois Central System.

Hospital for Lake Forest.—Lake Forest is to let the contract for a contagious disease hospital which is to be one story in height, made of brick, with four wards, two wings, and a detached cottage for the caretaker. The building is to be erected on 3 acres of ground donated by the city.

Charities Conference.—The sixteenth annual State Conference of Charities and Correction will be held in Champaign, October 21-24, under the presidency of Sherman C. Kingsley, Chicago. On Sunday morning the pulpits of Champaign and Urbana will be filled by delegates to the conference. On Monday the Section on Children will meet. The afternoon will be devoted to the needy family, and in the evening a mass meeting of the Section on Correction and of the State Association of Poor-Farm Superintendents will be held. On Tuesday there will be a general meeting presided over by Dr. Frank Billings, Chicago, in which the present condition of charity and correction in the state will be discussed. The afternoon will be devoted to the discussion of the feeble-minded and epileptics.

Chicago

Personal.—Dr. Frederick K. Ream has been appointed a member of the staff of the ear, nose and throat department of the Illinois Post-Graduate Medical School.——Dr. John B. Eaton has returned from Europe.

La Rabida Closes.—The fifteenth year of the work of the Jackson Park Sanitarium has closed. During the season more than 2,500 children were cared for in the sanitarium, nearly 2,000 of whom were ill enough to be placed on the hospital records. Nearly 1,000 mothers were cared for on their visits to the sanitarium during the season.

INDIANA

Hospital for Princeton.—It is reported that the city of Princeton will purchase for $15,000 the Princeton sanatorium, which cost $35,000, and will maintain the institution as a city hospital. This movement has the support of the local members of the profession.

Personal.—Drs. John W. Sluss, John A. Pfaff and Charles L. Cabalzer, Indianapolis, while busy in the operating room of the Deaconess Hospital, October 5, were robbed of their money and jewelry.——Dr. John K. Kingsbury has been appointed assistant bacteriologist to the Indiana State Board of Health.——A banquet was given by the Lake County Medical Society, October 12, in honor of Dr. William F. Howat, Hammond, recently elected president of the Indiana State Medical Association.——Dr. Samuel C. Thomas, Milroy, was severely injured by being run down by a horse recently.——Dr. Asa W. Brown, health officer of Bluffton, has resigned.——Dr. Sherman B. Hitt, Greensburg, has succeeded Dr. Curtis Bland as secretary of Greensburg Board of Health.

KANSAS

Home for Kansas Leper.—It is announced that Mrs. Mike Quint of Ellis County, a Russian, who is afflicted with leprosy, is to be isolated on a farm which will be given her by the state.

Endorses Health Board.—The Shawnee County Medical Society at its meeting October 3, passed resolutions commending the action of the State Board of Health and the health commissioner of Topeka for their admirable work in controlling the epidemic of small-pox in the city, and urging the strict enforcement of compulsory vaccination in the public schools.

MARYLAND

State to Use Typhoid Vaccine.—The State Board of Health has decided on the use of typhoid vaccine in all state institutions.

Monument Unveiled.—At the ceremonies connected with the placing of a stone marker over the grave of Assistant Surgeon Richard Waters, near Washington Grove, Montgomery County, October 11, ex-Governor Edwin Warfield delivered the address before about 1,000 persons. An original poem was read and the monument unveiled by descendants. The ceremonies were in charge of Daughters of the American Revolution and are the first of the kind in the state. A detail of the Maryland National Guard fired a salute.

Baltimore

Personal.—Dr. Max Kunstler has opened a small hospital on the second floor of his residence, where those who need it may receive attention free of charge.——Dr. George H. Everhart sailed for Europe, October 4.

Deaths by Accident.—Nineteen persons died from accidents in September and 323 met with accidents which were not fatal. Among the 342 accidents, nine concerned automobiles; two, horses; ninety-six, street cars; nine, steam cars; while twenty-nine persons were bitten by dogs.

Bazaar for Physicians' Widows' and Orphans' Home.—The ladies in charge of the Home for Widows and Orphans of Physicians will hold a bazaar at 1112 Madison Avenue, November 1-3. Luncheon and supper will be served on each day. Dr. Eugene F. Cordell is treasurer of the home.

Emergency Hospital Planned.—Movement is on foot for the establishment of an emergency hospital in that part of Baltimore bordering on the Patapsco River, and known as Highlandtown and Canton. Dr. William E. McClanahan, health officer of Highlandtown, and Drs. David W. Jones and Michael J. McAvoy, Canton, are in charge of the project.

Personal.—Dr. Howard A. Kelly returned to Baltimore October 9 in good health after his operation.——Dr. Nathaniel G. Keirle, director of the Pasteur Institute and city post-mortem physician, was 80 years old October 10.——Dr. Henry T. Reynolds' buggy was demolished by a street car. He escaped with cuts and contusions and a severe shock.——Dr. Thomas J. O'Donnell, police surgeon, suffered the loss of his motor-yacht *Loyola*. It was totally destroyed at the wharf by fire, caused by back-firing, with a loss of $2,500.

Lectures to School Children.—Mr. H. Wirt Steele, executive secretary of the Maryland Association for the Prevention of Tuberculosis, delivered the first lecture and demonstration of the disease, October 10, before the children of the public schools. He explained the manner in which the disease is contracted and dwelt on the agency of public drinking-cups, dust, filth, bad ventilation, etc. The lecture was illustrated and the bacilli were shown under the microscope. The lectures will be continued daily until all the children have been reached.

MICHIGAN

To Study Occupational Conditions.—With the especial approval of Governor Osborn, the State Board of Health has authorized the secretary to bring about an investigation of the occupational conditions in Michigan, with a view to prevention of unnecessary loss of life and health from conditions that can be remedied. This work is to have the immediate attention of the department, a thorough investigation to be made of all industrial conditions that affect health and life.

Eugenics.—The State Board of Health at its meeting at Lansing, October 13, decided to employ Miss Adele McKinnie, an expert investigator in eugenics from the Eugenics Record Office, Cold Springs Harbor, Long Island, N. Y., as a special medical inspector, to investigate during the next six months the condition and extent of feeble-mindedness and mental deficiency in Michigan. Miss McKinnie's work will begin at the State Home for the Feeble-Minded and Epileptic, at Lapeer, under the immediate direction of Dr. George S. Chamberlain, medical superintendent of that institution.

MINNESOTA

Leper Dead.—After having suffered from leprosy for twelve months, Ludwig C. Dyregrow, a tailor, died September 25, at his home in Minneapolis.

Sanatorium Almost Ready.—The contractors report that the St. Louis County Tuberculosis Sanatorium, Midway, will be ready to receive patients, December 1.

"Tag Day" in St. Paul.—The women in St. Paul in their annual "tag day," October 11, collected more than $15,000, which will be used in the campaign against tuberculosis.——The St. Paul Antituberculosis Society has moved into new headquarters at the New York Life Building, Fifth and Minnesota Streets.

Dr. Wiley Upheld.—The Hennepin Medical Society at its last meeting adopted resolutions upholding Dr. Harvey W. Wiley and expressing satisfaction at the decision of the President in the case. The Northwestern Branch of the American Pharmaceutical Society also passed resolutions expressing confidence in Dr. Wiley.

NEVADA

State Society Meeting.—The eighth annual meeting of the Nevada State Medical Association was held in Reno, October 10-12. At the election, October 12, Dr. Benjamin F. Cunningham was elected president; Dr. Donald MacLean, vice-president, and Dr. Martin A. Robinson was reelected secretary and treasurer, all of Reno. The next meeting of the association will be held in Reno.

NEW YORK

Benefit for Crippled Children.—The annual benefit for Robin's Nest, a home for crippled children, at Tarrytown, netted $1,000.

State Charities Aid Association and Tuberculosis.—This organization has been sending copies of a set of resolutions to the various medical organizations which they believe will further their work in combating tuberculosis. Their slogan is "No Uncared-For Tuberculosis in New York State in 1915."

Cancer and Typhoid Show High Mortality.—The *Monthly Bulletin of the State Department of Health* states that cancer and other malignant tumors have destroyed nearly as many lives as tuberculosis; during July 1,064 deaths were charged to this cause. Deaths from epidemic diseases have been exceptionally few. The only disease that appears to be on the increase is typhoid fever.

New York City

Change of Name and Meeting-Place.—The New York Physicians' Association (formerly the East Side Physicians' Association) will hereafter hold its meetings at Tuxedo Hall, Madison Avenue and Fifty-Ninth Street.

Personal.—Dr. Thomas H. Curtin, coroner's physician, has returned from Europe.——Dr. and Mrs. Canfield, Dr. and Mrs. N. E. Brill and Dr. Charles Langdon Gibson have returned from Europe.——Prof. Silvio Tonnini of the University of Bologna arrived in New York, October 5.

Round Up Bad Food Sellers.—The board of health has been showing up the purveyors of bad eggs, meat and milk. In the court of special sessions, October 8, sixty men were arraigned accused of selling unwholesome or adulterated foodstuffs. The fines ranged from $10 to $500.

To Study Pellagra.—The department of tropical medicine of the New York Post-Graduate Medical School is planning to investigate pellagra in southern states in the spring. This is made possible by the gift for this purpose of $15,000 by Col. Robert M. Thompson and Mr. J. H. McFadden.

Lectures on Skin Diseases.—Dr. L. Duncan Bulkley will give the thirteenth series of Clinical Lectures on Diseases of the Skin in the out-patient hall of the New York Skin and Cancer Hospital on Wednesday afternoons, from November 1 to December 20 at 4:15 o'clock. The course will be free to the medical profession.

Plans for a New Hospital Filed.—The New York Society for the Ruptured and Crippled has filed plans for a new building which will be located on East Forty-Second Street extending from 303 to 325 and through to Forty-Third Street. The old building of the society was sold to the New York Central Railroad. The new building will be of brick and terra cotta and will cost $800,000.

City Death-Rate Again Breaks Record.—The Department of Health announces that the death-rate for this city for the week ended October 7 was the lowest recorded in the statistics of the state. The rate was 12.60 per 1,000, while for the corresponding week of 1910 it was 14.48. The low mortality is due to the decreased number of deaths at all the different ages grouped and is not confined to any one particular period of life. The city was freer from infection than at any time in its history, there being not one death from scarlet fever or measles reported.

NORTH CAROLINA

Personal.—Dr. Houston B. Hiatt, Ashboro, has been appointed local surgeon for the Southern Railway.——Dr. W. H. Hardison, Creswell, is reported to be critically ill in St. Vincent's Hospital, Norfolk, Va., after an operation for appendicitis.——Dr. Charles L. Minor, Asheville, has returned after a summer in the north woods of Canada.——Dr. Joseph Hyde Pratt, Chapel Hill, has been elected president and treasurer of the Southern Appalachian Good Roads Association, and Drs. Archibald Cheatham, Durham, and Chase P. Ambler, Asheville, have been elected members of the executive committee.

OHIO

Fraternity Incorporated.—The Alphi Xi Chapter of the Alpha Kappa Kappa of the medical fraternity has been incorporated in Cleveland.

Club Election.—At the annual meeting of the Celsus Club, held in Akron, September 28, the following officers were elected: president, Dr. Judson A. Hulse; vice-president, Dr. Samuel St. John Wright; secretary and treasurer, Dr. Edmund A. Weeks.

Personal.—Dr. William H. Stover, Tiffin, announces that he is about to retire from active practice.——Dr. William C. Leeper, McConnelsville, has leased property on Kennebec Hill on which he will build a number of cottages to be used as a sanatorium.

Northwestern Physicians Elected.—At the annual meeting of the Northwestern Ohio Medical Society, held in Marion, September 14 and 15, Lima was selected as the next place of meeting, and the following officers were elected: president, Dr. Martin Stamm, Fremont; vice-president, Dr. William A. Belt, Kenton.

PENNSYLVANIA

Diphtheria in Lebanon.—Because of thirty-three cases of diphtheria in Lebanon and more in the suburbs, the local board of health on October 14 closed all theaters and other public meeting places and no services were held in the churches.

Relief Fund for Austin Physicians.—A circular letter received at this office October 16 announces that the secretary of the Medical Society of the State of Pennsylvania, Dr. C. L. Stevens, of Athens, Pa., is authorized to receive the contributions for the relief of physicians who suffered loss by the flood at Austin. Disbursements will be made by the Committee on Benevolence of the society.

Philadelphia

County Society to Entertain Surgeons.—There will be a joint meeting of the Congress of Clinical Surgeons of North America and the Philadelphia County Medical Society, November 8. Following the scientific program the society will give a reception to the visiting members of the congress.

Plea for Special Courses in Sexual Hygiene.—Dr. Joseph S. Neff, director of public health and charities, in his weekly bulletin, made a strong plea for the introduction in the public schools of special courses in hygiene, to instruct children in the facts of life and their sex responsibilities. "Penitentiaries, insane asylums, institutions for the blind and homes for the feeble-minded would not contain 25 per cent. of their population had the present adult generation been properly instructed in their youth in social hygiene."

Municipal Research Bureau Recalls Director.—Dr. Jesse D. Burks will return to this city as the director of the bureau of municipal research. He was released three months ago at the request of the New York Board of Estimate to serve on a commission which is conducting a comprehensive inquiry into the public school system of New York. The bureau of municipal research has given active cooperation in several divisions of the bureau of health, where notable results have been obtained in the reorganization of the work in medical inspection, in milk inspection, child hygiene and the municipal hospital.

Banquets.—A reception and dinner was tendered by the Medical Club of Philadelphia, October 6, to the following newly-elected members of the medical faculty of the University of Pennsylvania: Drs. Gwilym G. Davis, orthopedic surgery; John B. Deaver, practical surgery; M. Howard Fussell, applied therapeutics; Milton B. Hartzell, dermatology; Edward Marlin, surgery; A. M. Pearce, research medicine; A. H. Richards, pharmacology; Alfred Stengel, medicine, and Alonzo E. Taylor, physiologic chemistry.——A banquet was given at the University Club, October 5, by Drs. J. Chalmers Da Costa and Edward Spitzka, in honor of Edward Croker, formerly chief of the New York Fire Department, and Dr. Harry M. Archer, honorary surgeon of the department.

Personal.—Dr. Harvey W. Wiley was one of the speakers at the Succoth Pilgrimage and fourteenth annual meeting of the National Farm School on October 15. Dr. Wiley was the guest of honor at a reception, arranged by the gentlemen's and ladies' boards of the farm school at Dr. Joseph Krauskopf's home in Germantown, October 14.——Dr. W. W. Cadbury, one of the five University of Pennsylvania men who are teaching in the Christian College at Canton, China, arrived in Philadelphia, October 13.——Dr. Herbert Fox has been appointed director of the Pepper Laboratory of Clinical Medicine.——Dr. William T. Porter, professor of comparative physiology in Harvard University, will deliver the fourth of the Weir Mitchell lectures of the College of Physicians, in Mitchell Hall, November 3, on "Shock."

Final Report of Pier Hospitals.—The reports of work done at the Race Street and Chestnut Street piers have been received by Dr. Joseph S. Neff, director of public health and charities and show that the Race Street pier cost $2,500 to maintain and the Chestnut Street Recreation Pier, $1,114.70; that a total of 340 sick babies were treated at the Race Street Pier, of which 241 were discharged, as cured, 30 as improved, 18 as unimproved, 8 transferred to other institutions and 43 died. The Chestnut Street Pier handled the whole question of infant hygiene, together with the instruction of mothers. A total of 10,743 infants were cared for there and 6,745 mothers and care-takers were instructed. Of all the infants, 2,862 were sick and 128 were sent to the Race Street Hospital. A total of 5,666 older children were cared for at Chestnut Street and 80 emergency cases were treated.

VIRGINIA

Personal.—Dr. Elliott T. Brady, Abingdon, has resigned from the State Board of Medical Examiners.——Dr. Aelpfar A. Marsteller, Thoroughfare, has been commissioned captain in the Medical Corps, Virginia Volunteers.

Tablet to Confederate Surgeon General.—At the meeting of the Confederate Memorial Library Society at Richmond, September 29, it was decided to install a tablet in the building on the site of the wartime residence of Brigadier General S. P. Moore, surgeon-general of the Confederate Army.

Academy of Medicine Election.—At the annual meeting of the Roanoke Academy of Medicine, October 2, the following officers were elected: president, Dr. E. Pendleton Tompkins, Roanoke; vice-presidents, Drs. Thomas D. Armistead, Roanoke, and Robert H. Garthright, Vinton; secretary, Dr. Lewis G. Richards, Roanoke, and treasurer, John W. Preston, Roanoke.

Free Treatment at Hookworm Dispensaries.—Free dispensaries, in localities where hookworm exists, are to be established by the State Health Department, which has charge of the contributions of the Rockefeller Commission in the state. Six points in Lunenburg County will be the first and other counties will be organized as rapidly as possible.

WEST VIRGINIA

State Association Election.—At the forty-fourth annual meeting of the West Virginia State Medical Association, held in White Sulphur Springs, September 20-22, Dr. Charles O. Henry, Fairmont, was elected president, and Dr. Arthur P. Butt, Davis, was reelected secretary. The next meeting will be held in July, 1912, at Webster Springs.

County Association Meeting.—At the annual meeting of the Ohio County Medical Association, held in Wheeling, September 18, the following officers were elected: president, Dr. Samuel L. Jepson; vice-president, Dr. Sylvanus S. L. Spragg; secretary, Dr. Earl F. Glass; treasurer, Dr. Reed McC. Baird; censors, Drs. Gustavus A. Aschman, N. Atwood Haning, and Harry M. Hall; delegates to the state association, Drs. Frank L. Hupp, William A. Quimby and John T. Thornton, and alternates, Drs. Samuel L. Jepson, Jacob Schwinn and E. A. Hildreth, all of Wheeling.

GENERAL

Bequests.—The following bequests to hospitals have recently been noted:

Catherine Deveney, Philadelphia, $15,000 to the Episcopal Hospital.

Mrs. Helen Hartley Lewis, New York, $125,000 to the new Polyclinic Hospital.

William A. Lawrence, Goshen, N. Y., $5,000 to the Seney Hospital, Brooklyn.

Mrs. Caroline C. Thompson, Bridgeport, Conn., $5,000 for a free bed in the Bridgeport Hospital for colored residents.

Oto-Ophthalmologists Organized.—The Pacific Coast Oto-Ophthalmological Society has been organized in San Francisco, with an initial membership of forty and the following officers have been elected: president, Dr. John F. Dickson, Portland, Ore.; vice-president, Dr. William H. Roberts, Pasadena, Cal.; secretary and treasurer, Dr. Cullen F. Welty, San Francisco; the executive committee, Drs. William A. Martin, San Francisco, Henry La Motte, Seattle, Wash., and John F. Dickson, Portland, Ore.

Milk Standards Commission Meeting.—**The Milk Standards** Commission of New York, of which Dr. William A. Evans, Chicago, is chairman, and Dr. Charles E. North, New York City, secretary, its membership being made up of health officers, bacteriologists, veterinarians and others interested in and connected with the milk industry, met in New York City, October 5 and 6. The commission recommended the adoption of four grades of milk: (a) certified milk, or its equivalent; the standards being those of the American Association of Certified Milk Commissions and of the Laboratory Section of the American Public Health Association; (b) inspected milk from tuberculin-tested cows from dairies scoring over 70 on the government score-card, temperature 50 F. and below, and bacteriologic count less than 100,000; (c) pasteurized milk with a bacterial count of less than 50,000, and a temperature of 50 F. or below; (d) cooking milk from dairies scoring 40 or less on the government's score-card, with a bacterial count of over 1,000,000; pasteurization required. The commission also recommended that the dirt test, bacteriologic standards, obligatory dating, prohibition of the sale of old milk, and a requirement of a temperature of below 50 F. be made a part of all municipal ordinances. It recommended further that the quality of milk as regards butter fat should be on one of two bases: that cities shall have an ordinance requiring a certain percentage of butter fat, or that dealers shall guarantee a certain percentage of butter fat, and shall be held responsible for the amount thus guaranteed.

FOREIGN

Eugenics at Constantinople.—The cable states that the head of the Armenian church at Constantinople has decreed that henceforth every couple applying to be married by the Armenian church must present a certificate from a qualified physician stating that both are in perfect health.

Epidemic Poliomyelitis in the Scandinavian Countries.—A Danish exchange says that there is no doubt that poliomyelitis is assuming an epidemic character in Sweden and also in Denmark. Other advices report about forty-six cases this year at Christiania, with eleven deaths, with a total for Norway of 743 cases and seventy-six deaths, the disease being more prevalent in the rural districts. The epidemic is said to show the peculiar features of former epidemics, especially the way in which only one person within the same household has been attacked, and even within the same building the cases have appeared as isolated; no connection between the cases could be detected. Several of the patients in Christiania were found to have been in the country immediately before the onset of the disease. Flies have been mentioned as disease-carriers; also chickens. The only preventive measure so far has been segregation. The schools have been closed in certain rural districts where the disease has been markedly prevalent; in the cities this measure has not been carried out, only those children who came from households of which a member has been attacked have been kept from school for seven days. In one town the authorities exclude children from school if there is a case of poliomyelitis in the building where they reside, even when not in their own family. Up to September 12 only three adults had been attacked by the disease, and in a more severe form. The health authorities have advised the population to be on the watch for passing paresis, catarrhs, stomach irregularities and brief febrile illnesses as possibly abortive forms of the disease.

CANADA

McGill Opens.—McGill University, Montreal, has a large increase in attendance. Freshmen in the medical department number seventy-one, the largest medical freshman class in six years.

New Hospital.—It is planned to establish a hospital at Yarmouth, N. S., as the only one in that city is its small Seamen's Hospital which is inadequate to the needs of the community.

Tuberculosis Supervision.—Toronto is now caring for 418 cases of tuberculosis under the supervision of municipal nurses. Of this number 117 are in sanitariums.——About 100 cities and towns in Canada are now engaged in the war against tuberculosis.

Opening Academy Meeting.—The Academy of Medicine, Toronto, opened for the season October 4. The president, Dr. Newton A. Powell, delivered the annual presidential address and gave some hitherto unpublished history of the emergency branch of the new Toronto General Hospital, which is to be known as the Shields Emergency Hospital, through the generosity of Misses Agnes and Jane Shields in memory of their late brother, Mr. John Shields.

Chicago Health Exhibit in Canada.—The exhibit of the Chicago Health Department which was taken to the Canadian Exposition, Toronto, is to be exhibited in all the schools of Canada, by request of the governor-general. Canada is also sending a health train and exhibit throughout the dominion.

Tuberculosis in Quebec.—In the report of the Royal Commission on Tuberculosis for the province of Quebec, which has just been published, it is seen that the deaths in that province from this disease are not decreasing. The death-rate in Quebec is higher than in Ontario or any of the adjacent states. It remains stationary in Quebec, while in other countries where a well organized campaign is conducted it is reduced 40 to 50 per cent. The death-rate in the rural districts nearly equals that of the cities and most of the victims range between the ages of 25 and 40 years. It is estimated that Quebec is losing annually $2,000,000 as a result of tuberculosis.

Personal.—Dr. David M. Lineham, Glenboro, Manitoba, and Dr. McGillivary S. Fraser, Brandon, have been placed in charge of the medical work on the Hudson Bay Railroad.——Dr. M. A. Lindsley has been appointed professor of pathology and bacteriology, and Dr. D. Fraser Harris professor of physiology and histology in Dalhousie University, Halifax. Arrangements have also been made with Dr. George L. Sinclair for a course of lectures on mental diseases, and with Dr. Montague A. B. Smith for a course in clinical and practical medicine.——Dr. Ernest Jones, Toronto, has returned from Germany where he read a paper before the International Congress of Psychologic Therapeutics.——Dr. John George Adami, Montreal, is returning from Rome. He has recently been elected president of the Montreal City Improvement League.——Dr. John L. Day, Montreal, is recovering from an appendicitis operation.——Sir Watson Cheyne, England, accompanied by Dr. George S. Strathy, Toronto, has been on an extensive canoe trip in northern Ontario.——Dr. W. J. Hunter Emory, Toronto, was tendered a complimentary banquet by the staff of Grace Hospital, at the Toronto Club, October 6. He has left for southern California, where hereafter he will reside and devote his attention to fruit farming.——Dr. Herbert S. Birkett and Dr. Ethier, Montreal, have returned from Europe.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 7, 1911.

Dangers in the Manufacture of Patent Fuel with Pitch

Patent fuel made by mixing pitch with small coal in a proportion varying from 8 to 10 per cent. is produced on a large scale. The mixture is first reduced to dust in disintegrating machines heated sufficiently to melt the pitch and finally pressed into molds to form briquettes. This operation has been certified by the government as dangerous and, as the result of an inquiry, regulations have been proposed dealing with the manufacture. The danger arises from the action of pitch fragments or pitch dust on the eyes and skin of the workmen. The dust causes irritation of the eyes and ulceration of the cornea, while on the skin it produces dermatitis and warts. The warts, primarily non-malignant, become epitheliomatous. They are found on the arms and scrotum. The ingredient of pitch which causes the warts has not yet been ascertained; anthracene has been suggested. It is proposed to prevent dust in the factories by encasing the elevators and disintegrating machinery, and to protect the workmen from dust by the wearing of overalls, and by the removal of the dust from the skin by bathing and washing at the works. The wearing of goggles is to be compulsory.

The Opening of the Medical Sessions at the London Hospitals

The formal opening of the winter session has taken place at the London Hospital by the usual introductory addresses. A large amount of reorganizing and rebuilding has taken place during the last year and is still in progress. Guy's School is largely rebuilt and within twelve months will be second to none in equipment. New chemistry and physics departments have been erected and the physiology department has been considerably expanded. Elaborate arrangements have been made for research in all these subjects. An entirely new building is being equipped for pathology, while the dental department is being greatly extended. At St. Thomas Hospital a school of physical exercise and massage has been opened, under the charge of Mr. R. Timburg, a graduate of the Royal Gymnastic Central Institute, Stockholm. At the London Hospital considerable additions have been made to the dental school and a beginning has been made in providing a students' hostel.

The Insurance Bill and Voluntary Hospitals

At the annual conference of the British Hospital Association, the president, Sir William Corbett, chairman of the Manchester Royal Infirmary, stated that the insurance bill, while not diminishing the work which the voluntary hospitals have to do, would seriously diminish their income by tapping the two main sources of income—the employer and the working man. Each of these would be taxed under the bill for sickness and, therefore, would be less inclined to subscribe voluntarily for the same object. He suggested that the hospitals should receive payment for the insured patients whom they treated.

A Babies' Boarding House

A novel and most useful institution, St. Mary's Nursery College, has been founded in London by Mrs. Bernard Mole. It may be called a babies' boarding house run on original principles. This college fulfils two objects: It trains efficient girls who desire to become children's nurses, and it affords a much-needed home to motherless or uncared-for babies. There are crèches, orphanages and similar institutions to assist mothers of the poorer classes who may be obliged to go out to work, or the widower left helpless with young children. But until this college was founded the fact was overlooked that a similar need exists in higher classes. There are professional women who have to continue to work after marriage, and also widowers who have no means of having their children properly cared for. While doing this the college provides an excellent training for girls who desire to become children's nurses; for these there is a great demand. As the children range in age from 2 weeks to 7 years, extensive experience can be gained. The girls are instructed in the dietaries suitable for babies at different ages, nursery cooking and the cutting out and making of children's clothes. Classes are also held in nursery hygiene, physiology, first aid, kindergarten occupations, games and songs. If the student passes through her course satisfactorily she is entitled to wear the uniform of the college. The fee for six months' training (including board and lodging) is $180.

London's Next Lord Mayor a Doctor

In the coming year, for the first time in its history, London will have a doctor for Lord Mayor. The recipient of the honor is Sir Thomas Crosby, M.D., the alderman next in rotation. He has been for many years engaged in practice in this city.

Hydrophobia From a Fox Bite

A death from hydrophobia contracted in an extraordinary way—from the bite of a fox—has just been the subject of an inquest. Some months ago the deceased was bitten on the hand, through a thick woolen glove, by a hunted fox at the end of a run. He dismounted from his horse, drove back the hounds and held the fox. While doing this he was bitten. He made no complaint about the bite and mentioned it only casually to his friends. He died on the fourth day of his illness and only twenty-eight hours before death did symptoms of hydrophobia become manifest.

Vital Statistics

According to the fifty-eighth number of a most useful publication, the *Statistical Abstract for the United Kingdom*, which has just been issued and contains figures for the fifteen years up to and including 1910, the death-rate of England and Wales has fallen from 17.1 per 1,000 in 1896 to 13.5 in 1910. At the same time marriages have fallen from 15 to 14.3 per 1,000 and the birth-rate from 29 to 25. During this period there has also been a great increase in emigration. In 1896, 57,547 Britons emigrated to British colonies and 104,378 to foreign countries, chiefly the United States. Last year 249,499 emigrated to the colonies, of whom Canada received 156,990 and Australasia 45,701. For the first time on record more went to Canada than to the United States, although the number to the latter was above the average, 132,192. Increasing temperance is shown in the decline of spirits consumed. In 1900, this amounted to 37,000,000 of proof gallons; in 1910 to only 24,000,000 in spite of the increase of population. During the same period the amount of beer consumed fell from 36,000,000 to 32,000,000 barrels.

The Employers' Liability Act

The Employers' Liability Act of 1906 was passed with the sole object of benefiting the workman who might be injured in his employment without any regard for the principles of justice and has been a fertile cause of malingering and litigation. Like other benevolent legislation passed without regard for economic laws it has proved in some ways a hardship to the very class it was designed to benefit. It tells against a large section of workmen suffering from some slight physical disability which in no way increases the risk of accident and causes employers or insurance companies to protect themselves by refusing to engage this class. It is therefore more difficult for men past middle age who have some slight physical incapacity to find employment. The burden imposed by the act is serious, for it extends not only to the legal dependents of an incapacitated or deceased workman but to his illegitimate dependents, to embrace child, grandchild, parent and grandparent. It has even been held that a posthumous illegitimate child comes within its scope. The most unjust feature of the act is that the employer is liable for death or disability even though it results from wilful and serious misconduct on the part of the workman. Thus, if a mason goes to work intoxicated and falls from a scaffold, the employer must pay. Another extraordinary feature of the act is its discrimination in favor of manual over brain work. A "workman" signifies one who earns his living by manual labor, but it also applies to any one who works under an employer by way of clerical work or otherwise and whose remuneration does not exceed $1,250 per annum. Above this a man who works with his brain is excluded, but a man who works with his hands is included though earning any amount.

Condensed Milk as a Food for Infants

Under the direction of the local government board, Dr. F. J. H. Coutts has investigated the use of condensed milk as a food for infants and has issued an important report. He has found that machine-skimmed milk, condensed milk, is used on a considerable scale. Though the label on the tin declares, as is required by law, that the milk is "machine-skimmed," poverty tempts the mother to buy it and in some cases it seems that the term is imagined to be some guarantee of purity, as the milk is supposed not to be touched by hand. Others imagine that the term implies that the tin contains milk rich in cream which has been skimmed from the top. Sometimes the term "machine-skimmed" is in small type on an obscure part of the label. All these things tend to confuse the purchaser and lead to failure to recognize the real meaning of the warning. Dr. Coutts recommends that tins containing skimmed milk should bear the words "Unfit for Infants." As to the value of whole condensed milk, there is considerable difference of opinion, but Dr. Coutts thinks that there is a tendency to exaggerate the evil effects of feeding on full-cream condensed milk.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 29, 1911.

Fourth International Conference of Eugenics

The Fourth International Conference of Eugenics which has just been held in Paris, has drawn general attention to this science, which, although it has been in existence only about ten years, has already given valuable results in the study of production of domestic animals, grains and plants. Recognition has thus been given to the great importance for biology of the very curious facts discovered about fifty years ago by the Austrian monk, Gregor-Johann Mendel, who being a devoted amateur gardener, performed many experiments in the crossing of plants, especially peas. The results of these experiments, published in a little-read book, remained unnoticed until 1900, when three naturalists studying independently the variation of heredity, Hugo de Bries, Correns and von Tschermak, were led to discover the work of Mendel. New researches soon confirmed what were thereafter called Mendel's laws. Are the principles of genetics destined to enter rapidly into the domain of perfecting races? Certain enthusiastic savants seem to think so. Some skepticism on this point, however, seems justified. Materials are still lacking to permit the categorical assertion that Mendel's laws apply to man and in particular to pathologic heredity in man. It is, however, in man that the study of the problem meets the greatest difficulties. Experiment is of necessity excluded; and moreover the animal and vegetable races are more pure than the infinitely hybrid nations of the west of Europe and the United States. Moreover, it is possible to know only a few human generations; in the space of thirty years one may have thirty generations of peas but hardly two generations of man.

An interesting communication on the mechanism of the variation of races and the molecular transformation which accompanies these variations was made at the conference by Dr. Armand Gautier, professor of chemistry at the Faculté de médecine de Paris. The theories of Lamarck and Darwin do not account for the abrupt and apparently spontaneous modifications which are often noticed in plants and animals when they are observed in sufficient numbers. According to Professor Gautier these abrupt variations are the principal origin of races. They may be attributed to two preponderant, if not exclusive, causes. 1. The action of a foreign fecundating plasma on the vegetable or animal ovule. 2. The symbiosis of vegetative plasmas belonging to different races, sometimes to different species, but adapted to enter in coalescence, that is, to grow and to functionate in intimate union with the plasmas which they modify. The modifications thus caused are not gradual but sudden. They even transform the chemical constituents of the new plant or animal. Gautier is disposed to believe that it is by sudden variations of this kind that the various animal and vegetable species are formed with their present intervals and their reluctance to mingle.

M. Louis Blaringhem of the Sorbonne, explained the plan formed by Dr. Roux, director of the Pasteur Institute, to study various temperaments and their resistance to diseases. A close relation seems to exist between diseases and the coloring of individuals. Guinea-pigs in this respect present interesting peculiarities. Experiments were undertaken at the Pasteur Institute to obtain pure strains of red, gray, black and white guinea-pigs. It appeared that white guinea-pigs are very prolific and produce more females than the red, but they are also much more susceptible to [non-infectious] diseases than the red, although more resistant to infectious diseases.

The Rôle of Military Physicians in the Pacific Penetration of Morocco

Dr. Toubert, chief physician of the army and former director of the sanitary service at Casablanca, has just published an interesting article on the pacific penetration of Morocco by medical action. At Morocco the practice of the indigenous medicine and pharmacy is absolutely unrestrained. There is a distinct line between the indigenous medicine and surgery. Surgery is, as it was once in France, in the hands of barbers. They are skilful in the use of cupping-glasses and understand the good effect of the cautery well applied. Medicine, in the hands of empirics and especially in the hands of the marabouts, consists in the prescription of common plants and various minerals and especially in the distribution of little sachets containing paper covered by Arabic figures which act mysteriously by long contact with the diseased part. Under these conditions it is easy to understand that the often ready success of modern medicine and surgery rapidly inspire the Moroccans with confidence in our military physicians, and this all the more, since the greater number of physicians attached to the French consulates are young military physicians called to these responsible posts because of the knowledge of the indigenous medicine which they have acquired in Algeria and in particular their knowledge of the Arab language and of the psychology of the Mussulman races. The civilizing influence of France in Morocco finds a powerful aid in public sanitation and hygiene. In this respect the military physicians find valuable collaborators among the natives of high rank and Moroccan functionaries with whom they have had occasion to form professional relations on coming to Casablanca, and who are generally much impressed by a visit to the campaign hospital at Casablanca. When it becomes necessary to combat small-pox, exanthematous typhus and recently, the plague, the powerful collaboration of these former patients was always received by the physicians.

Physical Culture in the Army

Impressed by the unsatisfactory gymnastic records of the candidates recently received at the military school, M. Messimy, minister of war, has decided to raise the physical requirements in the examination for admission to these schools. He insists that the physical culture of future officers ought to be carried to the same point as their general culture. The minister is taking an interest, moreover, in developing physical culture in the army, especially among the officers.

An Anti-Alcoholic Federation Among Workmen

The scourge of alcohol, to which for a long time the working class has been very indifferent, has begun to interest them. There has been recently organized a Fédération ouvrière antialcoolique, which is sending out an appeal to all the syndical organizations inviting them to take part in anti-alcoholic propaganda. The federation has already held several meetings and given moving picture lectures in Paris.

Cholera in Tunis

The sanitary situation of the region of Tunis is at present inspiring great uneasiness. Cholera which appeared in some place in the suburbs has now penetrated into the Arab city. Up to the present the epidemic has made victims only among the Jews and natives; the Europeans have been exempt.

Deaths

Dr. H. C. Lutz, *agrégé* libre of the Faculté de médecine de Paris, and Dr. Louis Grandeau, former dean at the Faculté des Sciences de Nancy and professor of agriculture at the Conservatoire national des arts et métiers, have just died at Paris.

Creation of a Pasteur Institute at Algiers

A Pasteur Institute has just been established at Algiers, the technical and administrative direction of which is undertaken by the Pasteur Institute of Paris. This direction has been entrusted to Dr. Calmette. The scientific make-up of the new institute comprises a service for rabies, a service of bacteriology applied to medicine, an antimalarial service, a service of agricultural microbiology and a veterinary service. The site on which the new buildings are being constructed covers an area of about 2½ acres, in one of the most beautiful spots in the suburbs of Algiers. The architecture of all the buildings is of the simplest, without any costly decoration, and the details of the interior arrangement have been carefully studied so that the expense of the undertaking may be reduced to a minimum, and also with an eye to furnishing all the desirable conveniences for future workers in the laboratories. Thoroughly equipped laboratories are close at hand to each service. Daylight is plentiful everywhere, and the grouping of the laboratories on the northeast side of the building prevents the sunlight from being an annoyance in the microscopic work. One interesting detail is that all the outside openings are covered with brass wire netting, and each door is protected on the inside by a screened vestibule, so as to make it impossible for any fly or mosquito or other winged insect to get inside.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, September 28, 1911.

Personal

Professor König of Greifswald has been elected as successor of Professor Friedrich who goes to Königsberg as director of the surgical clinic.

Agreement Between Germany and Great Britain in the Campaign Against Sleeping Sickness

A few weeks ago an agreement with reference to the combating of sleeping sickness in the protectorate of Togoland and in the Gold Coast Colony was effected between Germany and Great Britain. As the basis of the agreement, both governments shall investigate and keep each other informed of the incidence, extent and spread of sleeping sickness in the regions mentioned and shall treat persons affected with the disease and take precautionary measures against this disease in proportion to the means at the disposal of the governments of the territories involved. The two governments shall also have the right to restrain commerce at the frontier by such measures as seem necessary to hinder the spread of sleeping sickness but are required to communicate to each other without delay the measures adopted. The agreement which has been concluded for three years takes effect December 1 of this year and is to remain in force for an additional year so long as notice is not given by one or the other party six months before the expiration of the period of validity.

Sectarian Objection to the Acceptance of a Medical Hospital Intern

Last year an unpleasant sensation was aroused by the fact that the director of a hospital, situated in a suburb of Berlin, refused to accept a medical "praktikant" intern of the Jewish faith, who had announced his desire to take his "practical year" in that institution before obtaining his degree, the refusal being based on the assertion that the director's assistants refused to have anything to do with a Jewish medical "praktikant" and that he must refuse the appointment in order to avoid conflict. There is some doubt whether the director was in the position to restrain his assistants from expressing their antisemitic feelings and to lead them to a better view. At any rate it was very unwise in him to inform the "praktikant" of this reason for his refusal. This view was also expressed in the medical press and in the Berlin-Brandenburg medical council (*Aerztekammer*), and it was also the subject of a complaint against the director addressed to the board of managers of the hospital, but all without reaching any result.

A short time ago the executive committee of the Prussian medical council (*Aerztekammer*) addressed a communication to the imperial chancellor with reference to this matter, requesting that he should officially publish a statement that it was not permitted to a hospital to refuse a "praktikant" intern for sectarian reasons. The answer of the imperial chancellor just published is as follows: "In the decree for the order of examination of May 28, 1901, it is not contemplated that the obligation to accept every candidate who applies shall be imposed on hospitals which are entitled to receive 'praktikant' interns. There seems to me to be little occasion for official interference with the widest freedom of choice as to application and acceptance on the part of candidates as well as of the hospitals, because the number of places for 'praktikants' in Prussia is more than double that of the candidates who have passed the examination, and therefore it is possible for every candidate to find a place for his practical year to correspond to his legitimate wishes. Any official action of the character desired would only have the effect of bringing sectarian matters into the field of medical education which is naturally neutral. I would prefer therefore to refrain from any action in this direction." In the professional journals this answer of the imperial chancellor is unfavorably criticized, but I cannot see the validity of this criticism. In fact there are enough places for all these candidates and it will never happen that a director of a hospital will be compelled to accept a "praktikant" who is not agreeable to him. [The term "praktikant" as used here refers to those students who have passed their examination, but are required to spend a year in some hospital before receiving their license to practice.]

International Tuberculosis Conference

An important meeting took place under the presidency of Prof. B. Fraenkel for the discussion of international tuberculosis questions, in which a number of domestic and foreign members of the international tuberculosis conference participated. It was decided to hold the next international tuberculosis conference in Rome, April 11 to 13, 1912, and to discuss as the most important questions, human and bovine tuberculosis, specific treatment, and the participation of woman in the campaign against tuberculosis. Also measures are to be taken to protect the symbol of the international tuberculosis association, the double red cross, against misuse. Twenty-eight countries belong to the association.

An Italian Fake Scientific Academy and Its Dupes "Honorary Members"

For some years from time to time, to the entertainment of the initiated, it is announced in the medical and daily press that a more or less well-known physician has been elected an honorary member of the Italian Physio-Chemical Academy of Palermo. These announcements are made repeatedly, although it has been pointed out in the professional press that this concerns a downright swindle by two Italian sharpers. These sharpers are speculating, not unsuccessfully, in vanity, and even prominent professors in German universities have become their victims. Now cruel fate has brought it about that one of the most noted and successful Berlin quacks has also been chosen as an honorary member of the academy, and this distinction has naturally been inserted among his other advertisements. The Berlin chief of police has consequently taken occasion in an official notice to show the true character of the academy. The *Deutsche medizinische Wochenschrift* in giving a notice of this announcement adds the following: "Probably this announcement will at least prevent further distinguished physicians or such as would like to be so from falling victims to the Italian swindle. The warning published already years ago in our weekly and other medical journals and later repeated has not been sufficient to hinder even university professors from accepting this 'honorary membership.' The noted Berlin quack in question has published a list of his brother members in this academy in a statement in reply to the warning of the chief of police. Each of those whose names are found in this list may well complain with Gretchen: *Mir tut es in der Seele weh, dass ich mich in dieser Gesellschaft seh.* 'It pains me to the soul to find myself in such company.'"

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 24, 1911.

The Third Meeting of the German Urologic Society in Vienna

This society convened in Vienna on September 17 and lasted three days which were devoted to a great deal of scientific and other valuable work. The president, Professor Zuckerkandl (Vienna), welcomed the guests, who were also entertained at a concert by the doctors' orchestra of Vienna. A notable feature of this congress was the absence of the usual distracting social diversions, which have been deplored so often after previous congresses. In the unanimous opinion of all present the work done was of a high character. The part played by the Vienna school of urologists and anatomists was very brilliant, but the internists of this city were conspicuous by their passive attitude. A *Festnummer* of the *Wiener medicinische Wochenschrift*, containing numerous articles by eminent surgeons, was distributed among the members and received much attention. The committees for the next meeting (which will take place in 1913 in Berlin) were elected on the last day; von Koranyi and Oberländer were made vice-presidents, while Casper was elected president in place of Zuckerkandl. Only a few of the more interesting chapters of the transactions will be mentioned. Great attention was paid to the discussion on "Permanent Results of Removal of Tuberculous Kidney," which was introduced by Israels (Berlin) and Wildbolz (Berne). Both surgeons urged the necessity of removal of the diseased kidney as early as possible, provided the other kidney be normal. Tuberculin should not be employed, as it might hasten the course of disease, or cause valuable time to be lost in waiting. The majority of those present were in favor of these measures and from the figures mentioned in the discussion it appeared that the mortality following the operation is low, the benefit to the patient high, the prognosis good in early cases. Blum mentioned that tuberculous meningitis is a much more frequent complication of tuberculosis of the kidney than, for instance, of pulmonary phthisis.

The discussion following Casper's paper on prostatectomy was of great interest. The authors agreed as to the comparative safety of the operation, even in very aged persons (80-88 years), provided that no septic focus had already weakened the patient excessively. Regarding the method of operation, each surgeon has to find out which way suits him best, although Freyer's enucleation seems to be the most reliable one. Certain connections between the prostate and diabetes were studied by Necker (Vienna). Dr. Götzl (Prague) has made experiments relating to anaphylaxis caused by repeated injections of testicular extracts. He has found that the relations between man and animal are of the nature of specificity of organs, but not of the genus, or in other words, that the extract of a human testicle acts on the animal in the same way as the extract of the animal's testicle. He therefore expects that it will be possible to influence the human organism by extracts from animals' testes.

The present position of the urologist in regard to urethroscopy was discussed by Oberländer (Dresden) and Wossidlo (Berlin), and in regard to cystoscopy by Paschkis (Vienna) and Gross (Vienna). These two diagnostic methods are at present indisputable and must be used in every case, especially where the symptoms are masked, but they seem to be a little neglected by surgeons on account of the results obtained by kidney surgery. The value of vaccines was illustrated in a paper by Dr. Reiter (Berlin), who found them very useful in *B. coli* infections of the urinary organs of grown-up persons, less so in children. Bilharziasis was demonstrated and discussed in a paper by Dr. Pfister (Cairo), who also showed several specimens from ancient Egypt, proving that the disease was known in those times when a special goddess of Bilharzia was worshiped in Upper Egypt.

A very valuable addition to the papers was the demonstration, by Professor Tandler, of anatomic preparations dealing with the organs in question. These demonstrations were made in his anatomic laboratory, and the dissections elicited the unanimous admiration of the audience. Especially the relations of the female ureter to the uterus, and the changes to which it is subject during pregnancy, were most clearly visible. And with these demonstrations the congress came to an end.

Miscellany

REINFORCED COTTON WADDING

A New Material for Use Under Plaster-of-Paris Dressings

Robert D. Maddox, M.D.

CINCINNATI

I have had made, for use under plaster-of-Paris dressings as a protective or padding, a new material, which, judging from the experience of others and myself, I find to meet the desired conditions more nearly, and to be, because of its cheapness, convenience, elasticity and accuracy of application, superior to anything that may be had at present for this purpose, with the exception of stockinet and felt, as especially indicated.

This material is essentially a good grade of cotton wadding starch-glazed on one side, which is reinforced by attaching to the other side a coarse gauze by means of starch size, so as to form a double-faced fabric of single thickness, one side of which is gauze, and the other cotton wadding.

The wadding is of two thicknesses, technically known as two- and four-pound weight, in order to provide a light or heavy protection as is indicated, while the starch-glazed face renders the dressing reasonably non-absorbent. In laying down the wadding, long-fibered, commercially clean cotton has been used, which gives a resilient elasticity and reduces packing or "caking," with subsequent loosening of the dressing, to a minimum, while making the dressing soft and non-irritating. The cost of this material will probably be about the same, weight for weight, as that of the ordinary cotton batting or sheet wadding that is now used and less than that of canton flannel. For convenience, the rolls have been made 6 yards long by 36 inches wide, from which pieces of suitable widths, usually 3 to 6 inches, may be cut as required by means of a sharp knife, and applied spirally as an ordinary roller bandage, face side to skin, with edges either in apposition or overlapping; or a piece may be cut of sufficient size to make a continuous covering of single thickness over the part, the edges of the material being drawn together and fastened by means of a needle and thread.

The length of the piece so cut should be slightly longer than that of the plaster in order that it may be turned back and caught by the last turns of the plaster bandage to finish the top and bottom of the cast. A preliminary report of this material was deemed necessary, owing to the fact that, through error, some of this reinforced wadding made for experimental purposes was sold before the experimental work was completed.

I have made, experimentally, a similar combination of starch gauze and sterile cotton, surgically clean and highly absorbent, and believe it to be an ideal material for all forms of surgical dressings, particularly in conditions in which heavy dressings are required.

Comparative Chances of Life of the Sexes.—A noted English statistician has calculated that of two children, a boy and a girl, born on the same day, the boy will have only seventeen chances against eleven of living one year, while the girl will have twenty-one chances against eleven. From the age of 5 to 15 there appears to be but little difference, but from 15 to 19 the critical period in the life of the female, the boy will have 269 chances and the girl 277 chances of living against one of death. This advantage in favor of the female increases, especially from 35 to 75, when the ratio drops slightly till after 80, when the man will have only three chances of life against one of death, while the woman's chances will be much greater.—Stewart in *Medical Record*.

The Power of Heredity.—"He who inherits a predisposition to insanity," says Maudsley, "does not necessarily get it from a parent who happens to be insane—no, not even though his father was insane when he was begotten, or though in madness his mother conceived him. He gets it from where his parent got it—from the insane strain in the family stock."

Marriages

John Mason Little, M.D., Boston, Mass., to Miss Ruth Esther Keese of Ashburnham, Mass., at St. Anthony, N. F., October 1.

W. L. Delevan, M.D., to Miss Alfretta Bingley, both of Hagerstown, Md., at Martinsburg, W. Va., October 3.

Grosbeck Walsh, M.D., Cristobal, C. Z., to Miss Nancy Irvin of Ohio, in San Francisco, August 29.

William Oscar La Motte, M.D., Riverside, N. J., to Miss Sue C. Hall at Finksburg, Md., October 11.

Charles J. Skwor, M.D., Milladore, Wis., to Miss Rose Hemmen of Fond du Lac, Wis., October 3.

William J. C. Lamb, M.D., to Miss Marie Antoinette Keller, both of Homestead, Pa., October 4.

Frederick Garrison, M D., Baltimore, to Miss Catherine Soper, at Elkridge, Md., October 4.

John H. Morrison, M.D., to Miss Coila Myers, both of Kansas City, Mo., September 26.

Robert Russell Hollister, M.D., to Miss Susan Holdrege, both of Omaha, Neb., October 4.

John Albert Seabold, M.D., to Miss Delphine McMenamy, both of St. Louis, October 2.

Leo G. Bartels, M.D., to Miss Pauline Becker, both of St. Louis, October 1.

Deaths

Christopher C. Reid, M.D. Albany (N. Y.) Medical College, 1864; a member of the Medical Society of the State of New York; one of the founders of the Oneida County Medical Society, and first president of the Rome Medical Society; examining surgeon for the New York Central Lines for twenty-five years, consulting physician to the Rome Hospital and one of the incorporators of the Rome Home for the Aged, Indigent and Infirm; donor of the Nurses' Home and the new operating room to the Rome Hospital; died at his home in that city, aged 72.

Moses Craft Lathrop, M.D. Worcester (Mass.) Medical College, 1852; a member of the American Medical Association; said to have been the first surgeon in New Hampshire to operate for appendicitis; assistant surgeon of the Nineteenth Iowa Infantry; surgeon of the Fourth Engineers and Corps d'Afrique—Ninety-Eighth United States Colored Infantry—during the Civil War; president of the Dover Medical Society and vice-president of the New Hampshire Medical Society; died at his home in Dover, September 28, aged 81.

Neal Mitchell, M.D. Long Island College Hospital, N. Y., 1880; of Jacksonville, Fla.; a member of the American Medical Association, and formerly president of the Duval County (Fla.) Medical Society; a member of the state examining board for the fourth judicial district and of the Duval County Board of Health; a pioneer practitioner of Jacksonville and one of the heroes of the yellow fever epidemic of 1888; died at his summer home in Readfield, Me., September 30, from tuberculosis, aged 55.

Daniel Dechert, M.D. University of Pennsylvania, Philadelphia, 1871; for one term treasurer of Schuylkill County, Pa., and for twenty years coroner and deputy coroner; county medical inspector for the State Board of Health; a member of the Schuylkill County Medical Society; died at his home in Schuylkill Haven, October 4, from uremia, aged 65.

Charles William Spayd, M.D. U. S. War Board, 1861; University of Pennsylvania, Philadelphia, 1866; surgeon of the Fifty-Third Pennsylvania Volunteer Infantry, during the Civil War; physician of Luzerne County, Pa., from 1867 to 1872, and coroner from 1881 to 1884; died at his home in Wilkes-Barre, September 29, from diabetes, aged 71.

Luther M. Perkins, M.D. Missouri Medical College, St. Louis, 1886; a member of the Washington State Medical Association; formerly a member of the faculty of his alma mater and a member of the staff of the St. Louis City Hospital; died at his home in Tacoma, September 27, from locomotor ataxia, aged 56.

Benjamin Moody, M.D. Geneva (N. Y.) Medical College, 1868; Jefferson Medical College, 1869; a member of the Medical Society of the State of Pennsylvania; a veteran of the Civil War and for several years a school director of Mansfield; died at his home in that place, September 22, from nephritis, aged 69.

William Edwin Bonawitz, M.D. College of Physicians and Surgeons, Baltimore, Md., 1889; of Millerstown, Pa.; a member of the Medical Society of the State of Pennsylvania; died in Johns Hopkins Hospital, Baltimore, October 2, a few hours after an operation for the removal of gall-stones, aged 45.

Orrin Davis, M.D. Eclectic Medical Institute, Cincinnati, 1846; said to have been the oldest alumnus of that institution; for fifty years a practitioner of Attica, N. Y., and a professor in various eclectic medical colleges; died at his home in Sawtelle, Cal., September 27, aged 88.

Joseph Hervey Reynolds, M.D. Bellevue Hospital Medical College, 1864; a member of the American Medical Association; one of the oldest residents of Allegheny County, Pa.; a member of the staff of the Presbyterian Hospital, Bellevue; died at his home in that city, September 28, aged 89.

Arthur H. Thompson, M.D. New York Homeopathic College, New York City, 1861; the oldest practitioner of Lapeer, Mich.; four times mayor of the city and president of the local U. S. pension examining board; died at his home, September 26, from cerebral hemorrhage, aged 73.

Calvin Knox Smith, M.D. Rush Medical College, 1876; of Fort Washakie, Wyo.; a member of the American Medical Association; physician at the Shoshone Indian Reservation for twenty-five years; died at his home, October 1, from valvular heart disease, aged 57.

Henry Spring Strickland, M.D. College of Physicians and Surgeons, New York City, 1877; of Olympia, Wash.; a member of the Washington State Medical Association; died at the Minor Hospital, Seattle, September 23, from malignant disease, aged 58.

John W. Medaris, M.D. Willoughby (O.) University, 1845; (license, Indiana, 1897) a member of the Indiana State Medical Association; for fifty-three years a practitioner of Brookston; died at his home, September 21, aged 97.

E. C. Adams, M.D. Hahnemann Medical College, Philadelphia, 1886; of Duluth; formerly of Minneapolis; died in Duluth, April 7, from the effects of poison believed to have been self-administered with suicidal intent, aged 55.

Gilbert Gaudreau, M.D. Medical School of Maine, Brunswick, 1889; secretary of the Augusta (Me.) Board of Health; died at his home in that city, September 25, after an operation for appendicitis, aged 57.

Jesse Linnord Sammons, M.D. Starling Medical College, Ohio, 1885; a member of the American Medical Association; died at his home in Calis, W. Va., September 30, from cerebral hemorrhage, aged 52.

Camillo H. Machinek, M.D. Howard University, Washington, D. C., 1892; a member of the Medical Association of the District of Columbia; died in his apartments in Washington, October 3, aged 40.

Clarence L. Nichols, M.D. Hahnemann Medical College, Philadelphia, 1885; a specialist on diseases of the eye and ear; died at his home in Portland, Ore., September 26, from anemia, aged 50.

Eugene P. Lanthurn, M.D. Pulte Medical College, Cincinnati, 1882; of Stockton, Cal.; died in the San Joaquin County Hospital in that city, September 28, from tuberculosis, aged 53.

Sherman B. Hitt, M.D. Medical College of Ohio, Cincinnati, 1886; health officer of Greensburg, Ind.; died at his home in that city, September 26, from angina pectoris.

Davis Jefferson Foster, M.D. University of Nashville, Tenn., 1859; a Confederate veteran; died at his home in Paducah, Ky., October 1, from senile debility, aged 80.

Alexander M. Shields, M.D. University of Louisville, Ky., 1883; of Chaplin, Ky.; was shot and instantly killed in an affray at Chaplin, September 29, aged 56.

Andrew A. Allison, M.D. University of Tennessee, Nashville, 1888; of Edna, Tex.; died in a sanitarium in Houston, Tex., September 12, aged about 50.

John H. Walker, M.D. Miami Medical College, Cincinnati, 1868; died at his home in Oak Ridge, Mo., September 29, from heart disease, aged 71.

James E. Mahoney (license, Wisconsin, 1904), a practitioner since 1898; died at his home in Milwaukee, September 27, from heart disease, aged 45.

Isaac L. Kip, M.D. New York University, New York City, 1854; died at his home in New York City, October 6, from senile debility, aged 81.

Joseph Blakie Bishop, M.D. Washington University, St. Louis, 1866; died at his home in Athens, Tex., April 4, aged 73.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

CALCIUM PHENOLSULPHONATE (SULPHOCARBOLATE)

Report of the Council on Pharmacy and Chemistry

A subcommittee of the Council submitted this report:

The Council having voted to consider the eligibility of calcium phenolsulphonate (calcium sulphocarbolate) for inclusion with New and Nonofficial Remedies, the product as it is found on the market was examined in the chemical laboratory of the American Medical Association, with a view of establishing standards for this substance. The laboratory now submits its findings in the matter which show that, largely as a result of its efforts, a product of satisfactory quality is now on the market.

The phenolsulphonates (sulphocarbolates) are, probably, not very valuable as therapeutic agents. Calcium phenolsulphonate has little to recommend it over the official sodium phenolsulphonate, and it may be held as an unnecessary duplication of an official substance; yet its provisional inclusion in New and Nonofficial Remedies is recommended since it contains two radicals (the calcium and the phenolsulphonic) often given in certain conditions, and it may for that reason be found to have some advantage over sodium phenolsulphonate. Further, if the product be described in New and Nonofficial Remedies and standards of purity for it provided, this will have the effect of improving the quality of the product on the market.

It is recommended, therefore, that calcium phenolsulphonate (calcium sulphocarbolate), with the description herewith submitted, be accepted as a non-proprietary article, and that the products of the Abbott Alkaloidal Co. and of the Mallinckrodt Chemical Works be listed.

In order that physicians may appreciate the work of the Association's chemical laboratory and recognize the influence which it exerts on the improvement of the quality of medicines, it is recommended that publication of this report and of the report of the chemical laboratory be authorized.

This report was adopted and in accordance therewith the description of calcium phenolsulphonate appears on another page of this issue and the report of the chemical laboratory is published below.

W. A. PUCKNER, Secretary.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

CALCIUM PHENOLSULPHONATE

W. A. Puckner and L. E. Warren

The examination of calcium phenolsulphonate (calcium sulphocarbolate) was taken up at the request of the Council. Tentative standards for the substance were prepared and after the examination of the specimens had been completed, these standards were submitted for criticism to several manufacturers of chemicals. At the same time the findings (for each manufacturer's product) which were not in accord with the proposed standards were submitted to the manufacturers interested.

The product was examined with reference to the residue on ignition, loss on drying at 100 C., freedom from arsenic and heavy metals, sulphates and uncombined phenol. Some of the specimens studied were purchased on the open market while others were furnished by the manufacturers. The tests for purity to which the product was subjected are as follows:

TESTS

An aqueous solution of the salt (1-100) should not respond to the time-limit test for *heavy metals* prescribed by the United States Pharmacopeia, 8th Revision.

An aqueous solution of the salt (1-100) acidified with a few drops of diluted hydrochloric acid should give no immediate turbidity after the addition of 1 c.c. of barium chlorid test solution (limit of *sulphate*).

If 5 gm. of the salt be percolated with 25 c.c. of ether in a small filter, the solvent allowed to evaporate spontaneously and the residue, if any, dissolved in 5 c.c. of water, the solution should not give a white precipitate on the addition of a few drops of bromin test solution (absence of *phenol*).

If dried at 100 C. (212 F.) for 1 hour the salt should not lose more than 2 per cent. of its weight (absence of an undue amount of *water*).

If from 0.5 to 1 gm. of the salt be dried to constant weight at 100 C. (212 F.) and the dried substance be slowly ignited in an uncovered crucible (care being taken that the contents be freely exposed to the air) until the weight becomes constant, the residue should amount to not less than 35.0 per cent., nor more than 36.0 per cent. of the weight of the dried substance.

The results of the examination[1] are tabulated below.

These results show that commercial calcium phenolsulphonate varies somewhat in purity and uniformity of composition. The formula commonly assigned to the salt in most text-books of pharmaceutical chemistry is $Ca(C_6H_5O_4S)_2+H_2O$. Theoretically such a salt should contain 4.45 per cent. of water and should yield 33.68 per cent. of residue on ignition. The above formula is given in Merck's Index (1907), yet the market product bearing the label of this firm was found to contain only 0.45 per cent. water and was therefore, not the monohydrated salt indicated by the formula.

The results of our examination were then transmitted to the firms whose products had been examined.

The Mallinckrodt Chemical Works, in replying, wrote that its manufacturing department was experimenting in an attempt to produce a phenol-free salt at moderate cost. Some time later a specimen of this firm's latest product was sent to the laboratory for examination. This specimen lost 0.44 per cent. of its weight on drying and the dried material yielded 35.24 per cent. of residue on ignition, results that were well within the limits suggested in the standards proposed. The specimen did not respond to the bromin-water test for phenols and both in color and odor was superior to the first specimen of this firm's that was examined.

The Abbott Alkaloidal Co., in submitting its brand of calcium phenolsulphonate, gave the same formula to indicate the composition of its product as is found in Merck's Index, namely, $Ca(C_6H_5O_4S)_2+H_2O$. When the specimen was dried at 100 C., however, it lost about 15 per cent. of its weight, showing that it had a much larger water-content than was claimed by the manufacturer. This result was verified also by the amount of residue found on ignition, which amounted to 30 per cent. of the weight of the undried specimen instead of 33.68 per cent. as is required by the formula of the salt containing 1 molecule of water. These laboratory findings

Brand.	Water (Loss at 100 C.).	Residue on Ignition (Calculated from Dried Specimen).	Color.	Odor.	Phenol Test.
M. C. W.[2]	0.42	35.18	Noticeably pinkish	Somewhat phenol-like	Distinct precipitation.
M. & Co.[3]	0.45	35.28	Very faintly pinkish	Distinctly phenol-like	Distinct precipitation.
A. A. Co.[4]	15.13	35.24	Faintly yellowish	Distinctly acetone-like	None.
P. W. R.[5]	0.41	35.42	Faintly pinkish	Odorless	Distinct precipitation.

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[1] The details of the analysis will be sent on receipt of a stamped envelope; they will also be published in the Annual Report of the chemical laboratory.

[2] M. C. W. = Mallinckrodt Chemical Works.

[3] M. & Co. = Merck & Company.

[4] A. A. Co. = Abbott Alkaloidal Company.

[5] P. W. R. = Powers-Weightman-Rosengarten Company.

were sent to the firm. No acknowledgment was received for nearly six months and then the company wrote questioning the chemists' results and asserting that its product contained "about 4.5 per cent." (theoretically 4.45 per cent.) of water instead of the 15.1 per cent. as had been reported by us. This, of course, was a reiteration of the claim made at the time the product was submitted to the Council. In its letter, the company stated that it was sending another sample of calcium phenolsulphonate for further experimentation. This specimen lost 1.93 per cent. of its weight on drying and the dried material gave 35.15 per cent. of ash on ignition; it did not respond to the bromin-water test for phenol. These later results indicated that, although the firm was ignorant of the composition of its own product, the second specimen complied with the proposed standard.

As the table shows, the products of Merck and Powers-Weightman-Rosengarten were both found to contain free phenol. These firms were advised of the laboratory's findings, but, beyond acknowledging the letters that were sent, they have taken no further action.

The results of the examination of calcium phenol-sulphonate illustrate what other examinations in the Association laboratory have so often shown, viz., that commercial products which are but little used and for which there are no authoritative standards for strength and purity, are also invariably unreliable in composition.

CONVICTIONS UNDER FOOD AND DRUGS ACT

In spite of the handicaps to which the Bureau of Chemistry has been subjected by the enemies of the pure food law both within and without the Department of Agriculture, many vicious frauds both in foods and drugs have been exposed and their perpetrators punished. The records of these cases are published by the Department of Agriculture in a series of leaflets known as "Notices of Judgment." Unfortunately these publications, like most government documents, do not reach the general public although they may be had for the asking. Recognizing this fact, The Journal has at different times abstracted the information given in the Notices of Judgment in an attempt to popularize this important work. The matter thus published has been reprinted both in pamphlet form[1] and in "Nostrums and Quackery"[2] making it available for public distribution.

Unfortunately not all the details that have been brought out in the various government investigations appear in these Notices of Judgment. When they were first issued, the information given was much more complete, but as Solicitor McCabe's influence gradually overshadowed the Bureau of Chemistry the data published by the government in the Notices of Judgment became more meager until only the barest facts now appear in these publications. As will be remembered, at the investigation recently made of the Bureau of Chemistry, it was shown that McCabe not only "edited" the various Notices of Judgment before publication but, in at least one case, falsified the record apparently to avoid hurting the feelings of those food manufacturers that find it necessary to use benzoate of soda in their products! This week we publish brief abstracts of a few more cases of interest not only to physicians but also to the public.

MUNYON'S REMEDY

Every reader of newspapers knows of Munyon—of the pompadour and uplifted finger. For years this quack has been humbugging the public but Nemesis in the form of the Bureau of Chemistry finally overtook him. Some time ago Munyon's Homeopathic Home Remedy Company shipped at different times two consignments of its nostrums. The first consignment was labeled "Munyon's Asthma Cure," which was said to "permanently cure asthma." The government chemists analyzed this "cure" and found it to consist of sugar and alcohol. The second consignment contained two preparations one of which was labeled "Munyon's Special Liquid Blood Cure. Price $2.00." Some of the claims made for this nostrum were:

> "Eradicates Syphilis and Scrofula from the Blood, and acts as a tonic to the general system.
>
> "It cures enlarged tonsils or glands, ulcers and all forms of sores and eruptions.
>
> "It cures Syphilitic Diseases of the Bones, syphilitic ulcers, syphilitic and scrofulitic skin diseases, removes all impurities from the blood, and tones up the whole system."

This was analyzed in the Bureau of Chemistry and found to contain a trace of corrosive sublimate, the balance being about equal parts of potassium iodid and milk sugar.

The other preparation in the same consignment with "Munyon's Special Liquid Blood Cure" was "Munyon's Blood Cure." The claims for the latter were:

> "Munyon's Blood Cure will positively cure all forms of Scrofula, Erysipelas, Salt Rheum, Eczema, Pimples, Syphilitic Affections, Mercurial Taints, Blotches, Liver Spots, Tetter and all skin diseases."

It would also do several other things—according to Munyon. Analyzed by the government chemists this marvelous remedy was found to consist of sugar! All of these preparations were declared misbranded because of the false therapeutic claims made for them, for at the time this case was before the courts the Supreme Court had not emasculated the Food and Drugs Act. In other words, Munyon was charged with lying about his sugar pills and similar nostrums. He pleaded guilty and was fined $200 in each of the three cases.—[*Notice of Judgment, No. 874.*]

QUININ WHISKEY

The Quinin Whiskey Company, Louisville, Ky., shipped in interstate commerce some of its product "Quinin Whiskey." In addition to claiming certain medicinal properties for this preparation, the label bore the following statement:

> "Alcoholic strength 85 per cent. Quinin 1¼ grains per ounce. Guaranteed under the Food and Drugs Act," etc.

Analyzed by the chemists at Washington, it was found to contain only 42 per cent. of alcohol instead of 85 as stated on the label and instead of having 1¼ grains of quinin to the ounce it contained only 1/75 of a grain. Naturally the stuff was declared misbranded. The defendant pleaded guilty and was fined $25 and costs.—[*Notice of Judgment, No. 885.*]

INDIAN TAR BALSAM

John B. Hurtt and Thomas D. Hurtt of Baltimore, who did business under the name Indian Tar Balsam Company, shipped some of their product into the District of Columbia. It was said to be:

> "The never failing remedy for the cure of coughs, colds, sore throat, and all kinds of throat and lung affections."

When analyzed, it was found to consist of about 60 per cent. of oil and 40 per cent. of water, the oil floating and being partly volatile, with an odor of tar, and the water containing morphin derivatives. As the labels bore no statement regarding the quantity or presence of morphin or its derivatives and as the claims for its curative properties were false and misleading, the stuff was declared misbranded. The defendants pleaded guilty and were fined $25. [*Notice of Judgment, No. 898.*]

STANGE'S GENUINE ANTISPASMODIC OR CRAMP DROPS

This nostrum was made by E. J. and Minnie Abel of Chicago and the labels purported that the article was a cure for spasms, cramps, vertigo, pressure on the heart and other things. Analysis showed it to contain alcohol, ether and oil of peppermint. As such a mixture would not cure the various disorders mentioned on the label and as no statement regarding the amount of alcohol and ether appeared on the bottle the nostrum was declared misbranded. The Abels pleaded guilty and were fined $25 and costs.—[*Notice of Judgment, No. 903.*]

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[1] The pamphlet, "Convictions Under the Food and Drugs Act," is sold at 6 cents the copy.

[2] "Nostrums and Quackery," press of the American Medical Association, price $1.00

BRADBURY'S CAPI-CURA

Bradbury's Capi-Cura was a so-called headache cure sold by James J. Cramer who did business as the Cramer Drug Company of Boston. The preparation was of the usual acetanilid type but contained no statement on the label indicating the presence of this dangerous drug. It was therefore declared misbranded and on Cramer's pleading guilty a fine of $25 was imposed.—[*Notice of Judgment, No. 906.*]

SEPTICIDE

Septicide was an impudent fraud made in Milwaukee and sold as a cure for practically everything from "cancer" to "chapped hands," and from "suppressed menstruation" to "sweaty feet." It was a nostrum of the typical "cure all" type. When analyzed by the government chemists it was found to consist of water with small quantities of sulphur dioxid and sulphuric acid and a trace of nitrates. As Dr. Wiley's assistants got after this vicious fraud before the Supreme Court decision crippled the pure food law, it was possible to convict the Septicide Company of misbranding. Orange Williams, secretary and treasurer of the concern, pleaded guilty to the falsehood and the court imposed a fine of $10.—[*Notice of Judgment, No. 907.*]

NYAL'S HEADACHE WAFERS

This is another nostrum of Frederick Stearns & Co. of Detroit. Each of these "headache wafers" contains 4 grains of acetanilid and 1 grain of caffein alkaloid. In spite of the presence of these powerful drugs, the label stated:

> "It does not produce any bad after effects nor does the system become habituated to its use so as to produce a noxious drug habit."

The stuff was declared misbranded first, because the word Nyal was fictitious; second, in that it was not a cure for headache; third, because it would produce bad after effects, and fourth, because it would also produce a noxious drug habit. Wayland Stearns, second vice-president of Frederick Stearns & Co., entered a plea of nolo contendere and was fined $2.—[*Notice of Judgment, No. 908.*]

INFALLIBLE HEADACHE TABLET

This was another acetanilid product and was made by the Infallible Headache Co., Columbia Cross Roads, Pa. It was said to be an infallible cure for a number of conditions for which it was not a cure and it was further claimed "neither will they cause heart failure." On both counts they were declared misbranded. The defendant pleaded guilty and paid a fine of $25 and costs.—[*Notice of Judgment, No. 919.*]

(To be continued)

Correspondence

A Conjecture Respecting the Cause of Beriberi

To the Editor:—I was much interested in reading the article commenting on beriberi in The Journal (Oct. 7, 1911, p. 1213). I am sorry to say that I cannot agree with the theory of beriberi being caused only by white milled rice. Beriberi is, of course, a true neuritis, and phosphorus is certainly removed in taking away the outer layer of the rice paddy, but my experience was that when proper precaution was taken in harvesting and caring for the rice after harvest—storing it in a dry place—that there was very little or no beriberi. Witness the Danish captain in the Siamese navy who personally told me that he had never had a case of beriberi on board his ship in seventeen years' service, and who personally bought the best rice and was careful as to its storage in a dry place; also the fact that beriberi usually is epidemic in the far East in jails, asylums, tin mines and barracks, where proper care is not taken in storing the rice in a dry place. My own experience covers many thousands of cases and on investigation I always found that the rice-supply had been stored in a wet or damp place. Among the best Siamese families, who live largely on a rice diet, beriberi was almost unknown, but their servants living in the basements of their palaces, where rice was stored in a damp place, suffered greatly from the disease. Also, beriberi is far more prevalent after a very wet rainy season when the cultivators have had trouble during and after harvest to keep their rice dry. This was shown at Chiengmai, in the north of Siam, several years ago, where, after the wettest season in twenty years, there was an epidemic of beriberi and hundreds of people died of the disease. Now, these people in the far North do not use the white milled rice but the rice husked in their crude pounding mortars which retain almost all of the outer layers of the paddy, and yet they contracted the disease by taking the rice which is supposed to prevent it and which contains the phosphorus needed. Also, on the side of the river where the ground was higher and the floods less, there was very little of the disease, but on the side where the floods were great the disease raged fiercely.

I simply submit my observations which covered five years of time and many thousands of cases.

Charles S. Braddock, New York.
Late Chief Medical Inspector Royal Siamese Government.

The Treatment of Rhus Poisoning

To the Editor:—I wish to report on a treatment for ivy poisoning used with success on three persons, two patients and myself. Since boyhood, I have been subjected to at least yearly poisoning from ivy, sometimes most severely, and naturally I tried all the "sure cures" of the laity and, after studying medicine, all the treatments found in medical literature.

Last August, however, I tried, as a palliative measure to allay the itching and irritation, a standard commercial solution of formaldehyd as put up in pound bottles, and obtained immediate and lasting relief. The first application, made in the morning, to the hands and arms, caused no pain; the second application, made in the afternoon, to the scrotum, caused intense pain which disappeared, however, after cold applications for ten or fifteen minutes. A patient whose eyelids were involved was relieved after one application. To keep the solution from the conjunctiva and cornea, petrolatum was placed on the free border of the lids, among and ⅛ inch beyond the cilia. After the solution was applied and had become dry, petrolatum was applied all over the eyelids, to prevent formaldehyd vapors getting into the eye. Wet cotton pledgets were placed in each vestibule; a wet towel was used to keep the fumes from the mouth. In another patient, whose hands and side of face, including the external ear and canal, were involved, there was no pain from the treatment to hands and face but there was considerable pain from the application to the ear. This, however, passed off and no other treatment was necessary. It occurred to me afterward that a weaker solution would have been just as effective to the scrotum and external canal of ear. After five or six days I used hydrogen peroxid to the parts painted, which removed the dry and somewhat discolored skin, leaving a perfectly smooth surface.

C. E. Purcell, M.D., Paducah, Ky.

Maggots in the Ear

To the Editor:—With reference to a report on "Screw Worms in the Ear" (The Journal A. M. A., Oct. 7, 1911, p. 1207), I wish to report the following: A patient showed me a maggot which, he said, had crawled out of his left ear during the night; he also complained of sleeplessness for the two preceding nights on account of pain in his ear. I discovered a white, wriggling mass behind the isthmus of the external canal. After several unsuccessful attempts to remove this mass by various methods, I resorted to a 4 per cent. solution of cocain, which removed eight maggots, making a total of nine from one ear. The entire canal and membrana tympani were severely inflamed. Recovery was uneventful.

John A. Huth, M.D., Natrona, Pa.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INDICAN IN THE URINE

1. *To the Editor:*—Please give reference to an authoritative work on the presence of indican in the urine, its cause and the diet necessary for its elimination. W. Flitcroft, Paterson, N. J.

2. *To the Editor:*—Please describe a method for the quantitative estimation of indican in the urine.

L. W. Howe, Coldwater, Mich.

Answer.—1. We do not know of any work treating this subject specially. It is discussed in books on clinical diagnosis and on physiologic chemistry.

2. There is no very good method for the determination of the amount of indican in urine. A colorimetric method is sometimes used, in which the indican is set free and converted into indigo by the action of an oxidizing agent, such as calcium hypochlorite (chlorid of lime), or Obermayer's reagent, which consists of a 0.2 per cent. solution of ferric chlorid in concentrated hydrochloric acid. The coloring matter thus produced is extracted by chloroform and the color of the chloroform extract compared with a standard blue color, such as indigo or Fehling's solution. The following approximative method has been recommended: To a hundredth part of the whole day's excretion add an equal volume of Obermayer's reagent and 5 c.c. of chloroform. Shake a minute or more and allow to settle. Compare the color with that of a strong Fehling's solution, taken as 100, as a standard.

WASSERMANN REACTION

To the Editor:—1. To what extent is the Wassermann reaction positive in locomotor ataxia?

2. How does this percentage compare with that of the reaction in undoubted syphilitic disease? Henry Power, Spokane, Wash.

Answer.—1. It is impossible to give a definite answer to this question. It will probably vary from 65 to 90 per cent., taking the various workers the world over. The reaction in locomotor ataxia is less frequently positive than in secondary untreated syphilis or in cases which present demonstrable syphilitic lesions of the nervous system.

2. In very early syphilis, the primary stage, the Wassermann reaction is low—perhaps 60 per cent. In marked secondary untreated syphilis the reaction is high—practically 100 per cent. In late nervous syphilis, paresis and syphilitic brain disease the percentage is high—90 to 100 per cent. In locomotor ataxia as named above. In late syphilis of the bones, gummatous degeneration of the skin, etc., the reaction again is low—50 to 60 per cent. The location of the lesion, the duration of the disease, and especially whether it has been or is being treated, may modify the reaction, either positively or negatively.

NO MORE COPIES OF REPORT OF CHICAGO VICE COMMISSION

To the Editor:—Can you tell how I may secure a copy of the report of the Chicago Vice Commission to which you have referred several times in The Journal? L. A.

Answer.—In our review of this book (June 10, 1911, page 1743) we gave the street address of the commission. The chairman of the commission recently wrote us: "The edition of the report is exhausted and there are no more copies for distribution. The commission has completed its labor and has gone out of existence."

PYROLIGNEOUS ACID AND RHEUMATISM

To the Editor:—Please state whether or not pyroligneous acid is of any therapeutic value in the treatment of rheumatism, gout and neuritis, and if so the dosage, method of administration, etc.

Y. D. Washburn, Wilmington, Del.

Answer.—Pyroligneous acid is simply a crude wood-vinegar containing about 6 per cent. of acetic acid and presumably would have as much value as a therapeutic agent as acetic acid or vinegar.

PLANS WANTED FOR COMBINED RESIDENCE AND OFFICE

To the Editor:—I am proposing to build a combined residence and office. On looking for a book of plans that would be suggestive I fail to discover any such book, and I have not been able to get in touch with any published plans that bear on this class of buildings. Certainly many physicians have put up such houses and it is barely possible that some of your many readers may be able to give me some hints. H. M. Ferguson, Morris, Ill.

SALVARSAN ACCIDENTS

To the Editor:—Kindly give me references to reports of deaths from the intravenous injection of salvarsan.

Edwin Walker, Evansville, Ind.

Answer.—The following are references to fatal cases or cases accompanied by alarming symptoms:

Finger, E.: By-Effects of Salvarsan, *Berl. klin. Wchnschr.*, May 1, 1911; abstr. in The Journal, June 10, 1911, p. 1765.

Martius, K.: Fatalities After Injection of Salvarsan in Cardiovascular Disease, *München. med. Wchnschr.*, May 16, 1911; abstr. in The Journal, June 24, 1911, p. 1909.

Leven: Mishaps with Intravenous Salvarsan Injections, *Med. Klinik*, May 28, 1911; abstr. in The Journal, July 1, 1911, p. 54.

Mann, C.: Salvarsan Accident, *München. med. Wchnschr.*, Aug. 1, 1911; abstr. in The Journal, Sept. 9, 1911, p. 935.

Fischer, B.: Case of Fatal Hemorrhagic Encephalitis Following Injection of Salvarsan, *München. med. Wchnschr.*, Aug. 22, 1911; abstr. in The Journal, Sept. 30, 1911, p. 1171.

Kannengiesser: Fatality Following Injection of Salvarsan, *München. med. Wchnschr.*, Aug. 22, 1911; abstr. in The Journal, Sept. 30, 1911, p. 1171.

Hoffmann, A.: Jaundice with Fatal Outcome After Salvarsan Treatment, *München. med. Wchnschr.*, Aug. 15, 1911.

PAPER-BAG COOKERY

To the Editor:—Please give information about paper-bag cookery and where particulars concerning it may be obtained. L. H. K.

Answer.—It is asserted that by this method of cooking many articles, such as meats, fish, poultry, birds, many vegetables, fruits, cereals, pies, cake and other desserts and even soup, may be cooked in paper bags, with the advantage of retaining all the flavors of the foods, and with no subsequent labor in washing the cooking utensils. The present method seems to have been developed by Nicolas Soyer, a chef of London, whose exposition of the method, together with recipes for preparing many dishes, is contained in a small book published in England and obtainable through book-dealers in this country at 60 cents. Any bag may be used, but the food is apt to taste of the paper, so bags of specially prepared paper have been made.

CARBON DIOXID IN KELOIDS

To the Editor:—Can you inform me, through your Queries and Minor Notes column, as to the value of carbon dioxid crayons in the removal of keloids? Are the keloids any less apt to return following their removal by this method than after their removal by the knife? C. C. H.

Answer.—Hoffman and others have had good results in keloid from freezing with solid carbon dioxid, but the method has not had enough trial to be certain of the ultimate results. Pusey, who cites Hoffman (*Jour. Cutan. Dis.*, July, 1910) does not believe the results from solid carbon dioxid are likely to be as good as those obtained from *x*-rays. Removal of keloids by excision is as a rule unsuccessful and is not advisable; they return larger than before.

OLEOZONE — SEROTHERAPY OF TYPHOID

To the Editor:—We have a doctor here who is claiming to cure pulmonary tuberculosis. His treatment consists of the use of Ozonoid tablets put up by C. S. Roberts, New York City. Please give me any information you can regarding these tablets.

2. Please give me the latest literature on the serum and vaccine treatment of typhoid fever.

J. W. Lindley, M.D., Natoma, Kan.

Answer.—1. Ozonoid tablets is one more name for a much-christened fake to which The Journal has given a good deal of space. Its first name was Hydrocine. When analyzed in the Association's laboratory, the chemists reported that they found that "each 29.5 gr. Hydrocine tablet contains 28 gr. of cane sugar, small quantities of volatile oils and a trace of pancreatin." The stuff originated, it seems, with one C. E. Getsinger, who organized what was known as the Medical Food Company. The commercial possibilities in selling an odoriferous sugar-mixture as a "consumption cure" apparently appealed to one Charles S. Roberts, a physician of Syracuse, N. Y., who, with the help of Charles H. Goddard, and others, incorporated the Hydrocine Company for the purpose of exploiting Getsinger's "treatment." Goddard, it will be remembered, was the man who organized that cooperative "patent-medicine" concern known as the A. D. S.—the American Druggists Syndicate—of which Roberts was one of the officers. Getsinger and Roberts later seemed to have had a disagreement and the former marketed his own product under the name of Oxydase. Roberts changed the name of Hydrocine to Oleozone and apparently had the stuff made by the A. D. S.

at least it bore the same serial number as that given the A. D. S. products. Coincident with these changes in the name, another concern came into existence—the Cowles Institute, said to be operated by one H. L. Cowles. This also dispensed "oxygenated products" for the cure of consumption. A little later Cowles seems to have changed the name of his concern to the Hemavitæ Company and to have rechristened his product Hemavitæ.

The latest change in the name of Getsinger's product is Oxidaze, put out by the American Oxidaze Company. This company claims to have purchased the formula of Getsinger, who is no longer connected with the business. The concern is, we understand, controlled by a group of business men, although one of the individuals connected with it—Eugene Howard—is said to be a physician. Roberts, apparently, is still selling the stuff under the name Oleozone. In a revised price-list, sent out by Roberts a few days ago, he notifies the users of his nostrum that the price of Oleozone has gone up. As he puts it: "Increase in the cost of some of its basic constituents has made necessary a slight advance in the price of Oleozone." Thus, it appears that housewives are not the only sufferers from the increased cost of sugar.

2. The following references on the serum treatment of typhoid fever may prove of value:

Kean, J. R.: The Sanitary Record of the Maneuver Division, The Journal, Aug. 26, 1911, p. 713.
A Triumph of Preventive Medicine, Editorial, The Journal, Aug. 26, 1911, p. 744.
Russell, F. F.: Antityphoid Vaccination in the American Army, *Jour. Am. Public Health Assn.*, July, 1911; abstr. in The Journal, Aug. 26, 1911, p. 767.
Bass, C. C.: Antityphoid Vaccination; abstr. in The Journal, July 8, 1911, p. 154.
The Present Status of Antityphoid Vaccination, Editorial, The Journal, June 24, 1911, p. 1884.
Gallison, J. G.: Vaccine Treatment of Typhoid, *Med. Rec.*, June 17, 1911; abstr. in The Journal, July 8, 1911, p. 167.
Courmont, J., and Rochaix, A.: Vaccination by Way of the Intestines Against Typhoid, *Presse méd.*, June 3, 1911; abstr. in The Journal, July 8, 1911, p. 172.
Lambert, A.: Typhoid and Its Prevention by Vaccination, The Journal, June 3, 1911, p. 1679.
Meakins, J. C., and Foster, L. S.: Treatment of Typhoid by Vaccines, *Canad. Med. Assn. Jour.*, June, 1911; abstr. in The Journal, July 15, 1911, p. 250.
Vaccination Against Typhoid Fever, The Journal, May 20, 1911, p. 1460.
Watters, W. H., and Eaton, C. A.: Vaccine Therapy of Typhoid, *Med. Rec.*, May 6, 1911; abstr. in The Journal, May 27, 1911, p. 1613.
Fletcher, J. P.: A Safe and Rapid Method for the Administration of Antityphoid Vaccine, The Journal, April 8, 1911, p. 1016.
Vincent, H.: Vaccination Against Typhoid, *Bull. Acad. de méd.*, Paris, Jan. 24, 1911; abstr. in The Journal, March 11, 1911, p. 781.
Roget, A., and Ragriffoul: Serotherapy of Typhoid Fever, *Presse méd.*, Dec. 24, 1910; abstr. in The Journal, Jan. 28, 1911, p. 308.
Anders, J. M.: The Use of Typhoid Vaccines in Typhoid Fever, The Journal, Dec. 10, 1910, p. 2023.
Foster, G. B., Jr.: Antityphoid Vaccination, The Journal, Nov. 19, 1910, p. 1808.
Hollis, A. W.: Treatment of Typhoid with Vaccine, *Med. Rec.*, N. Y., Oct. 8, 1910; abstr. in The Journal, Oct. 22, 1910, p. 1498.
Gosman, G. H. R.: The Present Status of Antityphoid Inoculation, The Journal, Oct. 1, 1910, p. 1169.
Semple, D.: Hypodermic and Intramuscular Inoculation of Bacterial Vaccines as Demonstrated by Experiments with Typhoid Vaccine, *Lancet*, London, June 25, 1910; abstr. in The Journal, July 23, 1910, p. 354.
Hartsock, F. M.: Antityphoid Vaccination, Result of 1,100 Inoculations, The Journal, June 25, 1910, p. 2123.
Sappington, S. W.: Typhoid Vaccines and Opsonins, *Jour. Med. Research*, June, 1910; abstr. in The Journal, July 23, 1910, p. 351.
Vincent, H.: Vaccination of Man Against Typhoid Fever, *Bull. Acad. de méd.*, Paris, June 21, 1910; see Paris Letter in The Journal, July 9, 1910, p. 138.
Richardson, M. W.: Vaccine Therapy in Typhoid; abstr. in The Journal, June 4, 1910, p. 1892.
Russell, F. F.: Antityphoid Vaccination the Immediate Results of the Administration of 3,600 Doses, *Bull. Johns Hopkins Hosp.*, March, 1910; abstr. in The Journal, April 16, 1910, p. 1337.
Herz, A.: Serotherapy of Typhoid and Its Influence on Agglutination, *Wien. klin. Wchnschr.*, Dec. 16, 1909; abstr. in The Journal, Jan. 22, 1910, p. 332.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Oct. 14, 1911.

Chase, C. L., M.R.C., relieved from duty at Fort Oglethorpe and ordered to Fort Dade, Fla., for duty.

Whaley, A. M., captain, arrived at Fort Monroe, Va., for duty.

Reddy, J. J., lieut., left Fort Jay for temporary duty at Fort Wood during absence of Lieutenant Pascoe.

Stone, F. P., D.D.S., ordered to visit certain posts in Department of Gulf from Oct. 15, 1911, to July 1, 1912. (S. O. 31, Oct. 1, 1911, E. D.)

Hart, W. L., on arrival at San Francisco from the Philippine Islands will proceed to Fort Sam Houston, Texas, for duty.

Clayton, G. R., M.R.C., reports his departure from Fort Sheridan, Ill., on leave of absence for one month and ten days.

Mount, J. R., M.R.C., arrived at San Francisco en route to Schofield Barracks, H. T.

Duncan, W. A., captain, reports return to medical supply depot Washington, D. C., from leave of absence.

Eastman, William R., captain, left medical supply depot, New York, for Fort Riley, Kan., for duty.

Shockley, M. A. W., major, on arrival at San Francisco will proceed to Fort Niagara, N. Y., for duty.

Webber, H. A., major, on being relieved by Major Shockley will proceed to Fort Logan H. Roots, Ark., for duty.

Feely, J. F., A.D.S., ordered to Fort Slocum, N. Y., for duty.

Sherwood, Charles E., A.D.S., ordered to Columbus Barracks, Ohio, for duty.

Siler, J. F., captain, relieved from duty at medical supply depot, New York, about Nov. 5, 1911, and ordered to Fort Sam Houston, Texas, for duty.

Thomason, H. D., captain, will proceed to Trenton, N. J., about Oct. 17, 1911, in connection with the reorganization of the militia of New Jersey.

Webber, H. A., major, granted leave of absence for one month, about Oct. 14, 1911.

Bowen, A. S., lieut., arrived at Fort Snelling, Minn., from San Antonio.

Wolven, F. H., D.S., arrived at Vancouver Barracks from Fort Liscum, Alaska.

Boak, S. D., D.S., reports his arrival at West Point, N. Y., from leave of absence.

Woodbury, J. H., major, left Fort Screven on detached service at Atlanta.

Mason, G. L., D.S., left Fort Snelling for Fort Omaha, Neb.

Maus, L. M., colonel, returned to his station, Chicago, from leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended Oct. 14, 1911.

Stitt, E. R., surgeon, detached from the bureau of medicine and surgery, navy department, and ordered to duty at the naval medical school, Washington, D. C.

Riggs, C. E., surgeon, detached from the naval academy and ordered to the *Wabash*.

Evans, S. G., surgeon, ordered to the naval academy.

Gill, J. E., P. A. surgeon, detached from the *Wabash* and ordered to the *Des Moines*.

Hough, F. P. W., P. A. surgeon, detached from the *Des Moines* and ordered home to await orders.

Wheeler, W. M., surgeon, ordered to the naval hospital, Washington, D. C., for treatment.

Brownell, C. DeW., surgeon, ordered to duty as senior medical officer at the navy-yard, Portsmouth, N. H., and to additional duty in command of the naval hospital at that place.

Beeching, C. L., asst.-surg., ordered to duty under instruction at the naval medical school, Washington, D. C.

Hayes, O., A. A. surgeon, ordered to the marine recruiting station, Denver.

Asserson, F. A., surgeon, ordered to duty at the naval hospital, Boston.

Holloway, J. H., P. A. surgeon, ordered to the naval hospital, Las Animas, Colo., for treatment.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Oct. 11, 1911.

Perry, J. C., surgeon, detailed to represent the Service at the Fifth International Sanitary Conference of American Republics to be held at Santiago, Chile, Nov. 5-12, 1911.

Anderson, J. F., P. A. surgeon, detailed to represent the Service at the meeting of the National Committee on Milk Standards to be held under the auspices of the New York Milk Committee in New York City, Oct. 4-6, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed from Chicago to Topeka, Kan., on special temporary duty.

Rucker, W. C., P. A. surgeon, detailed to represent the Service at the next annual meeting of the Mississippi Valley Medical Association to be held at Nashville, Tenn., Oct. 17-19, 1911.

Salmon, T. W., P. A. surgeon, granted six months' leave of absence, without pay, from Oct. 18, 1911.

Pettyjohn, Joseph, P. A. surgeon, granted two months' leave of absence from Sept. 16, 1911.

Frost, W. H., P. A. surgeon, directed to proceed to Cincinnati and Covington, Ky., on special temporary duty.

Bryan, W. M., P. A. surgeon, granted seven days' leave of absence from Oct. 3, 1911.

Grimm, R. M., asst.-surgeon, detailed to represent the Service at the next annual meeting of the Medical Association of the Southwest to be held in Oklahoma City, Okla., Oct. 10-12, 1911, and the Mississippi Valley Medical Association to be held in Nashville, Tenn., Oct. 17-19, 1911.

Bingham, E. O., acting asst.-surgeon, granted fifteen days' leave of absence from Oct. 7, 1911.

Cheney, E. L., acting asst.-surgeon, granted fourteen days' leave of absence from Oct. 12, 1911.

Coffee, J. H., acting asst.-surgeon, granted twenty days' leave of absence from Oct. 15, 1911.

Keiller, William, acting asst.-surgeon, granted twenty days' leave of absence from Sept. 26, 1911.

Moorer, M. P., acting asst.-surgeon, leave of absence for fourteen days from Sept. 5, 1911, amended to read eleven days from Sept. 9, 1911.

Ransom, S. A., acting asst.-surgeon, granted leave of absence for a further period of one month from Dec. 1, 1911, without pay.

Underwood, F. R., acting asst.-surgeon, granted twenty-six days' extension of annual leave on account of sickness from Aug. 23, 1911

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE ECONOMIC VALUE OF SANITATION

Vital statisticians and sanitarians for years have been showing the enormous toll of human life exacted each year through ignorance and lethargy. It has been said again and again that, if this loss was in dollars instead of human lives, the necessary reforms would be quickly brought about. Probably the most unique as well as the most promising feature of the present health movement is that it is being demonstrated that health is wealth, not in the old figurative meaning, but as an actual fact, and that avoidable sickness means waste and financial loss, not only to the individual but to the community. An interesting illustration of the fact is found in an article on "The Tropics and Health," by Dr. D. W. Montgomery of San Francisco, which appeared in a recent number of the *Canadian Practitioner and Review:*

"Formerly everything seemed especially arranged to make Rio a pest-hole. It had a landlocked harbor with abundance of moisture, and a hot sun beating down into it. The upper classes of its population were lazy and ignorant, and its lower classes were composed of poor whites and recently emancipated slaves. It was an old Portuguese city with narrow streets, no sanitation worth mentioning, and enough mosquitoes of the right breed to infect with yellow fever a people reduced to the proper degree of receptivity by crowding, by climate, by miscegenation, and by poor food.

"But Rio is clean! How was the marvel accomplished? It is due, like many a blessing, to misfortune. The misfortune was yellow fever, and the enlightenment consequent to scientific modern medicine furnished the means of combating it. The change came with the advent of bacteriology and clearer views in regard to the causes of the acute infectious fevers. As a consequence of this clearness of view, more precise international quarantine laws were enacted, and under these the trade of Rio languished, and the peculiar bitterness of this lay in the fact that the ships that were avoiding Rio de Janeiro were passing on to its rapidly growing southern rival, Buenos Aires. Envy and loss of trade finally drove the authorities into action: two broad streets, the Avenida Central and the Cinco de Marzo, were opened up through the old crowded city; a beautiful sea wall and esplanade were built along the city front; the sewerage was so treated as not to foul the waters of the bay; and the markets were put in a sanitary condition. The meat-shops are delightfully neat; and the market on the waterfront is a model of cleanness, lightness and airiness. A good corps of health inspectors make frequent house-to-house visits, and by the free use of creolin, and by prohibiting the accumulation of stagnant water in tubs or elsewhere, the mosquito pest is almost abolished. The water-supply of Rio, drawn from the neighboring hills, is good. As a consequence of these sanitary measures there has been no yellow fever in this port for years, and there is very little typhoid fever.

"The fear of death alone would never have brought about these beneficent results. The high death-rate would have been patiently borne as it had been for ages, and would have been regarded as a visitation of Providence. The blessing was achieved through a love of gain, and a fear of loss, ably supported by the neighborly envy and hatred the Brazilian bears toward the Argentino. By the help of these ignoble passions of avarice, fear, envy and hatred, results were obtained that wisdom, learning, charity and all their cognate virtues could never have accomplished."

STABLE
HOME OF THE DISEASED
GARBAGE
AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
C Batchelor

SEVERAL REASONS WHY FLIES SHOULD BE UNWELCOME GUESTS.

CONTRACT PRACTICE

Report of the Committee of the Omaha-Douglas-County Medical Society

The report of the Committee on Contract Practice of the Omaha-Douglas-County (Nebraska) Medical Society, given herewith, is one of the most valuable contributions yet made to the discussion of the question. Particularly commendable is the recognition of the economic necessity underlying the retaining of surgeons by railroads and other industrial corporations, with the distinct proviso, however, that medical services should be limited to the examination and treatment of employees incapacitated directly as a result of employment, or, as is said in the government services, "in line of duty."

"We, the committee appointed by the Omaha-Douglas-County Medical Society to investigate the broad subject of contract practice, desire to state that we have given this subject careful study and discussion. Each member studied some phase of the question, and your committee as a whole has analyzed without prejudice the combined information. We herewith submit for your consideration the following conclusions:

"1. Your committee recognizes the right of industrial corporations employing labor, to engage the services of skilled physicians, surgeons and specialists at reasonable remuneration, to examine employees as to their fitness for services as well as to care for said employees in case of injury or acute sickness when on duty, or to care for those to whom the corporation may be under obligation because of accident. This is but a just and fair protection against damage suits brought by the unscrupulous. However, it would be distinctly understood that such service should not be extended to apply to any member of an employee's family.

"2. We believe that industrial corporations employing physicians, surgeons, and specialists, should limit the service of said physicians, surgeons and specialists strictly to the care of their employees during the time of actual service. We also believe that direct representatives and officials of a corporation should not be included in such medical, surgical and special attendance, or in any way construed as coming under the conditions of this class of service.

"3. We believe that all corporations furnishing medical, surgical and special attendance to their employees should do so entirely at their own expense, or, if the employees are assessed for the expense of such medical, surgical and special attendance, they should be untrammeled in the choice of their physicians, surgeons, and specialists.

"4. We believe that contract practice as applied to lodges, fraternities, benevolent, and benefit-organizations, is detrimental to the best interests of the medical profession in general and especially to the physicians employed; that it is especially unjust to all physicians who are subject to ordinary competition, and that it pauperizes the lay public and demoralizes the medical profession in general, teaching the former to expect medical, surgical and special care for practically nothing, lessens their respect for the skill and dignity of our profession, and permits designing men to traffic in and commercialize the practice of medicine.

"5. We believe that such lodge, fraternal, benevolent or benefit-organization and contract practice, as *ordinarily* in operation, is eminently unfair, because it buys medical services at wholesale from the physician, then compels him to peddle out his services at retail, and deprives him of any voice in limiting the amount of service to be rendered for the wholesale price agreed on.

"6. In conclusion, we earnestly recommend that members of our society decline in the future to accept the position of contract physician to lodges, fraternities, benevolent or benefit-organizations, not industrial in character—therefore without all liability—as well as corporation contracts that are not in harmony with these findings.

"John E. Summers,
"H. M. McClanahan,
"James M. Aiken,
"F. E. Coulter,
"B. W. Christie."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

Second Month—Third Weekly Meeting

Gunshot Injuries of Head

Character of wound, wound of entrance, wound of exit, effect on inner and outer tables, effect on meninges, effect on brain substance, hydraulic and hydrodynamic pressure. Differences of effects of leaden and jacketed missiles. Effect of initial velocity and range. Medicolegal interest in pistol-shot wounds.

Symptoms: Areas of brain involved.

Treatment: Disinfection. Indications for trephining. Use of x-ray.

Intracranial Hemorrhages

Extradural Hemorrhage: Middle meningeal artery and branches. Character of wounds, by "contrecoup." Effects of hemorrhage, local and general.

Symptoms: Mental disturbances, "free interval," pulse, respiration, motor disturbances, sensory disturbances, pupils.

Treatment: In compound fracture, indications and technic. In internal hemorrhage, indications for trephining. Krönlein's "sites of election," method of localization.

Subdural Hemorrhage: Pial vessels, branches. Character of injuries. Extent of hematoma, quantity, absorption. Differentiate from supradural—(1) free interval; (2) pulse, (3) motor disturbances, (4) localizing symptoms

Intracranial Hemorrhages in the New-Born and Children[1]

Traumatic Meningitis

Etiology: Injury, micro-organisms present, mode of entrance.

Pathology: Leptomeningitis, character of exudate, extent, cortex. Pachymeningitis, changes in dura, exudate, origin. Meningitis serosa.[2]

Symptoms: Early and late, Cortical or basilar. Chills and fever, headache, pulse, nausea and vomiting, pupils, delirium, stupor, coma.

Society Proceedings

COMING MEETINGS

Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Society of Virginia, Richmond, Oct. 24-27.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.

MEDICAL SOCIETY OF PENNSYLVANIA

Sixty-First Annual Meeting, held at Harrisburg, Sept. 25-28, 1911

The President, Dr. John B. Donaldson, Canonsburg, in the Chair

The officers elected were named in The Journal Oct. 7, 1911, page 1217.

The Care of Advanced Cases of Tuberculosis

Prof. Walter F. Willcox, Ithaca, N. Y.: The effective segregation of an increasing proportion of the advanced cases of pulmonary tuberculosis is attended by a decrease in the death-rate from that disease, no matter what other influences favorable or unfavorable may be present, and, conversely, failure to segregate these cases is attended by a stationary or increasing death-rate. The rate at which the segregation of tuberculous patients increases in any community uniformly agrees with the rate at which pulmonary tuberculosis decreases. It follows, then, that in combating the disease the main effort of public health workers should be directed toward the extension of hospital accommodations for advanced cases and the increased segregation of such cases.

DISCUSSION

Dr. W. C. White, Pittsburgh: There are certain peculiar features of advanced cases of tuberculosis which are often lost sight of and which it is essential to consider before any scheme for their care can be adopted. Advanced consumptives are sick, and provision must be made for their continuous stay in bed with adequate nursing. Our ordinary sanatoriums and institutions for the sick refuse them admission; private practitioners want to get rid of them, and boarding-houses and homes discharge them without compunction. Few of them can ever be put in such shape as to return to their former occupation, and many of them under the proper care live for many years unable to work. These patients are sources of infection if they are the least bit careless, and, submitted to the scrutiny and remarks of acquaintances, they are very apt to become careless. These patients have in most countries the rights of citizenship and can and do refuse daily to accept the opportunity open to them for institutional care for even a few weeks or months, thus making the large institutions far from centers of population of much less value than they otherwise might be. While much evidence can be adduced to show that a marked reduction in mortality in tuberculosis can be obtained without it, the efficient and practical care of patients in advanced tuberculosis is one of the important elements, if not the most important element, in our endeavor to control this disease. The law must eventually be the means by which this infection is controlled. Proper provision should be made for tuberculous patients in asylums, jails, poorhouses, orphanages, homes, etc. A third necessity is the provision of separate institutions for the care of these patients; finally, proper provision must be made for their care in their homes.

Dr. Wilmer R. Batt, Harrisburg: I am unable to accept the conclusions of Professor Willcox because the statistics which he has submitted in regard to the reduction of mortality in England and other European countries refer to the general institutional care of tuberculosis and not to advanced cases alone: owing to the migratory tendencies of tuberculosis sufferers the mortality rates in any single American city are not sufficient evidence on which to base accurate estimates of the decline of the disease from any particular item of prevention; considering the average duration of tuberculosis it is impossible to estimate the value of preventive measures which have not yet reached their full development. To provide principally for advanced cases of tuberculosis and minimize the opportunity for those suffering from the disease in the early stages can be excused only on the assumption that it is the hopeless and dying that are dangerously infective. The bacilli in incipient or moderately advanced cases are as dangerously infective as those in advanced cases and infinitely more widely distributed.

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[1] Scottish Med. and Surg. Journal, June, 1906. Frazier: Trans. American Surgical Assn., 1906. Progressive Medicine, March, 1907 and 1908.

[2] Ballance: Lancet, Dec. 21, 1907.

Dr. T. B. Appel, Lancaster: The conclusions drawn by Professor Willcox seem to me to be most timely and most important. As the terminal stages of tuberculosis seem to present the greatest dangers of contagion, more effectual precautions should be taken in such cases to combat the spread of consumption. We as general practitioners know that patients come back from sanatoriums educated in the proper care of themselves, but they come back to the same insanitary surroundings and in my experience in time become careless, lose ground and in the end succumb to septic phthisis. Therefore, if better means of segregation of these poor, ignorant, hopeless ones can be obtained, their care would be much more effectual.

Blood-Pressure and Pulse-Rate in Pneumonia

Dr. H. A. Hare, Philadelphia: The favorable ratio in croupous pneumonia is one in which the pulse-rate per minute is less than the number of millimeters of mercury as shown by the sphygmomanometer. In other words, if the pulse-rate be 90 and the blood-pressure 120, the patient is doing very well. If the pulse-rate be 100 and the blood-pressure 110, he is not doing as well as before. If the pulse-rate be 110 and the pressure 110, something must be done to bring back the normal difference already referred to, and, if the pulse-rate be 120 and the pressure 110, the patient is in grave danger and will probably die unless very active treatment causes him to rally before this abnormal ratio has lasted for any length of time. The fall of pressure may be considered to be the result of the toxemia which directly affects the vasomotor centers or the walls of the vessels themselves, or it may be due to a direct effect on the heart muscle, whereby this organ is unable to pump strongly enough to maintain pressure. It is of some importance to determine, if possible, whether this fall of pressure is due to one cause or the other, for, if it be vasomotor or vascular, direct cardiac stimulation is not needful, although it is true that most vascular stimulants are also heart stimulants. On the other hand, if the heart be at fault, attention must be directed chiefly to this organ. If the vessels be at fault, the difference between diastolic and systolic pressure will be marked, the heart, if strong, sending out a forcible wave of blood in an endeavor to fill the blood-paths. If the pressure be low from a failing heart, there will be little difference between diastolic and systolic pressure for obvious reasons. There is no treatment of pneumonia but there is treatment of the pneumonia patient, and this will vary in every case.

The Care of the Insane

Dr. T. H. Weisenburg, Philadelphia: Of all the problems which are now before the profession there is none more pertinent than the care of the insane. It seems to the alienist almost nonsense that general hospitals throughout the state should take care of medical and surgical patients and refuse to take care of the insane, thus making it necessary to send them to an asylum or a private sanitarium. The time has come when it is necessary that all general hospitals should have separate wards for the care of the mentally afflicted. A bill will be introduced in the next legislature providing for the placing of all the insane of the state in state institutions with proper provision for the criminal insane, the feeble-minded and epileptic. In this way the care of the insane by the various counties will be abolished. There are to be established two laboratories for the study of the causes of insanity.

(To be continued)

INDIANA STATE MEDICAL ASSOCIATION

Annual Meeting, held at Indianapolis, Sept. 28-29, 1911

The President, Dr. F. C. Heath, Indianapolis, in the Chair

The Sociologic Aspects of Syphilis

Dr. C. E. Barnett, Fort Wayne: The sociologic aspect of syphilis is a question of state concern, for syphilis not alone deteriorates the state's own subject and his progeny, but they, on account of their syphilitic degeneration, help to fill the state institutions, thus bringing a monetary factor into play. In my opinion the present publicity education on venereal diseases, for the time being, is a detriment rather than a benefit to humanity. When, however, the education finally permeates the mind sufficiently to show the dangers of inoculation and the necessity of preservation of the body against syphilis, then the good will have been done on account of education. The question of marriage when lues is present is almost entirely in the hands of the attending physician, and he is a coward if he fails to protect the innocent.

Diagnosis of Syphilis

Dr. W. F. Garshwiler, Indianapolis: The diagnosis of syphilis is based, first on certain usually well defined clinical symptoms which appear usually in regular order; second, finding in the blood-serum the organism of syphilis; third, by the therapeutic test, and fourth, by the blood-serum test of Noguchi and Wassermann. The fact that under all conditions, primary, secondary or tertiary lesions, dead or living, the spirochete usually maintains its characteristic shape, makes it easy to distinguish it from other spirilla. The therapeutic test should never be used to diagnose primary syphilis.

The secondary symptoms are usually an acute toxemia followed immediately by polymorphous skin lesions. The later secondary skin lesions are usually a relapse of the earlier secondary lesion of the skin and mucous membrane. In the secondary stage the dark field illuminator and the Wassermann test will prove of the greatest help in diagnosis. The therapeutic test has no place in the diagnosis of secondary syphilis, for the reason that the lesions tend to spontaneous recovery and that mercury and potassium iodid affect other diseases which simulate syphilis.

The diagnosis of tertiary syphilis becomes relatively more difficult by every method, except the therapeutic, the longer the time has elapsed from the secondary stage. The demonstration of spirochetes in the tertiary lesions is more difficult, on account of their lessened number, and failure to find them in lesions apparently specific proves nothing. The Wassermann test is far less reliable in the third than in the secondary stage. The therapeutic test becomes a valuable aid when other methods of diagnosis fail in tertiary lesions, and should be used only for diagnosis, and only in this stage, and not until other methods have failed.

Treatment of Syphilis

Dr. D. C. Ridenour, Peru: The treatment of syphilis falls into two divisions, (a) practical, and (b) theoretical and experimental. Under the first I follow the treatment of those who favor the administration of treatment by mouth and inunction, rather than hypodermically. Syphilis is a septicemia. I would, therefore, advocate a continuous, intermitting, eliminative treatment as the most practical. Another form of treatment which gives good results is the local inunction with mercurial ointment. Sulphur baths in conjunction with mercury are excellent. Salvarsan has proved not to be a *therapia sterilizans magna*, but it is a valuable addition to the means of combating syphilis. The hypodermic mode of treatment of syphilis is painful, in many patients excites apprehension and is bitterly objected to. Furthermore, the need of the precedent administration of cocain or morphin, as so frequently advocated for relief of the pains caused, is in itself very objectionable. It is occasionally dangerous and sometimes rapidly fatal. It is very liable to be followed by certain local complications, such as erythema, cellulitis, painful nodosities, abscess and sloughing. It cannot be carried out by the patient, but requires the attention or intervention of the physician-surgeon. However, if patients demand hypodermic treatment. I would suggest the daily injection, intramuscularly, of 30 minims of liquor potassi arsenitis, with mercury by mouth.

DISCUSSION

DR. F. B. CHARLTON, Indianapolis: There is just one reasonably effective solution in sight. We are already working for a national health organization with a chair in the cabinet, and, perhaps, when that comes about there may be something done with this question. We may get national laws by which we can handle the question of prostitution and indiscriminate relationships in a way that we cannot now. I do not see anything hopeful in dealing with it in any other way than by national legislation. There must be authority to control and authority to inflict penalties. As to diagnosis, I want to emphasize the necessity of getting the history in syphilis. I look on the taking of the proper history as one of the most essential points. Individuals have been pronounced syphilitic who never have had syphilis. This blunder is almost as pernicious as to make a mistake on the other side. As to the intramuscular injection of mercurials, this method is nearly universally accepted. We are giving mercury in its metallic form as calomel or the salicylates, and we are getting good results. Moreover, we never give cocain or morphin to control pain. There is no particular pain at the time, sometimes a little feeling of a bruise twelve hours after. What are the advantages of this method over the old one of giving a man some medicine and sending him home to treat himself? Where they get an injection once a week or ten days, we get results, for they get the medicine. The other way they get the medicine incidentally—when they think of it, and too often they forget it altogether.

As to salvarsan, I doubt whether there has ever been a drug in the history of therapeutics so extensively studied, experimentally and practically, as salvarsan. It has been shown that there are no toxic effects from salvarsan, and that the eye does not suffer. There is only one complication, and that is in atheromatous conditions when the blood-pressure is high and the vessel walls weak. It clears up certain malignant cases that never yielded to the old methods. Give salvarsan and in forty-eight hours the patient can go home to his family without any fear of infecting them.

DR. A. W. BRAYTON, Indianapolis: What shall we do in a case of syphilis? Diagnose it along modern lines, by the clinical symptoms, by the history, the organism and the Wassermann test, and then treat it according to the best of our judgment and knowledge as taught by the ancient, and, especially, the recent, history of the disease. We have come to the parting of the ways in the treatment of syphilis. We have a new addition to our therapeutics that cannot be laughed down—salvarsan. We can control our cases absolutely with mercury, if given rightly. Then why use salvarsan? Because it is safe, it acts quickly, and there is no risk (and this is the greatest value of salvarsan) of the patients infecting other individuals in twenty-four hours after taking treatment. When you come to consider the subject two or three years from now, there will be but one voice—and that will be for the intelligent treatment of syphilis by salvarsan, to protect the patient and the community.

Acute Anterior Poliomyelitis

DR. W. D. HOSKINS, Indianapolis: Within the past five years there have been reported more cases of this disease than in all the previous history of medicine. The disease has long been suspected of being contagious, and a brief summary of its recent history will undoubtedly confirm the suspicion. Bacteriologists have not yet succeeded in demonstrating any constant specific organism. The virus passes unchanged through the finest filters. The pathology of the disease has for some years been known to be a degeneration of the motor cells in the ganglia of the anterior horns of the cord. A few points remain obscure. What is the reason for the decided preference for the anterior horns? Why are certain areas of the cord, notably the cervical and lumbar enlargements, especially vulnerable? Is the degeneration in the anterior horns a primary lesion, or secondary to other parts of the pathologic process? The consensus of opinion now is that the infection is primarily a vascular one. One attack of poliomyelitis usually renders the individual immune. Second attacks have been observed, but are rare. In many mild cases complete recovery occurs. Of the epidemic cases, complete recovery occurs in about 25 per cent. The mortality in epidemics is approximately 12 per cent; in sporadic cases, 6 per cent. We hope there will soon be an immunizing serum. In the meantime, we can do something toward protecting the little ones in our care by acquiring an intelligent knowledge of the disease, making early diagnosis and preventing the spread of the infection.

DISCUSSION

DR. F. B. WYNN, Indianapolis: This subject has been brought to our attention particularly by the agitation regarding it carried on through various public health agencies, and very properly, of course, because our modern knowledge of this disease teaches us that we are dealing with an infectious disease. The problem is to recognize this disease early, and that is hard to do. I do not know until the paralysis has come. I say to these patients, drink water, flush the system, dilute the toxins, keep the bowels very free—do anything to help get rid of the toxins. That is old-fashioned practice, but in these cases I believe it is the best practice. Then isolate the patient and take proper care of the secretions of the nose, which are known to be highly infectious in character.

DR. ALBERT E. STERNE, Indianapolis: We have always had acute poliomyelitis with us. There is nothing new in its sporadic occurrence. Of course, we do not see the acute cases so often, but the subacute cases have always been with us. While I believe this disease will spread by contact, we are not absolutely certain whether we are dealing with a contagious disease, an infectious disease, or a contagious-infectious disease. I subscribe most heartily to what has been said in regard to the necessity of taking cases of this kind in hand early and watching them. But what I would like to most see is the profession awakened to the real danger of procrastination in the treatment of these conditions. We should treat this like any other deep-seated inflammation. We should prevent deformities, and we can—in cases that we see early.

DR. G. W. MCCASKEY, Fort Wayne: We do not even know enough about this disease to give it a name. It is not purely an infantile disease. It may occur in substantially the same form in adults. So, if we are going to be punctilious about the name, we must not call it infantile paralysis.

Tuberculin and Autogenous Vaccines in Pulmonary Tuberculosis

MR. R. T. PETTIT, Ottawa, Ill.: Of 2,841 patients treated with tuberculin there were 1,932 patients cured or benefited from one to seven years after discharge, or 68 per cent. In the 19,249 not treated with tuberculin, 9,614 were cured or benefited, or 50 per cent. This shows an advantage of 18 per cent. in the tuberculin-treated group, a very substantial advantage. At the Ottawa Tent Colony, the results show that the percentage of incipient cases with cure or benefit in the tuberculin-treated group is about the same as in the untreated. However, the percentage of deaths in the untreated is over twice that in the tuberculin-treated group. In the moderately advanced stage, the tuberculin treated patients show a marked advantage, and in the far advanced stage, both treated and untreated, little in the way of treatment can be done.

With regard to autogenous vaccines, while it is yet too early to come to any conclusion regarding the ultimate results, I believe that in these vaccines we have another valuable adjunct to our present methods of treatment, and I believe we are justified in stating that in tuberculin and autogenous vaccines we have two valuable assets in the treatment of tuberculosis. However, we should not neglect the more valuable hygienic and dietetic principles of increasing the general resistance for these other methods of increasing the specific resistance, but, in order to produce the best results, they should be used together.

Local Use of Tuberculin in the Treatment of Open or Surface Forms of Tuberculosis

Dr. Thomas J. Beasley, Danville: The first point in these cases is to make a positive diagnosis, which is somewhat difficult. The tubercle bacilli may be found by the microscopic examination of the exudate. In a few instances I have applied tuberculin directly to the parts involved, and if a marked local reaction occurred, it seemed fair to conclude that it was a tuberculous infection. The therapeutic dose of tuberculin, when introduced hypodermically, causes tuberculous areas to become congested for a period of several hours. By the local application of tuberculin to open or surface forms of tuberculosis we can produce a similar reaction at the seat of infection, and by careful observation and repeated applications we can maintain in the tissues involved a constant reaction by gradually increasing the strength of the solutions employed. In applying tuberculin to such large areas as are frequently presented in some of these cases, great care must be exercised that the dose be not large enough to permit of enough absorption into the system to cause a general reaction. If the dose be too large in the beginning, the tissues may become insensitive and some difficulty may be experienced in producing subsequent reaction. It, therefore, seems advisable that the initial dose be small, and it is always dependent on the extent of the area to be treated. The tuberculin is applied by using a hypodermic syringe to spray the solution over the entire surface of the diseased parts. Where deep sinous tracts are to be treated, a flexible cannula is attached to a hypodermic syringe. When the cannula has traversed to the depth of the sinus, it should be withdrawn carefully and as the withdrawal is being made, the syringe should be emptied slowly of its contents. Enough of the solution should be used to fill all openings.

Twenty-four to forty-eight hours after the first application, a marked change is observed in the parts treated, the discharge being greatly lessened. The wound is not disturbed, except for the renewal of external dressings. Forty-eight hours later the severity of the reaction begins to subside. The parts are again irrigated with a saline solution, and an increased strength of tuberculin is applied. The treatment is repeated as often as seems necessary until a cure is produced. The value of this treatment in osseous involvements is yet to be determined, but it is reasonable to expect good results in this class of cases.

MICHIGAN STATE MEDICAL SOCIETY

Forty-Sixth Annual Meeting, held at Detroit, Sept. 27-28, 1911

(Continued from page 1307)

Nitrous-Oxid-Oxygen Anesthesia

Dr. Richard R. Smith, Grand Rapids: The advantages of nitrous-oxid anesthesia are: the decreased toxic effects, shown by clearer mentality following operation, lessened vomiting, quicker recovery from operation, lack of toxemia and lessened shock. These advantages are best seen in prolonged operations, to which nitrous-oxid-oxygen is especially adapted. Patients that one would fear to operate on under ether can sometimes be operated on safely under this administration. It encourages in the surgeon gentleness of touch and thoroughness, since he is less apt to be hurried by any danger attending a long anesthesia. Do not use it in operations on very robust patients, alcoholics, patients of exceedingly nervous temperament, and in operations on the head and throat.

Physostigmin Combined with Morphin in the Treatment of Pain Following Abdominal Operations

Dr. B. R. Schenck, Detroit: At present in the postoperative treatment of patients, there is a general unanimity of opinion, except in regard to the use of morphin. Some surgeons never use the drug while others give it almost, if not entirely, *ad libitum*. The majority use it sparingly, relying on codein or heroin. Morphin would be used universally (except in cases where there is danger of masking important symptoms) were it not for its paralytic effect on the intestine and its causing vomiting. Combining physostigmin with it seems to antagonize the effect on the intestine. I use tablets containing gr. 1/6 of morphin and gr. 1/75 of physostigmin. As many hypodermics of this are given as are necessary, the bowels moving well with an enema on the third or fourth day. The discomfort of the dreaded "third day" is entirely removed. The combination tablet relieves pain as well as plain morphin and prevents gas accumulation and meteorism.

DISCUSSION

Dr. W. P. Manton, Detroit: I have used more or less extensively both morphin and physostigmin—but not the combination. It seems to me that in this day and generation the use of morphin should be done away with very largely. For probably more than twenty years I was in the habit of giving laxatives and cathartics the night before the abdominal sections, and during all that time I had frequent cases of abdominal distention, sometimes extreme. For the last six or eight years I have given up entirely the use of laxatives before abdominal operations, and as a result I have rarely had a case of distention. In those cases I have employed physostigmin with, in a majority of instances, good results, but I have never given it in large doses. Instead of morphin I have used codein phosphate almost *ad libitum*, and I find a small amount of pain and irritation resulting from the inflammation taking place from the incision in healing, and codein phosphate has controlled all the symptoms, so that nowadays I very rarely give a dose of morphin. I have no doubt that the combination of morphin and physostigmin is a good one, if you are bound to use morphin in these abdominal cases, but I think that morphin can, in a majority of these abdominal cases, be omitted.

Dr. E. M. Houghton, Detroit: It is readily recognized that morphin is, perhaps, the drug par excellence for controlling pain, but it has always been, I believe, open to the question whether to give it internally or subcutaneously, in which case it is excreted very promptly. I think that some have shown that morphin given subcutaneously is excreted back into the bowel inside of two or three minutes. Whichever way the drug is given, you get an action on the bowel and you get more or less of a paralysis and a lessened peristalsis. We know that morphin controls the pain largely because of the central action of the drug, and it seems to me that Dr. Schenck's idea that it would be wise to use physostigmin in combination with morphin rests on a good basis. In physostigmin you have something that stimulates the muscle in the wall of the intestine to contract. I believe a good many experiments have been made to show just whether it acts on the muscle fibers or on the nervous mechanism in the muscles, but so far no one has been able to pin the matter down exactly.

Dr. John N. Bell, Detroit: I would like to ask Dr. Schenck to tell us whether or not his use of physostigmin and morphin has relieved the tendency to nausea which is also so distressing after using morphin. I have used codein phosphate for some years, and it has been my experience that not infrequently, although I have given 2½-grain doses, I have still been forced to resort to morphin to relieve pain.

Dr. Richard R. Smith, Grand Rapids: The treatment of postoperative vomiting is on the table—in the giving of just as little anesthetic as possible. So it is with this matter, I believe, of postoperative pain—postoperative ileus—postoperative distention. The treatment of these begins on the table, and means a brief and gentle manipulation, and when the surgeons work with this in view real progress will be made.

Dr. B. R. Schenck, Detroit: I agree that the cause of postoperative distention and postoperative discomfort is not how you prepare the patient and treat him afterward, but how you treat him while he is on the table; but even though you treat him with the greatest respect, he is going to have some discomfort. Codein is not as good an analgesic as morphin. Regarding the nausea, although I have given three or four sixths of morphin the first twenty-four hours, I certainly think the nausea has not been any greater or perhaps less, but there are so many factors that enter here that, perhaps, we are a little prejudiced and allow our judgment to lead us to form opinions which are not correct.

The Need of a Better-Developed "Obstetric Conscience"

Dr. Charles E. Boys, Kalamazoo: By the term "obstetric conscience" is meant that development of mind which has to do with generalship and exactness of technic in obstetrics. An obstetric operation is just as important, and should receive just as much attention in regard to sterile dressings, aseptic technic and freedom from hurry or need of attendance on other work as a surgical one. A good "obstetric conscience" would undoubtedly prevent many lacerations, but is of most importance in the prevention of sepsis. We make elaborate preparations for removing an infected appendix which may have ruptured, and where the surgeon has no responsibility for the present condition of the patient but we take a clean healthy woman and allow her to become infected following a forceps delivery. The same surgical care should apply in obstetric work. The Kelley pad is a dangerous thing because so difficult to sterilize. I prefer newspapers, direct from the mills, as they are more nearly sterile.

DISCUSSION

Dr. W. P. Manton, Detroit: For a long time I have insisted on absolute cleanliness, but we know that absolute cleanliness in the ordinary house is not to be obtained. I think the time is coming when every woman who can get to a good lying-in hospital, or a good hospital where they take obstetric cases, will go to that institution. As to the Kelly pad, the doctor said he used newspapers, but he did not say that he sterilized those newspapers. I take it for granted that he did; but, of course, we all know that there can be nothing that is more likely to be germ-laden than the ordinary newspaper.

Dr. H. Wellington Yates, Detroit: As far as the Kelly pad is concerned, I disagree. I think it can be sterilized. The Kelly pad used in obstetric work should not be used in general practice at all. Too much attention is paid to mortality and figures of that kind. As a matter of fact, every once in a while you see some fellow who has had a series of some four thousand patients without one case of infection. This nonsense means that he has not had one die, and he, perhaps, may be honest in that and there can be only a few who can be honest in that. But the matter of morbidity is another question, and as a matter of fact if those cases were taken care of properly the field of gynecology would be wiped out. The question of morbidity rather than mortality is the thing that interests us most. We may only lose one once in a while, but the morbidity!

Dr. W. C. Stevens, Detroit: I like the paper pad. I have used it many years. I have the woman take those paper pads and iron thoroughly on an ironing board with a red iron, as red as she could use without scorching it. Then I have her pile those up and quilt them through and through, and it does not take many pages of an ordinary Sunday paper to turn water; then I have her roll them and put them in a chest somewhere in an unused room or attic, and fill that chest, putting in plenty of formaldehyd.

Dr. Charles E. Boys, Kalamazoo: As to the sterile condition of the paper: In the paper mill the material is, first of all, immersed for 24 hours in a strong solution of chlorid of lime, to take the color out of the rags and the paper that the paper is made of. From there it goes into a large vat of chlorid of lime for twenty-four hours more; from there it is poured on a screen and rolled through fourteen or sixteen rollers of superheated steam, and that sterilizes it. From there it rolls on the printing press, and the ink is sterile. They do not fold the papers by hand any more, and the paper is not touched at all until it gets into your door yard, and then it is unfolded. Suppose you do use a dirty newspaper or a dirty kitchen table. That is of the smallest importance, because you don't put a woman on the kitchen table, but it is always covered by something to protect her from pressure injury. You cover this up, and even if you use papers, or the Kelly pad, of course this would be covered with sterile towels which are carried along.

(To be continued)

AMERICAN ROENTGEN RAY SOCIETY

Twelfth Annual Meeting, held in Richmond, Va., Sept. 20-23, 1911

(Concluded from page 1309)

Compensating Displacements of the Thoracic Viscera in Pulmonary Tuberculosis

Dr. Charles Lester Leonard, Philadelphia: Compensation for the loss of expansion in the lungs takes place through an increase in the capacity of their normal area, or through the interposition between the visceral and parietal pleura of an area filled with air, or fluid, or both. These changes must take place in proportion to the volume of the lungs involved in a pathologic process. They are in a measure appreciable by the ordinary methods of physical diagnosis. The changes which can be noted by inspection and mensuration are, however, less marked in ratio with the extent of the disease than those within the thorax, which produce displacements or alterations in the position of the viscera. An internist connected with one of the largest institutions for the special study of tuberculosis did not believe that displacements of the viscera could occur so frequently in the earlier stages of the disease. He said that in some hundreds of post-mortems conducted at the institute they had failed to find such displacements.

These pathologic variations in the position of the thoracic viscera can be shown clearly only by the rapid roentgenograms that eliminate the heart's motion. Their exact position and interthoracic relations can only be fully appreciated by the rapid stereo-roentgenogram. In the entire series of one hundred cases, twenty-six displacements of the heart and aorta were found, with three cases of pneumothorax. In seventeen cases the heart was displaced to the right; in four to the left; and in five a rotation took place, with an upward displacement of the heart and aorta, so that the heart assumed an anteroposterior position. In two cases a superficial pneumothorax was found overlying the lower left lung, and in one case an acute hydro-pneumo-thorax of tuberculous origin was shown.

A review of the cases in the entire series shows that those cases in which no displacement of the viscera was present were early lesions, in which no fibroid change had taken place, or that the lesions were not extensive and symmetrical, or that the heart was bound down by adhesions between the pericardium and the diaphragm. The unequal elevation of the two halves of the diaphragm, Williams' sign, was present in less than one-half of all the cases, and was not present where displacements of the interthoracic viscera had occurred.

The pathologic displacements of the thoracic viscera in pulmonary tuberculosis are the result of compensation for the destruction of expansive normal lung tissue by the disease. The displacing force is the result of one or two changes, or the combination of both, or, as in the case of acute pneumothorax, from the rupture of the lung. The consolidated lung area may undergo fibroid change and contraction, the contracting tissues drawing the heart and aorta with them, while the emphysematous lung on the opposite side assists in their displacement.

In addition to the displacements which cause compression of the diseased portion of the lung, there is present in many cases an ossification of the costal cartilages and an approximation of the ribs over the affected area. The compensating displacements may be divided into four groups. Displacements of the lung by superficial pneumothoraces; displacements of the heart upward and into an antero-posterior position; displacements of the heart and aorta to the left; and displacements of the heart or heart and aorta to the right.

The Control of Fracture Work by the Roentgen Ray

Dr. Roland Hammond, Providence, R. I.: The time is near at hand when no fracture or joint injury will be considered to have been treated properly if a Roentgen examination has not been made. It is a well-recognized fact that a Roentgen plate should be taken after an attempt at reduction has been made, to see if the desired result has been obtained. Of almost equal importance is a place beforehand to know accurately with what condition we have to deal—a fact not appreciated by the profession at large. With the knowledge thus obtained, the reduction can often be easily made, and with but slight trauma to the parts. Many cases now subjected to open operation and plating could be treated by extension and counter-extension after the method of Bardenheuer and Graessner, with as good anatomical and functional results, and at less risk and greater comfort to the patient. In many cases which seem irreducible, plates made while the patient is under ether and after successive attempts at reduction have been made will often give the clue to the situation, enabling the reduction to be made without resorting to an open operation. Some fractures are irreducible by the above methods and an open operation is necessary. In these cases an absorbable suture material should be used, if possible, reserving wire and plates for cases in which the fragments can be held by no other means.

DISCUSSION

Dr. Arthur Holding, Albany, N. Y.: It is our duty to impress on the surgeon that this fracture work must be controlled by the Roentgen ray. Only by this means can we determine absolutely whether the approximation of the fragments is as it should be. We must not hesitate to advise the surgeon to sacrifice his pride and reset a bone. In fact, the Roentgenologist may be in the rather trying position of having to protect the surgeon and the patient. We must be careful, however, when we use the Roentgen ray while the patient is still under the ether anesthesia. I have seen several instances in which the spark has caused serious damage, even when the tube was not anywhere near the ether can or mask. The spark jumped to the iron bedstead and in that way got to the ether can, and in one case there was produced a conflagration in which the patient was injured seriously. The ether bottle should be out of the room and the can away from the patient's face before the tube is excited.

Dr. Lewis G. Cole, New York: I use bromid paper instead of a plate. One can show as much on the paper as on the plate in from two to three minutes from the time the exposure is made. The prints may be made as rapidly as can be done. This applies not only to fractures, but to foreign bodies.

Dr. George C. Johnston, Pittsburgh: The only man competent to treat fractures correctly is he who controls his work with the Roentgen ray. It is also necessary to examine these fracture plates stereoscopically, especially in the case of fractures of the shoulder. The orthopedist is the man to treat fractures.

Collaboration Essential in the Diagnosis of Surgical Conditions of the Kidney and Ureter

Dr. John Hunter Selby, Rochester, Minn.: This cooperative examination opens up additional possibilities, especially in that large group of abdominal cases seen in daily practice which exhibit an indefinite line of symptoms referable perhaps to the appendix, gall-bladder, stomach, duodenum, spine or genito-urinary tract, but with a strong possibility of involvement of the genito-urinary tract. Such cases require careful study, and some of them tax every means at our command before we can approach an accurate diagnosis.

In St. Mary's Hospital (Mayo Clinic), all such cases are referred to the Roentgen laboratories for examination. The routine examination in this clinic may be described as follows: A full history is taken, and a physical examination made. A twenty-four hour specimen of urine is reported on, and perhaps a gastric analysis is made—all of which may throw considerable light on the case and yet not clinch the diagnosis. The Roentgenologist is then called on to examine the case and after the proper preparation of the intestinal tract a set of stereoscopic plates of the upper abdomen, and a second set of the lower abdomen and pelvis, are made by the rapid method; that is, while the breath is held. If this examination fails to reveal any abnormalities, we have not yet ruled out the genito-urinary tract. If, then, in the light of the clinical findings and negative *x*-ray examination, the diagnosis is still under suspicion, the patient goes through a second preparation of the intestinal tract and is referred to the cystoscopist the following day. In the meantime, the original plates are studied and a consultation is held between the physician in charge, the Roentgenologist, and the cystoscopist. This, at times, furnishes the cystoscopist with much-needed information, and establishes a new working basis for the Roentgenologist, should subsequent events indicate a second *x*-ray examination. The cystoscopist now makes his thorough routine examination and he alone may clear up the diagnosis by one of his ingenious methods, and thus eliminate the necessity for the "combined examination." He may gather evidence to confirm the original *x*-ray findings or to disprove them. Again, he may find evidence of trouble that had not so far been suspected. Therefore, the indications for the combined examination depend on the original *x*-ray findings plus the findings by the cystoscopic examination.

Roentgenographic Diagnosis of Ureteral Kinks Causing Intermittent Hydronephrosis

Dr. G. M. Stover, Denver: Hydronephrosis has heretofore been recognized only in rather an advanced stage, when the dilatation of the renal pelvis is considerable. We have found, and have demonstrated by catheter tests, roentgenograms and surgical operation that there is easily recognizable a much earlier stage of this condition, to be discovered before dilatation of the renal pelvis has taken place. A certain number of patients complain of pain in one or both kidneys; a pain somewhat like that of the classical hydronephrosis, but not relieved by the sudden passage of a quantity of urine and a disappearance of the tumor and without the microscopic urinary findings of fully developed hydronephrosis; a pain suggestive but not typical of renal calculus colic, and in which roentgenographic examination for stone is negative. The symptom-complex in this class of cases has usually been rather vague in its diagnostic indications, and there have undoubtedly been many instances in which a faulty diagnosis has led to operation for conditions which were not present, the trouble being laid to an appendix, a tube, an ovary, or a gall-bladder.

In the class of cases under consideration it was found by Dr. Fowler that the injection of a comparatively small amount of solution (averaging only 14 c.c.) into the pelvis of the kidney produced a pain exactly similar to the pain from which the patient suffered; an injection of the unaffected kidney produced a pain which the patient had never felt there before, but identical with that which had been felt on the other side.

DISCUSSION ON PAPERS BY DRS. STOVER AND SELBY

Dr. Percy Brown, Boston: I had a case which, clinically, was diagnosed as a nephroptosis, but the Dietl's crisis was out of proportion to the ptosis. I made a roentgenogram and found a kink in the ureter. A ptosis was present, but not startling.

Dr. Eugene W. Caldwell, New York City: We must encourage this cooperation between the surgeon and the Roentgenologist. We cannot hope to get the best results until we get team work. I would advise Dr. Selby to do more stereoscopic work.

Dr. Charles L. Leonard, Philadelphia: It is important to look at these plates stereoscopically. I recently located five stones in the lower ureter. The surgeon would not have found the fifth stone if I had not examined the plate stereoscopically.

Pulmonary Metastases from Papillomatous Cyst of Ovary

Dr. Hollis E. Potter, Chicago: Eight years ago a woman was operated on for papillomatous cyst of the right ovary. Regional recurrence necessitated a second and a third operation, six and five years ago, respectively. One year ago a small mass was removed from the right groin. At present there are symptoms and signs pointing to a pulmonary involvement. The roentgenogram cleared up a condition which could not be diagnosticated in any other way. Over the central portion of the left lung is a mass obscuring the heart. It apparently occupies one-half of the left side of the thorax. In the right lung is a mass the size of an orange. There is no pulsation. A diagnosis of cyst was made, but the case was considered inoperable.

Relation of Roentgen Laboratory to the Medical School

Dr. Eugene W. Caldwell, New York City: There is at present a lack of cooperation between the Roentgen laboratory and the medical college. Five or six schools are beyond criticism in this respect. Most schools have laboratories which are useless and dangerous. In many hospitals a photographer or druggist runs the *x*-ray machine. Nearly all the development in roentgenology has been made by private individuals at their own expense. The results of roentgen examination should be checked up by the roentgenologist in cooperation with the clinician and the pathologist. The hospital and the medical school should make the specialty attractive to medical men who possess the necessary qualifications to do efficient work.

The Use of the Fluoroscope as a Guide for the Bronchoscope and Esophagoscope in the Removal of Foreign Bodies

Dr. C. F. Bowen, Columbus, Ohio: The successful outcome of a foreign body case depends, first, on the diagnosis, and, second, on the method of procedure. No attempt should be made to either use the bronchoscope or the esophagoscope without having a roentgenograph close at hand, and since the Roentgen ray plays such an important part in the diagnosis and treatment of this class of cases, I believe that this work should be done by the roentgenologist himself, who has a knowledge of surgery, rather than by a surgeon with a roentgenologist as an assistant.

The Abdominal Viscera in Auto-Intoxication and Auto-Infection

Dr. Joel E. Goldthwait, Boston: In the chest and abdomen are the important viscera of the body, except the brain, and the proper relation of these organs, one to the other, determines the health of the individual. The Roentgen ray is of the greatest assistance in determining the position of these organs as well as the disturbances that may result from a malposition of one or more organs. A displaced organ may not suffer of itself, but it may push some other organ out of place and cause that organ to suffer. In the quadruped the abdominal organs hang freely from the backbone, and there is no interference of one with the other. In the biped this relation is changed. One individual in five is born with the organs of a quadruped, although that does not necessarily do any harm in itself, and that is one of the points I want to emphasize.

For instance, these patients have sacro-iliac strain because they are standing out of poise; but that in itself is a cause of visceral strain. If the viscera are not hung right, it leads to a drooped posture. In one such case I saw the stomach was down in the pelvis. Then, the stomach cannot unload itself unless the patient assumes a certain posture. The transverse colon very frequently is dropped away down. There may be a loose liver or loose kidneys. In all these cases there is an absence of retroperitoneal fat. It either never was present or it was absorbed. There is no shelf for the kidney. Sewing the stomach or any other one loose organ into place does not give these patients any relief, except for a short time only. All the loose organs must be replaced and that cannot be done by suturing.

There are certain earmarks which go with these conditions, so that this class of patients is easily recognized at sight. Ptosis of the hepatic flexure of the colon is very distressing. The progress of the intestinal contents in these cases is interfered with seriously, and the result is auto-intoxication. In the work we have been carrying on almost every combination has been found—a firmly attached ascending colon, with a free descending colon, and vice versa, or any part of the colon may be free or attached. The fluid part of the intestinal content is absorbed, and the waste is worked together into a bolus which refuses to pass onward. A patient may have a regular bowel movement and yet in the pockets and pouches formed in the walls of the colon there may be fecal matter so firmly caked that a blunt dissector is necessary to loosen it.

The Roentgen ray is of the greatest value in diagnosticating these conditions; in fact, the diagnosis cannot be made without it. You cannot relieve these patients until you get the viscera to work right. With proper treatment you can replace these organs and the Roentgen ray will aid in checking up the results of the treatment. These patients must be nourished until you can see the retroperitoneal fat. Exercises must be prescribed. The organs cannot be replaced when the chest is narrow or the body is stooped. You must make it possible to have the ribs flare so that the organs can stay in place. The posture is the result of the ptosis. When the ribs slant inward and downward, the liver and stomach are pushed out of place, which in turn interferes with the position of the colon and other viscera. That is an acquired condition. These patients must be fed properly, live properly, exercise, and observe certain rules of posture.

DISCUSSION

Dr. Percy Brown, Boston: This opens up an interesting field of work. Hertz, of England, wrote an admirable book on constipation. He calls the conditions in the colon described by Dr. Goldthwait a hyperperistalsis, where apparently the succus entericus is formed in increased amount; everything is ready for the waste, but none comes. The so-called "greedy gut," of Hertz is an excessive contraction of the circular muscle fibers of the intestine. When the food finally comes, it is dry and the constriction of these circular fibers squeezes the food and it becomes sapless, hard and scybalous. Dr. Goldthwait's investigations are of the greatest value in directing attention to the probable cause of these conditions and their treatment.

Dr. George E. Pfahler, Philadelphia: Jordan recently called attention to a kink in the duodenum at its junction with the jejunum which may give rise to a spasmodic condition of the bowel leading to pain, ulcers, and sometimes to adhesions. This condition is easily overlooked, therefore we must make a series of examinations and do considerable fluoroscopic work. I have seen adhesions between the descending and transverse colons and sigmoid cause pain. Sometimes these patients are operated on for appendicitis, and then they fail to get relief from their symptoms. It is a problem just what to do in these cases.

Dr. Charles L. Leonard, Philadelphia: In one of these obscure cases I found adhesions and a stricture of the ileum which had caused the patient much pain, and which one surgeon had diagnosed as appendicitis.

Dr. F. H. Baetjer, Baltimore: In two cases which I saw the abdominal viscera were in the pelvis, although the splenic flexure was held firmly in its normal position.

Dr. C. E. Coon, Syracuse, N. Y.: If one can show that there is a retention of the intestinal contents due to malposition of the abdominal viscera, many of these chronic sufferers will be able to get relief.

Dr. Roland Hammond, Providence, R. I.: I have observed many times that while we may not change the position of the viscera by supportive and stimulative treatment, we often relieve the patient of symptoms by simply taking off the strain—the sag. By restoring the normal physiology of an organ by supportive apparatus and stimulating exercises, we are doing all that can be done and practically are effecting a cure.

Dr. J. E. Goldthwait, Boston: In studying these cases we must use our good sense and not see only the colon or stomach, but the human being, with a lot of organs whose balance must be worked out. I believe that we can help these patients. These are human problems, capable of solution by human intelligence, otherwise the scheme of the universe is wrong—and it is not wrong. We cannot give these patients normal ligaments, but we can give them normal function. If we operate to replace an organ, the patient will feel better for a while, and then get much worse again, as food is taken. If there is a special condition for which suture is desirable, all right, but it must be followed up by other treatment. The same is true of the operations done for drainage of the bowel. The short circuiting of the bowel which Lane and others are doing is faulty, in that they see only the colon, and not the other abdominal viscera. It is not only the colon which is causing the mischief. You cannot do very much for the acquired cases. As for the congenital cases, if you will make the patients suffering from acquired conditions as nearly normal as possible, you will gradually lessen the number of congenital cases. It is simply a question of race improvement. If you can get these organs to work right, the patient will get well. Feed your patients judiciously and well; exercise them; train them; teach them how to stand correctly; improve their posture, and you will get good results.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

Connecticut: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

Illinois: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

Florida: Regular, Jacksonville, November 7-8. Sec., Dr. J. D. Fernandez.

Louisiana: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

Maine: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

Nevada: Carson City, November 6. Sec., Dr. S. L. Lee.

Texas: Forth Worth, November 28. Sec., Dr. J. D. Mitchell.

West Virginia: Hotel Waldo, Clarksburg, November 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Texas June Report

Dr. J. D. Mitchell, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Austin, June 27-29, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 148, of whom 133 passed, including 4 osteopaths, and 15 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1911)	75
Howard University, Washington, D. C.	(1909)	81.2
Atlanta Medical College	(1895)	75.7
Georgia College of Eclectic Medicine and Surgery	(1911)	81.5
Hering Medical College	(1910)	78.8
Rush Medical College	(1897)	81.5
Louisville Medical College	(1894) 81.5; (1905)	87.5
University of Louisville	(1911)	81.2, 81.9, 83.7.
Tulane University of Louisiana	(1908) 83.1; (1911)	84.2, 85.5, 86.9, 89.4.
Johns Hopkins University	(1911)	93.5
St. Louis College of Physicians and Surgeons	(1911)	78.2
Barnes Medical College	(1905)	75
Dartmouth Medical School	(1901)	84.9
Columbia University, College of Physicians and Surgeons	(1884) 87; (1905)	89.3.
Bellevue Hospital Medical College	(1865)	75
Meharry Medical College	(1911)	75, 85.6
College of Physicians and Surgeons, Memphis	(1911)	84.6
University of Nashville	(1910)	80.4
Memphis Hospital Medical College	(1900) 81.3; (1908) 78.3; (1910) 75, 77; (1911)	78.7, 80, 83.5, 87, 88.9.
University of Tennessee	(1911)	79.2, 81.2, 87.7.
Vanderbilt University	(1892) 75; (1909)	86.3
University of Texas	(1910) 82, 87.3; (1911)	80.5, 82.7, 83.5, 83.6, 83.6, 83.7, 83.8, 83.8, 84, 84.4, 84.5, 84.6, 84.6, 84.7, 84.8, 85, 85.3, 85.3, 85.4, 85.6, 85.8, 85.9, 86.2, 86.3, 86.4, 86.5, 86.8, 86.8, 86.8, 86.9, 86.9, 86.9, 87, 87.1, 87.1, 87.4, 87.5, 87.9, 88.1, 88.5, 88.5, 89, 90.3, 90.7.
Baylor University	(1911)	80.8, 81.1, 81.4, 81.5, 81.9, 82, 83.5, 84.2, 85, 85.2.
Fort Worth University	(1911)	77, 78, 78.3, 79.5, 80.9, 81.3, 81.5, 81.9, 82.8, 84.3, 84.4, 84.9, 85.6, 85.7, 86, 86.1, 88, 88, 90.
Southwestern University Medical College	(1911)	75.8, 80.8, 81.2, 81.4, 84, 84.3, 84.5, 85.2, 86, 86.5, 87.2, 87.7, 89.2.

FAILED

College	Year Grad.	Per Cent.
Southern Medical College, Atlanta	(1887)	51
Bennett Medical College	(1910)	62
University of Tennessee	(1911)	71.1
Meharry Medical College	(1909) 53.8, 69.2, 72.6; (1911)	50.5, 65.1, 69.3, 70, 70.4, 71.4.
Chattanooga Medical College	(1897)	53.3
Vanderbilt University	(1911)*	
Fort Worth University	(1910)	63

* Expelled for cheating.

North Carolina June Report

Dr. B. K. Hays, secretary of the North Carolina State Board of Medical Examiners, reports the written examination held at Charlotte, June 14, 1911. The number of subjects examined in was 14; percentage required to pass 80, and not less than 35 in any one branch. The total number of candidates examined was 123, of whom 92 passed and 31 failed. Ten candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington	(1910)	87.8
George Washington University	(1910)	88.1
Atlanta College of Physicians and Surgeons	(1911)	86.4
Atlanta School of Medicine	(1911)	81.1
Kentucky University	(1904)*	
University of Louisville	(1901)*	
Tulane University of Louisiana	(1911)*; (1911)	81.1, 88, 91.6
University of Maryland	(1879)*; (1909) 80; (1910) 83.1, 81.9; (1911)	80, 82.8, 83.3, 84.8, 87.6, 88.6, 93.4.
Johns Hopkins University	(1908)	89.4
Maryland Medical College	(1911)	80
University and Bellevue Hospital Medical College	(1907)*; (1908)*	
Columbia University, Coll. of Phys. and Surgs.	(1910)	80.6
North Carolina Medical College	(1910) 80; (1911)	80, 80, 80, 80, 80, 80, 80.1, 81.4, 82, 82, 82.6, 83.3, 83.3, 83.7, 85.3, 85.3, 87.7, 88.6, 88.7, 91.6, 93.8.
Leonard Medical School	(1911)	80, 80, 81.3, 82.6
University of Pennsylvania	(1911)	86, 87, 90, 90.3, 92, 92.3, 94, 94.3, 95.3.
Jefferson Medical College	(1904)*; (1911)	81, 84.6, 87.4
Medical Coll. of the State of S. Car.	(1910) 85; (1911)	85.4
University of Tennessee	(1911)	80, 80.7
Vanderbilt University	(1901)*	
University of the South	(1903)*	
University of Nashville	(1911)	87.7
University College of Medicine, Richmond	(1903)*; (1910) 80; (1911)	80, 80, 81.1, 82.5, 84, 85.1, 85.6, 86.8, 88, 88.6, 89.8, 90, 90.8, 90.8.
Medical College of Virginia	(1908) 82.8; (1911)	80, 85.8, 86

FAILED

College	Year Grad.	Total No. Examined.
Atlanta College of Physicians and Surgeons	(1911)	1
Atlanta School of Medicine	(1910)	1
Chicago College of Medicine and Surgery	(1910)	1
University of Louisville	(1908)†	1
College of Physicians and Surgeons, Baltimore	(1910)	1
College of Physicians and Surgeons, Boston	(1909)	1
University of Maryland	(1904); (1907); (1910); (1911)‡	4
North Carolina Medical College	(1911)	1
Leonard Medical School	(2, 1910) (6, 1911)	8
Chattanooga Medical College	(1908)	1
Tennessee Med. Coll.	(1904); (1908); (1909); (2, 1911)†	5
University of West Tennessee	(1910)	1
Knoxville Medical College	(1903)	1
University College of Medicine, Richmond	(1911)	2
Medical College of Virginia	(1910)	2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Medical College of Georgia	(1907)	Georgia
Atlanta College of Physicians and Surgeons	(1906)	Georgia
Tulane University of Louisiana	(1908)	Virginia
College of Physicians and Surgeons, Chicago	(1904)	Wisconsin
Baltimore Medical College	(1902)	Virginia
John Hopkins University	(1906)	Maryland
University of Pennsylvania	(1902)	New York
Jefferson Medical College	(1903) New Jersey; (1910)	S. Carolina
Medical College of Virginia	(1909)	Virginia

* Took oral examination.
† Withdrew.
‡ Expelled from examination.

Indiana July Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, July 11-13, 1911. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 107, of whom 100 passed, including one osteopath, and 7 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University	(1888)	88.9
George Washington University	(1910)	84
Northwestern University Medical School	(1910) 81, 86.5; (1911)	80.6, 83.1.
Bennett Medical College	(1911)	82.9
Chicago College of Medicine and Surgery	(1911)	80.1, 80.8, 87.9.
Rush Medical College	(1897) 76.1; (1911)	86.6
Medical College of Indiana	(1890)	75
Indiana University	(1911)	75.8, 76.1, 77.1, 77.7, 77.9, 78.7, 79.1, 79.1, 79.3, 79.4, 80.1, 80.1, 80.8, 81.2, 81.2, 81.7, 81.7, 81.9, 81.9, 82, 82.2, 82.5, 82.7, 83, 83.1, 83.5, 83.5, 83.6, 83.7, 83.9, 84.1, 84.2, 84.3, 84.6, 84.9, 84.9, 85.2, 85.3, 85.7, 85.9, 86.4, 86.6, 86.7, 86.7, 88.1, 88.5, 89, 89.6, 90, 90.2, 90.4, 94.7.
University of Louisville	(1906) 77; (1910) 76.6; (1911)	75, 76.7, 77, 77.8, 79.2, 82, 82.1, 82.4, 82.9, 85.9, 86, 88, 88.8, 89.
Southwestern Homeopathic Med. College, Louisville	(1910)	75
Harvard Medical School	(1911)	83.4
Kansas City Hahnemann Medical College	(1911)	82.6
Starling-Ohio Medical College	(1911)	84.2
Cleveland Homeopathic Medical College	(1903)	75.2
Eclectic Medical College, Cincinnati	(1911)	75, 78.2, 78.3.
Ohio-Miami Medical College	(1910) 83.9; (1911)	82.2, 86.4

Medico-Chirurgical College, Philadelphia	(1905)	85
Jefferson Medical College (1910) 89.9;	(1911)	84.5, 84.7
University of Virginia	(1880)	81.5
Marquette University	(1911)	83
University of Naples, Italy	(1906)	81.4
FAILED		
Indiana University (1910) 53.2;	(1911)	65.5
University of Louisville (1910) 66.8, 69.1;	(1911)	67. 71.9
Eclectic Medical College, Cincinnati	(1911)	73.2

Indiana Reciprocity Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports that twenty-five candidates have been licensed through reciprocity since January 1, 1911. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1906)	Illinois
American Medical Missionary College	(1909)	Michigan
Rush Medical College	(1906)	Ohio
Chicago College of Med. and Surgery. (1902) (3, 1909)		Illinois
Coll. of Phys. and Surgs., Chicago. (1905) (2, 1908)	(1909)	Illinois
Indiana University	(1909)	Colorado
Hospital College of Medicine, Louisville	(1906)	Kentucky
Univ. of Mich., Dept. of Med. and Surg. (1908) (2, 1909)		Michigan
Detroit College of Medicine	(1908)	Michigan
University of Michigan, Homeopathic College	(1903)	New York
University of Maryland	(1898)	Maryland
Ensworth Medical College	(1896)	Missouri
Cleveland College of Physicians and Surgeons	(1900)	Ohio
Cleveland Homeopathic Medical College	(1909)	Ohio
Western Reserve University	(1909)	Ohio
Ohio Medical University	(1905)	Ohio
Cleveland University of Medicine and Surgery	(1897)	Ohio

Massachusetts July Report

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at the State House, Boston, July 11-13, 1911. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 147, of whom 94 passed, including 11 osteopaths and 2 non-graduates, and 53 failed, including 14 osteopaths and 11 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1911)	81.5
American Medical Missionary College	(1910)	75
Baltimore Medical College (1909) 76.2;	(1911)	75, 76, 77, 80.9
Baltimore University	(1906)	75.7
Maryland Medical College (1906) 75;	(1910)	75
Tufts College Medical School (1910) 75; (1911) 75, 75, 75, 75, 75, 75, 75, 75.2, 75.3, 76, 76.4, 77.6, 77.9, 78, 78.5, 78.5, 78.7, 79.3, 80, 80.1, 80.5, 81, 87.7.		
Harvard Medical School (1909) 76.7, 78.2, 78.3, 79.8; (1910) 77.9, 78.4; (1911) 75, 75, 75.1, 75.2, 75.8, 76.2, 76.2, 77.2, 77.2, 77.2, 77.5, 77.5, 77.7, 77.7, 77.8, 78.3, 78.4, 78.6, 79.9, 80.2, 80.5, 81, 81.5.		
Boston University (1911) 75, 75, 75, 76.2, 76.6, 77.5, 78.2, 78.4, 78.7, 81.		
University of Michigan, Dept. of Med. and Surg.	(1904)	75
Columbia University, Coll. of Phys. and Surgs.	(1900)	75
Long Island College Hospital	(1911)	80.8
University of Vermont. (1909) 75, 75; (1910) 75;	(1911)	75
University of Naples, Italy	(1909)	75

FAILED

College	Year Grad.	Per Cent.
Kentucky University	(1904)	67.7
Maryland Medical College	(1910)	69.7
College of Physicians and Surgeons, Baltimore	(1910)	65.5
Baltimore Medical College	(1908)*	51.2
College of Physicians and Surgeons, Boston (1908) 64.5, 67; (1909) 69.4; (1910) 69.2, 71.4; (1911) 65.2, 65.5, 66.7, 70.4, 71.2.		
Boston University	(1911)	66.
Tufts College Medical School	(1911)	65.3, 69, 71.2, 71.2, 71.4
Harvard Medical School	(1911)	70.8
University of the South	(1908)	46.4
University of Vermont	(1894)	49.2
University College of Medicine, Richmond	(1907)	70.2
Laval University, Quebec (1904) 70.1;	(1911)	60.9, 64.6
Tiffis Medical College, Russia	(1878)	1.3

* A statement from the college says this candidate did not graduate.

Utah July Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, July 5-6, 1911. The number of subjects examined in was 22; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed

Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1911)	86.4, 88.4
College of Physicians and Surgeons, Chicago	(1911)	82.8
Keokuk Medical Coll. of Phys. and Surgs.	(1905)	79.3
College of Physicians and Surgeons, Baltimore	(1911)	85.5

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chi. Coll. of Med. and Surg. (1908) Colorado:	(1910)	Illinois
Illinois Medical College	(1909)	Illinois
State University of Iowa, College of Medicine	(1903)	Iowa
State University of Iowa, Homeopathic College	(1908)	Iowa
University of Michigan, Homeopathic Dept.	(1909)	Michigan
Columbus Medical College	(1889)	Missouri
Jefferson Medical College	(1908)	New York

California August Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, August 1-4, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 163, of whom 127 passed, including 23 osteopaths, and 36 failed, including 15 osteopaths and 1 chiropractic. Two other candidates were licensed on the basis of honorable discharge from the U. S. Services. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of California (1911) 78.9, 82.1, 85.1, 85.2, 85.8, 85.8, 86.5, 86.9, 90.4.		
College of Physicians and Surgeons, San Francisco (1906) 75; (1909) 75, 75.6; (1911) 75.4, 77.3, 84.6, 84.9, 85.9.		
Hahnemann Medical College of the Pacific (1911) 77, 78.5, 82.5, 83.3, 84.1, 88.2.		
California Eclectic Medical College	(1906)	77.3
College of Physicians and Surgeons, Los Angeles (1908) 75; (1911) 75, 77.9, 80.7, 81.3, 84.		
Cooper Medical College (1910) 79.9, 81.1, 82.1; (1911) 81.5, 82.2, 84.1, 84.2, 86.1, 86.1, 86.2, 86.8, 87, 87.1, 87.5, 87.5, 87.7, 87.7, 87.9, 89, 89, 89.6, 89.9, 93.1.		
George Washington University	(1908)	75
Georgetown University	(1911)	84.6, 85.7
Atlanta College of Physicians and Surgeons	(1899)	76.9
Rush Medical College (1882) 84.9; (1897) 91.2; (1899) 93.8; (1900) 82.8, 84.2; (1909) 90.6.		
Northwestern University Medical School (1904) 77.6; (1909) 84.1; (1911) 79.1, 82.6, 90.4.		
College of Physicians and Surgeons, Chicago (1894) 81.1; (1897) 80; (1909) 90.6; (1902) 81.4; (1910) 78.8.		
State University of Iowa, Homeopathic College	(1893)	75
Baltimore Medical College	(1896)	89
Johns Hopkins University (1908) 85.8;	(1911)	83.3, 89.9
Harvard Medical School (1909) 86.5; (1910) 86.7;	(1911)	80.7
Univ. of Mich., Dept. of Med. and Surg. (1910) 78.6;	(1911)	87.3
Missouri Medical College	(1896)	80
Ensworth Medical College	(1908)	84.6
St. Louis University	(1911)	77.2, 77
Washington University, St. Louis	(1897)	82.3
Columbia Univ. Coll. of Phys. and Surgs. (1896) 81.3;	(1909)	90.2
New York University Medical College	(1893)	84.6
Long Island College Hospital	(1898)	76.1
Cornell University Medical College	(1911)	81.4
Miami Medical College	(1908)	79.2
Western Reserve University	(1902)	75.7
Ohio Medical University	(1898)	84.8
University of Pennsylvania (1909) 80.6;	(1911)	86.6
University of Pittsburg	(1910)	83.7
Medico-Chirurgical College, Philadelphia	(1911)	77.4
Woman's Medical College of Pennsylvania	(1910)	83.3
University of Texas	(1910)	75
Trinity Medical College, Ontario	(1898)	80
Society of Apothecaries, London*	(1900)	80

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Los Angeles	(1911)	70.1
Coll. of Phys. and Surgs., San Francisco (1902) 67.1;	(1911)	63.7
College of Physicians and Surgeons, Chicago	(1906)	69.4
Rush Medical College	(1884)	68.1
Northwestern University Woman's Med. School	(1881)†	75.8
College of Physicians and Surgeons, Keokuk	(1897)	66.3
Kentucky School of Medicine, Louisville	(1891)†	76.3
Louisville National Medical College	(1889)	33.4
Coll. of Phys. and Surgs., Baltimore (1888) 63.7;	(1890)	66.7
St. Louis University	(1906)	63.4
Syracuse University	(1908)	71.1
Pulte Medical College	(1894)	72.3
University of Wooster, Cleveland	(1880)	25.1
Cleveland Medical College, Homeopathic	(1892)	46.1
Hahnemann Medical College, Philadelphia	(1909)	61.7
University of Pennsylvania	(1911)	71.6
University of Naples, Italy	(1903)	51.3
University of Athens, Greece	(1902)	65.5

* Not a medical school, but a licensing body.

† Fell below 60 in one or more branches.

Book Notices

Report of the Vice Commission of Minneapolis to His Honor, James C. Haynes, Mayor. Paper. Pp. 134. 1911.

This report, while not so exhaustive as the report of the Chicago Vice Commission, is yet a valuable contribution to the study of the vexing question of the regulation of vice in our large cities. The fact that Minneapolis under the present city administration is making a sincere effort to enforce the law and to do away with semi-official police regulation of vice, adds to the interest of this report. Quotations from letters from mayors, chiefs of police and others in American and European cities, appear throughout the report. The recommendation of the commission includes suggestions on law enforcement, increased police vigilance, cooperation of citizens, regulation of hotels, lodging-houses, etc. Of special interest are the recommendations, contained in paragraph V of the final sections of the report, in the interests of public health and safety. After recommending the establishment of hospital facilities for the treatment of specific cases, the commission recommends cooperation with the Hennepin County Medical Society and a careful study of the laws in various European nations and in other states, on such subjects as physical examination as a prerequisite to marriage, reporting of specific diseases, punishment for the wilful and negligent transmission of such diseases, compulsory methods for the prevention of infant blindness, and most important, the broadening of the medical practice acts so that the state board of medical examiners shall be given sufficient power and funds to control the quacks specializing in specific diseases. As only three of the fifteen members are physicians, and as the commission includes all professions and classes, this recommendation is particularly significant of the public realization of the importance of the work of the state board of examiners. This report cannot be overlooked by any one interested in the important question of vice regulation in our large cities.

Digest and Comments on the Pharmacopeia of the United States of America (Eighth Decennial Revision) and the National Formulary (Third Edition) for the Calendar Year Ending Dec. 31, 1908. By Murray Galt Motter and Martin I. Wilbert. Hyg. Lab. Bull. 75, U. S. P. H. and M.-H. S., Treasury Department, April, 1911. Paper. Pp. 564. Washington: Government Printing Office, 1911.

This bulletin is the fourth of the series and represents a comprehensive review of medical and pharmaceutic literature for the year 1908. While of interest primarily as a reflection of the work done in connection with pharmacopeial revision, these bulletins also serve to indicate the nature and kind of remedies that are being actively discussed by physicians in different parts of the world. It would appear, therefore, that to the physician who is desirous of securing reliable information regarding the remedies he is using, this bulletin will prove to be a mine of information. Not the least interesting of the several truths that are evidenced is the fact that the really active and efficient drugs are universally used not alone by regular practitioners but also by the followers of sectarian teachings or "pathies." On the other hand, it is evident that the literature relating to the use of many of the less well-established drugs is based on observations that are so unreliable, or at least questionable, that the mockery of their continuance as official articles must be apparent to every well-trained medical man.

Education and Preventive Medicine. By N. E. Ditman, Ph.D., M.D. Paper. Price, 25 cents. Pp. 73. New York: Lemcke & Buechner, 1911.

"Great as has been the progress of civilization since the early centuries, there is no advance which compares in its influence on the happiness of mankind with the increased power to lessen physical suffering from disease and accident and to control the spread of pestilence." These are the opening words of this essay, originally printed in the *Columbia University Quarterly* for June, 1908, and now reprinted on account of the demand following an exhausted first edition. This is one of the best of many recent contributions on this subject, and the reprint, undoubtedly, will receive a wide circulation. Many charts and diagrams illustrate the text and a well-selected bibliography appears in the appendix.

Die Röntgenstrahlen in der Gynäkologie mit einem Ausblick auf ihren künftigen Wert für soziale und sexuelle Fragen. Von Dr. Manfred Fraenkel, Charlottenburg. Paper. Price, 7.50 marks. Pp. 255, with 46 illustrations. Berlin: Richard Schoetz, Wilhelmstrasse 10, 1911.

This book contains a complete consideration of the subject of *x*-ray application in obstetrics and gynecology. The work is not only carefully elaborated with respect to every phase of the theme, but also includes a bibliography of the German and French literature. The study begins with a description of animal experimentation, especial reference being given to the atrophic influence of the rays on the ovary. The author then takes up what he considers a rational use of the Roentgen ray in gynecology, applying it with favorable results in such conditions as myomata, menorrhagia and metrorrhagia, dysmenorrhea and associated nervous conditions and endometritis of the hemorrhagic type. Application of the ray in carcinoma is discussed at length in a separate chapter, wherein the author claims certain rather indefinite advantages, particularly in the inoperable type.

The technic of application is described in detail, with abundant illustrations, Fraenkel placing much stress on the method of application as essential to securing desirable results.

In the use of the ray in pregnancy the danger of abortion is carefully pointed out. This is thought to be due to the influence of the rays on the syncytial elements of the placenta whereby this cell structure is destroyed or inhibited in its growth with a resultant separation. The danger of such a change is not, however, so great as has been claimed by certain investigators. The value of the ray in differential diagnosis, in differentiating uterine from extra-uterine pregnancy, in revealing twin pregnancy, etc., is brought out in detail. Fraenkel asserts also that "Roentgen examination" is of definite use in determining the probability of eventual complications where pregnancy coexists with tumors.

A Text-Book of Chemistry. For Students and Practitioners of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M.S., M.D., Medical Analyst and Microscopist. Second Edition. Cloth. Price, $3.25. Pp. 659, with 114 illustrations. Philadelphia: F. A. Davis Co., 1911.

This is the second edition of this text and covers the same ground, but a little more fully, than the first edition. The scope of the book may best be understood from the parts into which the author has divided the material, viz.: "Medical Physics," "Chemical Philosophy," "Inorganic Chemistry," "The Carbon Compounds," "Analysis," "Incompatibility," "Sanitary Chemistry," "Toxicology," "Physiologic and Pathologic Chemistry," and "Clinical Chemistry." The text is intended for students and practitioners of medicines, pharmacy and dentistry, and is arranged and written with that end in view. None of the subjects taken up is considered in great detail, but all are covered so as to give a smattering of the various subjects, corresponding to the brief courses in chemistry given in many medical, dental and even pharmaceutical schools. The appearance in this edition of a chapter on the composition of proprietary remedies is commendable. Next to knowing the fundamentals of chemistry, the knowledge of the chemical composition of medicinal preparations is essential alike to physician, pharmacist and dentist to a scientific or rational pursuance of their several professions.

Reminiscenses of Linda Richards, America's First Trained Nurse. Cloth. Price, $1 net. Pp. 121. Boston: Whitcomb & Barrows, 1911.

In this little book Miss Richards gives an account of the early days of trained nursing in this country and the establishment of training schools for nurses in connection with general hospitals, especially in New England, and the hospitals of Boston. Miss Richards' experiences have been varied, and she describes them in an interesting way. Especially fascinating is her story of her work in a missionary hospital in Japan. The training school which she organized there was at first under the control of the medical missionaries but later passed entirely into Japanese hands. Its graduates, she states, practically organized the Japanese Red Cross, and did good service in the Russo-Japanese war. The book should be of interest not only to nurses but also to physicians, especially those interested in hospital management.

Medicolegal

Constitutionality of Laws Prohibiting Discharge of Sewage Into Streams

(Town of Shelby vs. Cleveland Mill and Power Co. (N. C.), 71 S. E. R. 218)

The Supreme Court of North Carolina says that the defendant contended, as a matter of law, that it could not be restrained from emptying its raw sewage into the river some miles above the intake of the town's waterworks system, because that, prior to the enactment of the statute forbidding it, it had acquired what is called a prescriptive right to do so; that is, had a right acquired by over twenty years' continuous usage, and that consequently the statute, if it was ever intended to apply to such a case, was void to the extent that it undertook to deprive the defendant of a valuable property right without making compensation therefor.

There are authorities to the effect that, as against a private individual lower down on the stream, the right to pollute it to a greater extent than is permissible at common law may be acquired by prescription (long usage) by an upper riparian owner. But the right which the state was seeking to enforce through the statute in question was a public right—a right to protect the health of the people of the state. As against such public rights, prescription cannot run. There is no such thing as a prescriptive right to maintain a public nuisance. It followed that the defendant could not acquire any right by prescription, or otherwise, which would prevent the general assembly of the state, at any time, from exercising its police power to regulate the discharge of sewage into the river.

The issue attempted to be raised by the pleadings that the stream was not dangerously polluted by the raw sewage poured into it from a large mill settlement, working hundreds of operatives, could be of no avail to the defendant. That was a matter for the judgment of the legislature. Such legislation is preventive, and to limit it to cases in which actual injury is shown to have occurred would be to deprive it of its most effective force. To be of value, such laws must be able to restrain acts which have a tendency to produce public injury.

The second proposition of the defendant, that the right to drain its raw sewage into the river could not be taken from it without compensation, necessarily fell with the first. As the defendant could acquire no vested right of the character claimed, there was no taking of property for a public use, and nothing to compensate the defendant for. The state took no right from the defendant, but only described the conditions on which it might use the river for its private purposes.

Notice to Physician Not Notice to Company

(Lumpkin vs. Louisville & Nashville Railroad Co. (Ga.), 70 S. E. R. 1101)

The Supreme Court of Georgia holds that the mere allegation of notice to a physician, employed by a railroad company to treat injured persons, of the filing of a suit for damages, would not alone suffice to show notice to the company; it not appearing that dealing with litigation, or settlements, or the receipt of such notice, was a matter within the scope of the physician's employment. Moreover, special allegations of the petition in this case, by which it was sought to charge that the physician was the agent of the railroad company, whose knowledge would affect the company with notice, were not sufficient for that purpose.

City and Not State Must Bear Expenses of Quarantine

(City of Geneva vs. State (N. Y.), 128 N. Y. S. 470)

The Court of Claims of New York holds that, a theatrical troupe containing a case of small-pox having come to the city, the state department of health having been notified and the secretary of the State Board of Health having advised vaccination and keeping all exposed persons under strict observation until it proved successful, and a medical officer of the board having visited the city and advised quarantine, which was done, that did not make out a case of liability against the state. The city did only what was its bounden duty to do in the premises. It acted as much for its own preservation as for the state's welfare. The statute makes no provision for reimbursement, and the state officials did not even promise to repay. The claim should be dismissed.

Under the public health law, it was the legal duty of the local municipal board of health to report any case of small-pox within the municipality to the State Board of Health. It was also the duty of the municipality to guard against and prevent the introduction of any infectious disease, to enforce the isolation of all persons infected with it or exposed to it, and to provide suitable places for the quarantine and the care and treatment of such persons, and it was provided that these expenses so incurred by the local board of health should be a charge on the municipality. There is no provision in the statute for the reimbursement by the state of individuals or a locality for services rendered or expenses incurred, even under the direction of the State Board of Health.

Increase of Damages by Narcotics Prescribed in Injury Case

(Sumner vs. Kinney (Tex.), 136 S. W. R. 1192)

The Court of Civil Appeals of Texas affirms a judgment for the plaintiff, who brought the action to recover damages for wrongful assault, alleging his injuries to have been serious and that he suffered such pain that he had been obliged to resort to the use of opiates in order to obtain relief therefrom. The evidence showed that the narcotics given were necessary or proper to alleviate existing pain, in accordance with medical direction. The court holds that there was no error in a refusal to instruct the jury that if the plaintiff suffered physical pain and mental anguish, and was compelled to pay out money for medical treatment and the same was the result of the plaintiff's taking to excess narcotics, under the prescription of his medical adviser, or any person, then he would not be entitled to recover anything for the physical pain, mental anguish, and medical treatment, even though the defendant committed an unlawful assault and battery on him. The court says that it is of the opinion that what is done to an injured person in the way of proper medical treatment, applicable to him in his injured state, is attributable to the act causing the injury, as a proximate result thereof.

Good-Will Rights Attach to Practice of Medicine

(Maxwell vs. Sherman (Ala.), 55 So. R. 520)

The Supreme Court of Alabama holds that damages are recoverable for a breach of contract for the sale of the practice and good will of a practicing physician. The court says that while there has been some doubt expressed as to whether the matter of good will, as a property asset, can be applied to the practice of a physician, or other professional man, yet the weight of authority is that the good will of a physician or other professional man is a property asset, subject to disposal, within the limits prescribed, and in the same manner as the good will of any other business, and a breach of the same incurs the same liabilities.

Duty of Carriers to Women Passengers During Menstrual Periods and as to Waiting Rooms—Physical Examinations Cannot be Required

(Brackett vs. Southern Railway Co. (S. C.), 70 S. E. R. 1026)

The Supreme Court of South Carolina affirms a judgment for $200 damages in favor of the plaintiff for exposure during her menstrual period to cold in an unheated waiting-room which resulted in alleged serious and permanent sickness. The court says that it cannot accept the view that the presence of a woman's menstrual period is an abnormal condition, like weakness due to disease, of which the defendant was entitled to special notice. On the contrary, that condition is normal, and must be so regarded and taken notice of by carriers whose duty it is to provide reasonable accommodations for passengers of both sexes. That duty does not extend to making special provision, without notice, for women who are peculiarly delicate or abnormal in their susceptibility to cold in such condition, but it does extend to reasonable consideration and provision for the comfort of healthy women, whose capacity to travel is not materially affected by such condition.

Again, the court says that the public business of carrying passengers is now so controlled by a few persons or corporations that those who travel must of necessity use their stations and waiting-rooms, and with increasing population the number of persons using these stations is constantly on the increase. The arrangement for the comfort and health of all classes of the general public—women and children, the old and the feeble, the ignorant and inexperienced—are under the exclusive control of the carriers, and it seems but reasonable that they should be held to a very high degree of care in providing at their stations for the safety and comfort of those whom they impliedly invite to use their stations and waiting-rooms.

It was not error for the trial court to refuse to require the plaintiff to submit to a physical examination by disinterested physicians.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Yale Medical Journal, New Haven

June, XVIII, No. 1, pp. 1-112

1 Salvarsan in Syphilis. C. S. Stern, Hartford, Conn.
2 *Acute Pyelitis in Infants. W. G. Murphy, Hartford.
3 Treatment of Brain Injuries Associated with Fracture of Base of Skull. P. Watermann, Hartford.
4 *Case of Dermatomyositis. G. Blumer, New Haven.
5 Case of Metastatic Ophthalmitis in Puerperal Sepsis. E. M. Blake.

2. **Pyelitis in Infants.**—The prognosis of pyelitis, Murphy says, depends on the cause of the infection and the time it has continued. In uncomplicated cases the results are generally good. If secondary changes in the kidney have occurred the results are unfavorable. Much depends on the early recognition of the disease.

4. **Case of Dermatomyositis.**—Two years ago Blumer's patient had a mild attack of diphtheria. Two weeks after recovery from the diphtheria she had an attack of jaundice, and in the next few months seven attacks of tonsillitis. After one of the attacks of tonsillitis she had an attack similar to the present one, but confined to the legs below the knees. She had muscle pain, superficial edema and a hemorrhagic eruption over the affected parts. There was swelling of the small joints of the hands with this attack. The present illness is of two months' duration. She first had a bad attack of tonsillitis affecting both tonsils. There was no suppuration and she had home treatment. Soon after recovery she developed soreness of the muscles of the legs so that she was unable to walk. There was marked edema of the overlying skin, and many purpuric spots. Later the arms were similarly involved, and still later the face. There were spots like hives on the arms. There was no fever or at most slight fever at the onset. The face at the onset and long before edema appeared was intensely red for a day or two. Anorexia and constipation were present. When seen the main complaint was the soreness in the muscles and the swelling of the body.

This patient presented the cardinal features of dermatomyositis, pain in the muscles associated with induration and tenderness, edema of the overlying skin and dermatitis on the face in the form of a transient erythema, and on the legs as petechiæ. Points of interest in connection with the case are the following: 1. The family and personal history of asthma and other conditions suggesting hypersusceptibility to horse serum. Meltzer considers asthma a phenomenon of anaphylaxis. What relation may have existed between hypersusceptibility and the dermatomyositis is conjectural. 2. The recurrence of the disease, if the history is to be relied on. Apparently there was a mild attack limited to the legs before the more severe one. 3. The occurrence of both attacks after tonsillitis. In a good many instances this disease has followed infections.

Journal of Indiana State Medical Association, Ft. Wayne

September, IV, No. 9, pp. 359-418

6 Brain Tumor: Study of Twenty-Five Cases. G. W. McCaskey, Ft. Wayne, Ind.
7 Two Cases of Cancer of Prostate. J. Y. Welborn, Evansville, Ind.

Detroit Medical Journal

September, XI, No. 9, pp. 307-344

8 *Two Cases of Atypical Tabes. C. W. Hitchcock, Detroit.
9 Fibrinous Rhinitis. W. Chaney, Detroit.
10 Surgery of Soft Tissues of Hand. H. B. Garner, Detroit.

8. **Atypical Tabes.**—The unusual feature in the first case cited by Hitchcock is the persistence of the knee-jerk in so well-developed a case of tabes. In the second case, the characteristic pains, the Rombergism, the pedal ataxia, the slight impairment of gait, the sensory changes, the characteristic pupils, all point to a tabes, which, however, has affected the gross appearance of the patient uncommonly little.

Ophthalmic Record, Chicago

September, XX, No. 9, pp. 545-598

11 Sphero-Cylinder Trial Lenses. J. N. Rhoads, Philadelphia.
12 Position of Eye the Element of Safety in East Indian Extraction in Capsule. M. Standish, Boston.

Boston Medical Journal

October 5, CLXV, No. 14, pp. 505-544

13 Salvarsan from Clinical Standpoint. H. P. Towle, Boston.
14 Parasitology of Syphilis. H. C. Ernst, Jamaica Plain.
15 Chemistry of Salvarsan. W. F. Boos, Jamaica Plain.
16 Preparation of Salvarsan for Injection. J. Godsoe, Boston.
17 Clinical Observations on Use of Salvarsan, with Special Reference to Its Administration. H. Cabot, Boston.
18 Personal Impressions of Value of Salvarsan. S. Pollitzer, New York.
19 Personal Experience with Salvarsan. A. Post, Boston.
20 *Frequency of Venereal Diseases. Reply to Dr. Cabot. P. A. Morrow, New York.
21 Reminiscence of My Professional Life. D. W. Cheever, Boston.
22 Prognosis in Infantile Paralysis. B. E. Wood, Boston.

20. **Frequency of Venereal Diseases.**—In the present organization of our hospital system in this country the notoriously inadequate provisions made for the reception and treatment of venereal patients are held by Morrow to be a disgrace to our civilization. He says that it is recognized by those who are engaged in the campaign for the prevention of venereal diseases that curative treatment, by sterilizing sources of contagion, constitutes one of the most effective measures of prophylaxis. Prompt curative treatment is not only in the interest of the patients themselves, but especially in the interest of others they might infect. But everywhere we are confronted with this situation: there are no special hospitals for this class of diseases; few general hospitals receive them in the early, curable stage; still fewer have special venereal wards; even the dispensary services are not organized with special adaptation to the needs of venereal cases: few have night classes, and working people who go to the dispensary must lose half a day, which often means the sacrifice of their employment. As a consequence, they resort to quacks or the use of nostrums, they are not cured, but go on spreading the seeds of contagion.

Our hospital authorities are most loyal advocates of the policy of silence and concealment which has always served to cover up the enormous extent and dangers of venereal infection. By the system of nomenclature employed in the records all mention of gonorrhea and syphilis is excluded in thousands of cases indubitably of venereal origin, or presumptively so. It would be impossible for a physician, much less a layman, to obtain any correct idea of the amount of venereal morbidity in a general hospital from the examination of its records. It is only in the hospital records of the Army and Navy departments that gonorrhea and syphilis are always entered under their true names. As regards the venereal peril in our civil population, Morrow says that venereal diseases, viewed in their triple significance as a danger to the public health, a peril to the family, and a menace to the vitality, health and physical progress of the race, are the greatest of modern plagues, and that the prophylaxis of these diseases is the most pressing problem of preventive medicine that confronts us at the present day.

Iowa Medical Journal, Des Moines

September, No. 3, pp. 105-148

23 Tubal Sterilization. L. W. Littig, Davenport.
24 Roentgen Diagnosis. R. D. Mason, Omaha, Neb.
25 Prevention of Tuberculosis. C. J. Whalen, Chicago.
26 Glandular Fever. J. H. Darey, Sioux City.
27 Day at Grand Canyon. A. G. Field, Des Moines.
28 Alcohol in Medicine. W. F. Waugh, Chicago.

Journal of Experimental Medicine, New York

October, XIV, No. 4, pp. 339-444

29 Study of Simultaneous Tracings from the Apex of the Heart and Radial Artery with the Micrograph. A. C. Crehore, New York.
30 Study of Tracings from Region Near Apex of Heart. A. C. Crehore, New York.
31 Distribution and Direction of Motion of Interference Bands of Light Formed by Thin Plates as Thickness of Plate Varies. A. C. Crehore, New York.
32 *Experimental Acute Nephritis: Elimination of Nitrogen and Chlorids as Compared with that of Phenolsulphonephthalein. J. H. Austin and A. B. Eisenbrey, Philadelphia.
33 *Biologic Tests for Adrenalin in Blood, with Observations on Arterial Hypertonus. G. N. Stewart, Cleveland.
34 *Biliary Cirrhosis in Rabbit. M. L. Richardson, Madison.
35 *Optic Thalamus in Relation to Respiration, Circulation, Temperature and the Spleen. E. Sachs, New York.
36 *Method for Quantitative Determination of Bacteria in Feces. H. A. Mattill and P. B. Hawk, Urbana.

32. **Experimental Acute Nephritis.**—The authors found that uranium and cantharidin, in the smallest doses capable of producing a distinct nephritis, tend to increase the elimination of nitrogen, probably by stimulating tissue katabolism. Uranium, cantharidin, and potassium chromate, in larger doses, impair the power of the kidney to eliminate nitrogen; but this may not be evident unless the animal is on a high nitrogen diet, and the impairment, when due to potassium chromate, may not persist more than a day. Small doses of uranium and of cantharidin cause a transient increase of chlorid elimination which corresponds in a general way to the excess of diuresis. Large doses of uranium and of chromate cause a fall, usually transient, in the chlorid elimination. The chlorid elimination may, however, be diminished 40 per cent. for twenty-four hours without evidences of intoxication (vomiting). The anatomic appearance of the kidney varies somewhat with the poison used and greatly with the period of survival after administration of the poison, but bears no definite relation to the nitrogen, chlorid or phenolsulphonephthalein elimination; marked anatomic alteration is compatible with normal elimination of all these substances and with freedom from symptoms of intoxication (vomiting). The decrease in the elimination of phenolsulphonephthalein, which occurs in uranium, chromate and cantharidin nephritides and which, in a general way, is proportional to the dose of the poison, bears no constant relation to the changes in the nitrogen or chlorid elimination. A marked decrease in the elimination of the phenolsulphonephthalein occurs synchronously, as a rule, with the onset of the symptoms of intoxication (vomiting), and therefore the phenolsulphonephthalein test would seem to be a better indicator of the ability of the kidney to eliminate the toxic substance responsible for the symptoms of renal insufficiency than are either the anatomic changes or the elimination of total nitrogen or of chlorids.

33. **Biologic Tests for Adrenalin in Blood.**—The combination of a biologic test object on which adrenalin causes contraction of smooth muscle (perfused blood-vessels or the uterus in certain conditions) with a biologic test object on which it produces inhibition of contraction of smooth muscle (intestine) Stewart says greatly diminishes the chance of error in testing blood (or other body liquids) for adrenalin. A control experiment with adrenalin solutions should, in general, accompany each observation on the blood. When properly chosen biologic tests are employed, no evidence is obtained of the presence of adrenalin in detectable amount in normal blood taken from the general circulation. In a case of nephritis with albuminuria and persistently high arterial pressure, the pressure was diminished by forced breathing. The washing out of carbon dioxid seemed to be a factor in this diminution as well as the mechanical interference with the circulation. In this case, the administration of large doses of sodium bicarbonate was associated with a marked diminution in the blood-pressure. In another case with persistently high blood-pressure, the drawing off of cerebrospinal fluid caused a distinct diminution in the arterial pressure, presumably by lowering the intracranial pressure. No pressor substance was detected in the cerebrospinal fluid.

34. **Biliary Cirrhosis in Rabbit.**—The statement concerning biliary cirrhosis which is commonly found in text-books on pathology is to the effect that obstruction of the bile duct without infection does not lead to cirrhosis of the liver. Richardson found, however, that ligation of the common bile-duct in the rabbit, without demonstrable succeeding infection, results in a cirrhosis of the liver.

35. **Relation of Optic Thalamus to Respiration.**—Sachs failed to find a center controlling respiration in the optic thalamus. He says that any changes in respiration observed on stimulation are reflex effects. The blood-pressure is not governed by any special center in the thalamus; the changes observed are, as a rule, pressor effects. Changes in pulse-rate do not occur from moderate thalmic excitation. There is no center controlling movements of the spleen; all changes are secondary to blood-pressure changes. The difference in respiratory effects noted on the stimulation of the thalamus and central gray matter are in all probability due to the stimulation of different paths going to the medullary centers. The globus pallidus has an entirely different effect on the respiration from the thalamus and hence is connected with a different part of the medullary center. The nucleus caudatus has no connection with the respiratory or circulatory mechanism. The optic thalamus, nucleus caudatus, and nucleus lenticularis contain no centers which on direct stimulation produce changes in temperature.

36. **Quantitative Determination of Fecal Bacteria.** From results obtained by Mattill and Hawk it appears that the amount of bacterial nitrogen in the feces is a valuable index to intestinal conditions, and the method described by them is a simple and satisfactory one for making this determination. It involves three serial centrifugalizations of a 2 gm. sample of the fresh feces brought into suspension in 0.2 per cent. hydrochloric acid. The bacterial suspension finally obtained is concentrated and extracted by alcohol, and nitrogen is determined in the precipitated material. The complete data on a given stool can be obtained in about five days, and one operator can take care of three or four stools in duplicate in one day. On an absolutely uniform diet of simple and easily digested food during a period of three to four weeks, the average amount of bacterial nitrogen in two subjects was found to be 53.9 per cent. of the total fecal nitrogen, and this percentage, though higher than that obtained by workers heretofore, is probably more nearly a true value for bacterial nitrogen, because no ether extraction was employed. The average daily amount of dry bacteria, calculated on the basis of the nitrogen values, is 8.27 Gm.

Therapeutic Gazette, Detroit

September 15, XXXV, No. 9, pp. 609-684

37 Modern Surgical Treatment of Non-Strangulated Inguinal Hernia. C. W. Bonney, Philadelphia.
38 Hypodermic Use of Mercury in Treatment of Syphilis. W. D. Bieberbach, Worcester, Mass.
39 Acute Nephritis Following Intravenous Injection of Salvarsan. H. Tucker, Philadelphia.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

October 1, XXXI, No. 19, pp. 455-480

40 *Empyema of Gall-Bladder. B. A. Bobb, Mitchell, S. D.
41 Surgery of Gall-Bladder and Its Accessory Ducts. G. G. Cottam, Sioux Falls, S. D.
42 Treatment of Purulent Pleurisy. N. O. Ramstad, Bismarck, N. D.
43 *Nasal Catarrh, Neuralgias, Headaches and Other Symptoms Arising from Unsuspected Ethmoiditis. F. C. Todd, Minneapolis.

40. **Empyema of Gall-Bladder.**—Bobb does not believe that it is not necessary, as a rule, to remove the gall-bladder in these cases of empyema; drainage, if the mucosa is not all destroyed, being sufficient. He regards all cases of empyema of the gall-bladder as necessarily surgical, and suggests that if more cases of simple cholecystitis were operated on it would save the larger mortality that is obvious in empyema.

43. **Symptoms Due to Unsuspected Ethmoiditis.**—According to Todd it not infrequently happens that the antrum acts as a reservoir for the pus which originates in the ethmoidal or frontal cells, and hence efforts to cure an antrum abscess, without first curing the ethmoidal or frontal sinus abscess, prove futile, while, conversely, the curing of the latter will usually result in cure of the antrum disease without any attention being directed to the antrum itself.

Wisconsin Medical Journal

September 10, No. 4, pp. 183-242

44 *Essentials and Non-Essentials in Physical Diagnosis. R. C. Cabot, Boston.
45 Exophthalmic Goiter (Hyperthyroidism). L. F. Jermain, Milwaukee.
46 Salvarsan in Syphilis. O. H. Foerster, Milwaukee.

44. Abstracted in The Journal, July 22, 1911, p. 314.

New Orleans Medical and Surgical Journal

October, 64, No. 4, pp. 259-333

47 *Gall-Bladder and Biliary Tract an Available Therapeutic Route to Upper Bowel. R. Matas, New Orleans.
48 Syphilis of Liver. C. L. Eshleman, New Orleans.
49 Case of Extrauterine Pregnancy. H. W. Kostmayer, New Orleans.
50 Recent Advances in Local Anesthesia. C. W. Allen, New Orleans.
51 *Obstinate Pruritus Cured by Excision of External Organs of Generation. C. G. Cole, New Orleans.

47. Abstracted in The Journal, Jan. 14, 1911, p. 141.

51. **Treatment of Pruritus.**—After all local and constitutional measures had failed to give relief to a woman, 33 years old, Cole removed the clitoris and its prepuce, part of the mons, the labia minora, part of the vestibule, and the integument from the inner aspect of the labia majora. On examination the inner surfaces of the labia majora were found to be whitish in character and the epidermis very much thickened, the labia minora not prominent, and the clitoris was almost completely concealed beneath the prepucial tissues, which were white, indurated and very much thickened. Further from the center of involvement the surface had a reddish, shiny appearance, and some small ulcerative areas were present, with marked manifestation of undue manipulation of the parts excited by unbearable itching. The symptoms were immediately relieved. The wound healed by primary union. Four months have elapsed, with no return of symptoms, and the patient feels much elated with her condition.

Proctologist, St. Louis

September, V, No. 3, pp. 113-172

52 Proctology in Undergraduate Medical School. B. J. Dreyfuss, New York.
53 Proctologic Education in Undergraduate University Medical School. R. H. Barnes, St. Louis.
54 Delimination of Rectum and Its Subdivisions. F. W. Jones, England.

American Journal of Diseases of Children, Chicago

October, II, No. 4, pp. 221-291

55 *Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylyania. S. G. Dixon, Harrisburg.
56 *Relationship of Gastric to Pancreatic Fat Digestion in Infants. J. P. Sedgwick and F. W. Schultz, Minneapolis.
57 Hippuric Acid in Urine of Normal Breast-Fed Infants. S. Amberg and J. H. M. Knox, Jr., Baltimore.
58 Acid Control of Pylorus in Infants. D. M. Cowie and W. Lyon, Ann Arbor.
59 *Relation of Meat Ingestion to Indicanuria in Children. E. C. Fleischner, San Francisco.
60 *Treatment of Chronic Nephritis in Children by Edebohl's Operation. H. Koplik, New York.

55. **Acute Poliomyelitis in Pennsylvania.**—Out of 773 cases of poliomyelitis studied carefully by the department of health of the state of Pennsylvania, fifty-nine gave a distinct history of exposure to previous cases. Nationality seemed to play no particular part in this disease, the vast majority of those contracting poliomyelitis being American-born. Out of this series of cases 437 were males and 336 were females. But three of the colored race (two males and one female) sickened. In forty-four instances secondary cases developed in the household. Other acute illnesses two months prior to the development of infantile paralysis seemed to show but little influence. Great exposure to heat, cold and dampness was noted in comparatively few instances. A total of thirty patients are reported to have met with some minor accident a short time previous to the onset of poliomyelitis. Over-exertion was reported in only twenty-eight cases. In a few instances (thirty-four) evidence of insect bites was noted.

In this series of 733 cases, 142 patients (18.4 per cent.) recovered without paralysis and 294 (71.6 per cent.) recovered with considerable residual paralysis. Housing conditions show that in 149 instances the individual sickened in a large home; in 219 instances in a medium-sized home, and in 164 instances in a small dwelling. When classified with reference to the number of members of the household the tabulation shows two instances in a family of one; thirteen in a family of two; eighty-six in a family of three; 154 in a family of four; 121 in a family of five; ninety-five in a family of six; sixty-two in a family of seven; thirty-three in a family of eight; twenty-three in a family of nine; twenty-three in a family of ten and over. These figures establish the fact that the danger of transmission from one member of the household to another member of the same household is not great. In 289 instances children slept in the same bed-room, only twenty-four contracted the disease.

In nine instances the disease developed in children after having visited communities where this disease was known to be prevalent. In five cases the possibility of transmission through a second individual seemed probable. In many histories rats were reported on the premises. Field mice were frequently found. Unusual insects were reported in eighteen instances.

In examining the blood from acute cases of poliomyelitis in human beings, and also in monkeys in which the disease was produced experimentally, an organism was found different in morphologic characteristics from any heretofore described. Blood-smears being fixed in methyl alcohol for one minute and stained with carbol-thionin, show the organism as a faintly-stained blue rod with regular cell wall about 10 microns long and about 8 microns in width, curved at an angle of 60 to 75 degrees at one end, occasionally at both ends. At times, the curved end is bulbous. Some of the organisms appear to have a very finely granular protoplasm when the highest amplification is employed. They may be discerned by means of a 4 mm. dry objective but their characteristics are much more satisfactorily delineated under the 1/12 oil-immersion lens. They are found free in the serum as well as within the body of the red blood-cell. The organisms do not retain the violet color when stained by the method of Gram but assume the color of the counter stain which, as generally used in this laboratory, is a very dilute solution of carbol-fuchsin.

The bloods examined were from ten different cases of acute poliomyelitis in children, and from thirteen cases of the disease during the acute stage, which had been produced experimentally in as many monkeys. Blood-smears from three normal human beings were carefully examined and although the search for these organisms was diligently made, none was found. Smears were made from the blood of thirteen normal monkeys with negative results. After inoculation with the virus these same monkeys gave positive results. The blood of other normal monkeys gave negative results. Blood-smears were stained with iodin and sulphuric acid in order to test the organisms for cellulose, but no blue stained organisms were seen. Smears from the cords and brains of paralyzed monkeys, and from one human case were examined, but none of the new organisms was found. Filtered virus stained with carbolthionin and by Gram's method showed none of these organisms. Defibrinated blood, three weeks to two months old, from two paralyzed monkeys, showed the forms in increased numbers. Cultures made from the blood of a paralyzed monkey, in blood bouillon, plain bouillon and blood-agar, examined after having been inoculated three weeks, showed the presence of the organism in increased numbers. Dorsett's egg medium was inoculated with the same blood at the same time but the organism was not found in smears from the surface of the medium or from the water of condensation. Experiments on the production of poliomyelitis in monkeys by using this organism are in progress.

56. **Gastric and Pancreatic Fat Digestion in Infants.**—The authors conclude that the neutralization of the fat gastric digestion does not end the function of the gastric lipase of the dog or infant. Whether the effect shown is a summation of, or a relationship between, the actions of the two ferments, preparatory or activating, their experimental results do not permit them to state with certainty. They believe it to be justifiable, however, to conclude that the function of the gastric lipase of the infant is not ended when the gastric contents pass the pylorus and are neutralized in the duodenum.

59. **Meat Ingestion and Indicanuria in Children.**—The following is a brief resumé of the results obtained by Fleischner: With an ordinary diet containing meat once daily, children 6, 9 and 12 years old succeed in digesting their food fairly well without much putrefaction in the intestinal tract. Three-year-old children, on the other hand, with the same diet are much more apt to show indicanuria. The giving of meat twice daily produces in 9- and 12-year-old children practically no change in the amount of intestinal putrefaction. In 6- and even more markedly in 3-year-old children meat given twice daily gives rise to a decided increase in the indicanuria and is a cause of pronounced intestinal putrefaction. As limited as these observations may be, they seem to point to one definite conclusion, and that is that the giving of meat more than once daily to children under 9 years of age is a practice conducive to intestinal putrefaction and indicanuria, and is to be deprecated on account of the harm resulting to the organism from the constant presence of abnormal products of putrefaction.

60. **Treatment of Chronic Nephritis in Children.**—The five cases cited by Koplik seem to have strengthened his belief in the efficacy of this operation.

Journal of Oklahoma State Medical Association, Muskogee

October, IV, No. 4, pp. 173-219

61 Chronic Ulcer of Duodenum. H. Reed, Oklahoma City.
62 Roentgen Ray a Solution of Some Fracture Problems. E. S. Lain, Oklahoma City.
63 Wassermann Reaction: Its Principles and Technic. C. J. Fishman, Oklahoma City.
64 Diagnosis and Treatment of Congenital Syphilis. L. J. Moorman, Oklahoma City.
65 Injuries of Eyeball and Its Appendages. E. F. Davis, Oklahoma City.
66 Scarlet Fever: Etiology of Its Sequelæ. L. E. Andrews, Oklahoma City.
67 Emphysematous Gangrene of Uterus, Bladder and Rectum. J. W. Riley, Oklahoma City.

Maryland Medical Journal, Baltimore

October, 54, No. 10, pp. 283-308

68 *Neuritis Puerperalis. I. J. Spear, Baltimore.
69 Three Cases Illustrating Less Usual Types of Poliomyelitis. T. A. Williams, Washington, D. C.
70 University Hospital Laboratory Report on Wassermann Reaction. H. J. Maldeis, Baltimore.
71 Some Tendencies in Medical Education in United States. L. F. Barker, Baltimore.

68. **Neuritis Puerperalis.**—Two cases are reported by Spear. In the first case there is a history of a very probable multiple neuritis complicating a pregnancy that occurred five years ago. In this attack it is perfectly possible to exclude all forms of exogenous toxemia, trauma, infectious diseases, etc. This woman was desperately ill from her hyperemesis gravidarium, and had a typical multiple neuritis. The institution of the proper treatment for the hyperemesis gravidarium with only slight treatment directed toward the multiple neuritis resulted in a prompt and perfect recovery. In the second case the patient had all the signs and symptoms of a severe case of multiple neuritis, with marked disturbance of memory for recent events, presenting a typical picture of Korsakow's disease. From a very careful inquiry of her surroundings, habits, etc., chronic alcoholism could be excluded absolutely. Korsakow's syndrome can be caused by some other toxin than alcohol.

Mississippi Medical Monthly, Vicksburg

October, XVI, No. 6, pp. 107-126

72 Cause and Treatment of Uterine Hemorrhage. S. A. Eggleston, Lexington.
73 Surgery of Appendix Vermiformis. J. W. Barksdale, Winona.
74 Acute Parenchymatous Nephritis. J. O. Gurney, Tupelo.
75 Several Lists for Obstetric Use. S. Myers, Vicksburg.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

September, XIV, No. 9, pp. 513-576

76 *Bromatotherapy. H. W. Wiley, Washington, D. C.
77 *Dioxydiamidoarsenobenzol (Salvarsan) as Patented Product. F. E. Stewart, Germantown, Pa.
78 Administration of Tuberculin in Pulmonary Tuberculosis. F. N. Robinson, Monrovia, Cal.
79 Practical Hearing Tests. H. O. Reik, Baltimore.
80 *Active Immunization with Respect to Micrococcus Aureus in Animals Completely Pancreatectomized. B. A. Thomas and M. MacPhail, Philadelphia.
81 Spleen and Chronic Constipation and Preliminary Note on Pineal Gland and Corpus Luteum. I. Ott and J. C. Scott, Philadelphia

76 and 77. Abstracted in The Journal, June 3, 1911, p. 1676.

80. **Active Immunization in Animals.**—Complete extirpation of the pancreas must necessarily result in profound disturbances of metabolism, but it was thought by the authors that notwithstanding such disturbances a very definite relation might still be shown to exist in the diminished resistance which such a pancreatectomized animal would present to bacterial infection. Ten dogs were used in the experiments. No. 1 was used as the index of unity, for obtaining leukocytes and normal serum in the determination of the opsonic indices. Nos. 2 and 3, which were neither pancreatectomized nor inoculated, were used as normal controls. Nos. 4 and 5 were not pancreatectomized, but were inoculated; these they called controls. The remaining five dogs were pancreatectomized. The opsonic indices of all of the ten animals were determined according to Wright's method previous to and five days subsequent to the operations, and thereafter at seven-day intervals for a period of six weeks. The organism used in obtaining the indices and for the preparation of the bacterin was the same strain of *Micrococcus aureus*. In ascertaining the indices, there were counted in each case 100 leukocytes with their bacterial contents.

Five days after the opsonic indices of all animals were determined. Dog 7 died six days after the operation. One pancreatectomized dog, No. 10, was not given an inoculation, but was used as a control. One week subsequent to the operations the remaining pancreatectomized animals, Nos. 6, 8 and 9, and the two controls, Nos. 4 and 5, were inoculated with a sterilized suspension of the *Micrococcus aureus*, the dose in each case being 400,000,000 bacteria. No. 8 died five days after the inoculation, so that in this case also the authors were unable to obtain more than one index. Two more inoculations of the sterilized bacterin were given at seven-day intervals, each dose being increased by 200,000,000 and 400,000,000, respectively, and the opsonic indices determined after the time the positive phase should have been reached. Four weeks after the operations and one week subsequent to the last inoculation of the sterilized bacterin, two injections of live cocci were given in respective doses of 150,000,000 and 225,000,000 at seven-day intervals. The authors were unable to give more than two inoculations of the live organisms to the pancreatectomized animals, as they died six weeks after the operations; but the controls, Nos. 4 and 5, received seven inoculations in all, of the live becterin, at seven-day intervals, each dose being increased by 75,000,000, thus bringing the last dose up to 600,000,000. Subsequent autopsy in the operative cases proved that the entire pancreas had been removed in each one. Urine was collected and tested for sugar with positive results; tests for acetone also were positive.

They have drawn several conclusions: 1. The gradually declining indices of the pancreatectomized dogs, inoculated and non-inoculated, as contrasted with the practically even index curves of the normal controls, show a diminution in the mechanism for the production of immunity, since the index curves of the two dogs which received bacterins show no pronounced difference from that of the animal which did not. 2. A comparison of this almost regular decline with the gradual rise of the indices of the non-pancreatectomized, but inoculated, animals would seem to indicate that the production of this protective mechanism depends, at least in part, on the functional activity of the pancreas. 3. The fact that the index curve in dog 10, which was not inoculated, differs so slightly from those of the pancreatectomized and inoculated dogs would furnish an explanation, in part, of the liability of diabetics to staphylococcus infection, as evidenced by the frequency of boils and carbuncles in such cases. A study of the curves in animals 4 and 5 would seem to show that in a normal healthy animal a more pronounced immunity may be obtained by the use of a sterilized bacterin.

Journal of Arkansas Medical Society, Little Rock

August, VIII, No. 3, pp. 67-101

82 *Correlation of Diseases of Kidneys, Heart, Digestive Tract and Organs of Respiration. E. G. Epler, Fort Smith.
83 *Syphilis and Problems in Its Prevention. E. Myers, Fort Smith.

84 Treatment of Syphilis with Salvarsan. H. P. Collings, Hot Springs.
85 *Symmetrical Gangrene. W. R. Bathurst, Little Rock.
86 Treatment of Syphilis with Salvarsan. L. O. Thompson, Little Rock.

82, 83 and 85. Abstracted in The Journal, July 8, 1911, pp. 156 and 157.

Archives of Pediatrics, New York

September, XXVIII, No. 9, pp. 721-800

87 *Ready Method of Calculating Milk Formulas of Various Percentages and Caloric Value of Same. L. E. Holt, New York.
88 *Hospitals for Care of Infants and Children and Methods of Prevention of Infection. H. Koplik, New York.
89 Ward Improvements; Crib Warmer; Management of Carriers; Prevention of Epidemics. W. P. Northrup, New York.
90 Ward Problems. F. Huber, New York.
91 Management of Pediatric Service in General Hospitals. J. F. Bell, Englewood, N. J.
92 *Surgical Management of Acute Abscesses of Lymph-Nodes in Infancy. T. S. Southworth, New York.
93 *Treatment of Furunculosis in Children by Bacterial Vaccines. C. L. McDonald, Cleveland, Ohio.

87. **Method of Calculating Milk Formulas.**—Starting with the belief that in practice it is unnecessary that the percentage of fat should ever be more than twice that of the protein. Holt has found it easy to construct a table by which a series of formulas can be obtained in which the fat may be as high as twice the protein, and as low as only a little more than one-fourth the protein, with all the variations between these extreme limits. The first step is to secure milks which contain different fat percentages: 7 per cent. of fat, 6 per cent., 5, 4, 3, 2 and 1 per cent. How this is done from 1 quart bottle of milk which has 4 per cent. of fat, and one which has 5 per cent. of fat is shown in the following table:

1 ounce milk sugar by weight in 20-ounce mixture adds 5 per cent.
1 ounce milk sugar by volume in 20-ounce mixture adds about 3 per cent.
1 even tablespoonful in 20-ounce mixture adds 1.75 per cent.

Every ounce of 7 per cent. milk in a 20-ounce mixture will add 1/20 of 7 per cent., or .35 per cent. of fat; every ounce of 6 per cent. milk will add .30 fat; every ounce of 5 per cent. milk will add .25 fat, etc. Every ounce of each of these milks will also carry with it .175 per cent. of protein and .225 of sugar. In the case of a young infant for whom .70 per cent. of protein is proper, 4 ounces of milk in 20 ounces of food will be required. If this 4 ounces is of 7 per cent. milk the food will have 1.40 per cent. of fat; if it is 6 per cent. milk the food will have 1.20 fat; if 5 per cent. 1.00, etc. To raise both the fat and the protein proportionally the next increase would be to use 5 ounces of 7 per cent. milk in 20 ounces of food; later 6 ounces in 20; 7 ounces in 20, etc., etc.

To raise the protein above .70 but without increasing the fat, this can be done by using 1 ounce more of milk in 20, but of the series containing the next lower fat; e. g., 5 ounces of 6 per cent.; 6 ounces of 5 per cent.; 7 ounces of 4 per cent., and 9 ounces of 3 per cent., all give approximately the same fat while the protein is raised successively from .70 to .85, 1.05, 1.20 and 1.60 per cent. In calculating the sugar percentage it is necessary only to see how much must be added to that already in the milk to bring it up to the percentage desired, remembering that:

	From 4 Per Cent. Milk.	From 5 Per Cent. Milk.
To obtain 7 per cent milk use	upper 16 oz.	upper 20 oz.
To obtain 6 per cent. milk use	upper 20 oz.	upper 24 oz.
To obtain 5 per cent. milk use	upper 24 oz.	all
To obtain 4 per cent. milk use	all	remainder after skimming off 2 oz.
To obtain 3 per cent. milk use	remainder after skimming off 2 oz.	remainder after skimming off 3 oz.
To obtain 2 per cent. milk use	remainder after skimming off 4 oz.	remainder after skimming off 5 oz.
To obtain 1 per cent. milk use	remainder after skimming off 8 oz.	remainder after skimming off 8 oz.

When more than 20 ounces of food is to be made up one should add for 25 ounces one-quarter more of each ingredient; for 30 ounces one-half more; for 40 ounces twice as much, etc. In order to calculate the caloric value of the food quickly it is only necessary to note the number of ounces of the milk used in the formula, multiply this by the caloric value of 1 ounce, and add the caloric value of the sugar or barley used in the formula.

88. Abstracted in The Journal, July 8, 1911, p. 152.

92. **Surgical Management of Acute Abscesses.**—Southworth says that in the common acute type of glandular suppuration in infancy and early childhood suppuration is not diffuse, but more or less limited by the line of the distended capsule of the gland. The infection having been rounded up and brought under control by the sacrifice of the parenchyma of the gland, Nature seeks as speedily as possible to evacuate the pus and detritus. Therefore, in incising such abscesses do not check a destructive process by heroic measures, but give just the requisite amount of aid to complete a conservative process. When this is accomplished, restitution of the surrounding tissues proceeds with the greatest rapidity.

93. **Treatment of Furunculosis in Children.**—In the past three years McDonald has treated twenty-eight cases in children varying in age from 2 months to 3 years with bacterial vaccines including those with a few scattered furuncles here and there to cases in which they were so large and numerous that it was difficult to find a spot not infected for the passage of the hypodermic needle. The staphylococcus aureus and albus were the causative organisms in all cases. The average initial dose was 25,000,000 staphylococci. Some cases received as high as 150,000,000 without untoward results. The average number of inoculations per patient were three, spaced seven days apart. In three cases there was light redness and swelling at the point of inoculation, which subsided in two or three days. It was not an uncommon occurrence for a fresh crop of furuncles, usually small in size, to appear two or three days after the first inoculation. This, however, did not follow subsequent inoculations.

American Medicine, Burlington

September, VI, No. 9, pp. 447-504

94 Treatment of Chronic Nephritis. G. F. Butler, Wilmette, Ill.
95 Cocainism. G. C. Biondi, New York.
96 Status of Pathology in Medical Science of Modern Times. L. Koempel, Brooklyn.
97 Cryptogenetic Metastatic Uveitis. H. Friedenwald, Baltimore.
98 Modern Treatment of Tuberculosis. O. L. Mulot, Brooklyn.
99 Case of Congenital Syphilis in Infant Treated by Administration of Salvarsan to the Mother; Result Unsuccessful. A. L. Wolbarst, New York.
100 Traumatic Hypnotism. A. MacDonald, Washington, D. C.
101 Vaccine Therapy in Gonorrhea. J. S. Read, Rochester, N. Y.
102 Old Age and Nuclein. W. F. Waugh, Chicago.
103 Vegetable and Fruit Foods. E. Lee, New York.

Medical Record, New York

October 7, 80, No. 15, pp. 709-758

104 *Bacillus Coli Infection of Urinary Tract. R. M. Rawls, New York.
105 *Four Cases of Chronic Dysentery Non-Amebic in Nature. A. Bassler, New York.
106 New Thermo-Therapeutic Method in Gynecologic Cases. S. Flatau, Nuremberg, Germany.
107 Masters of Medicine as Exponents of Medical Ideals. W. B. Konkle, Montoursville, Pa.
108 Treatment of Tetanus. J. N. Henry, Philadelphia.
109 The Strenuous Life. I. L. Nascher, New York.
110 Operation for Hypospadias: Its Present Status. E. C. Beck, New York.
111 Case of Congenital Cavernous Angioma of Neck. A. J. Gilmour, New York.
112 New Hysterectomy Clamp. H. Crutcher, Roswell, N. M.

104. **Bacillus Coli Infection of Urinary Tract.**—During the past two years Rawls has observed quite a number of colon bacillus infections of the urinary tract. He is convinced that in a certain percentage of adults, even in health, the *B. coli* is taken up by the lymphatics and blood-vessels of the intestines and deposited by the blood-current in the kidneys. The number and virulence of these microorganisms depend on the intestinal disturbance and the particular strain present. The greatest predisposing cause of *B. coli* infection of the urinary tract, in his opinion, is anything that interferes with a free secretion of urine or causes any back pressure in the urinary tract. The earliest symptoms of such infection of the urinary tract are apt to be mistaken for those of a mild cystitis, whereas the real site of infection is most often higher up in the urinary tract and of more serious pathologic import. With greater care in diagnosis, Rawls says, we will find that *B. coli* infections of the urinary tract are likely to be mistaken for other acute conditions, such as appendicitis, malaria, intestinal indigestion, toxemia of pregnancy, ether nephritis, and acute and chronic nephritis. This is especially true of postoperative gynecologic cases.

105. **Chronic Dysentery Non-Amebic in Nature.**—Observation of four cases has convinced Bassler that there is a chronic form of dysentery due to the *B. coli communis*, and that these cases are not uncommon in the temperate climates. The form of infecting organisms does not correspond to the Shiga or the mannite-fermenting types, and that they are not possible of differentiation from the known forms of *B. coli communis* of high virulence. The serums from Bassler's cases strongly agglutinated the organisms obtained from that person and more definitely than they did the strains of *B. coli communis* ordinarily obtained and used in laboratory observations. The organisms existed in large numbers in the lower intestinal tract of the patients, mostly in the mucus, and that they are capable of destruction of tissue locally with the production of ulcers and then living within the tissue of the gut wall in the bases of them. In the etiology of these cases Bassler says we are dealing either with a definite organism of the *B. coli* group, or with *B. coli communis* of a high virulence, strongly hemiparasitic in nature and from which the aggressin production is overwhelming and against the effects of which in susceptible individuals the body cannot resist local tissue infection.

Louisville Monthly Journal of Medicine and Surgery

October, 18, No. 5, pp. 129-160

113 Cases Illustrating Some Phases of Cholecystitis. L. Frank, Louisville, Ky.
114 Transverse Myelitis at First Lumbar Level, Ushered in by Intense and Prolonged Testicular Pain, Due to Poliomyelitis. T. A. Williams, Washington, D. C.
115 Dangers of Tonsil Dissection. A. O. Pfingst, Louisville.
116 European Travel Notes. A. Schachner, Louisville.
117 Atypical Diphtheria. Atypical Scarlatina. H. E. Tuley, Louisville.

New York Medical Journal

October 7, XCIV, No. 15, pp. 713-764

118 Nauheim Treatment of Chronic Disease of Heart. J. M. Swan, Watkins, N. Y.
119 *Surgical Consideration of Carcinoma of Stomach. J. F. Erdmann, New York.
120 Roentgen-Ray Diagnosis of Ulcer of Stomach and Duodenum, Embracing Seventy-five Cases. H. Adler and H. E. Ashbury, Baltimore.
121 Fatal Vasomotor Gangrene. R. N. Willson, Philadelphia.
122 Music as Therapeutic Agent. J. Knott, Dublin, Ireland.
123 Case of Partial Tremulous Scrivener's Palsy. T. A. Williams, Washington, D. C.
124 Indications in Psoriasis. F. C. Curtis, Albany, N. Y.
125 *Achroodextrin Saturation Test. H. Weinstein, New York.

119. **Cancer of Stomach.**—Erdmann has done fourteen partial gastrectomies with pylorectomies during the past two years. Of these, one was for a marked induration with ulcer, one in a case accompanied by transverse colectomy, and another in which a removal of the greater portion of the transverse colon was necessitated by injury to the colica media. The others were typical operations of this class. The ages varied from 28 years in a male, with infiltrating carcinoma implanted on a saddle ulcer, to 68 years, in a male in whom the entire transverse colon was removed. In addition to these fourteen he has done a partial gastrectomy with plastic repair in a male for sarcoma of the greater curvature. Of the fourteen gastrectomies the two complicated with colectomy ended fatally, and two of the typical excisions were also fatal, giving a mortality in the typical, noncomplicated cases of three deaths out of thirteen, including the one of injury to the transverse colon as a typical one or 23 per cent. One of the patients in the typical cases did very well until his seventh day, when he refused food, practically starving to death. The other death was due to taking an undue hemoglobin risk, the percentage being well below forty. Death followed in thirty-six hours.

As for the after-care: Erdmann has never hesitated to give these patients water a few hours after the operation. They are placed in the semisitting position as soon as they are in bed. After the first six to twelve hours nourishing liquids, usually albumin water or broths, are given; then milk. On the third day soft foods, and from the fifth to the seventh day creamed potatoes, spinach, and thoroughly masticated meats are allowed. In fact, the patient craves fluids and food, and these are rushed in small quantities frequently given. The patients are allowed to be out of bed about the fourth day, all things being equal, and walk about, from the seventh to the tenth days. Erdmann agrees with Rodman that, when the stomach is exposed and a marked induration is found even if we are satisfied that it is due to ulcer, an excision of the ulcer bearing area is the operation of choice and necessity.

125. **Achroodextrin Saturation Test.**—Summing up his clinical experience Weinstein concludes that achroodextrin and erythrodextrin are both frequently found in hyperchlorhydria, and amylodextrin may be absent. In normal secretion there may be no erythrodextrin, but small quantities of achroodextrin and a preponderance of amidulin may be found. Even in subacidity there may be no erythrodextrin, while achroodextrin and amidulin may both be present. All the dextrins may frequently be demonstrated in the filtrate, irrespective of the secretory condition, excepting anacidity. Achroodextrin and maltose are almost always present in the filtrate. From these results it would appear that some other factors, besides the state of secretion, play an important rôle in influencing the amylolytic process in the stomach. The examinations were confined solely to the aspirated stomach contents after an Ewald test breakfast. Realizing the coarseness of the test usually employed, Weinstein experimented with various dilutions of iodin until he decided on a 1 per cent. alcoholic solution of iodin as the most convenient reagent. He based his test on the property possessed by achroodextrin to absorb iodin without giving rise to a color reaction. As soon as all the achroodextrin in the solution has become saturated, the characteristic color reaction of the preponderating dextrin appears. Weinstein terms it the achroodextrin saturation test. The test is both qualitative and quantitative in character, and although the quantitative phase is not absolute it possesses some value for comparative purposes. The mode of procedure is a follows: To 5 c.c. of the filtrate the reagent is added drop by drop, all the while agitating the mixture, until a decided discoloration takes place. If the color reaction is faint, the number of drops requisite for its production constitutes the saturation index for achroodextrin; if intense, one drop below the number required for its production is to be taken as the index. The result is then computed in 100 c.c. If amylodextrin is present in the solution, the color reaction obtained is a faint blue, which deepens as the reagent is added drop by drop. If no change takes place from the violet blue color, there is no other dextrin in the solution. In the presence of erythrodextrin, however, the end reaction of amylodextrin is a mahogany brown color. In the absence of amidulin the color is reddish or brownish from the very beginning. There is then no need going any further, as this color change precludes the presence of amidulin. The quantity of erythrodextrin is in inverse ratio to the depth of color. It is of no practical advantage to determine the quantity of erythrodextrin, aside from its being extremely difficult to determine its end reaction.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 16, No. 2646, pp. 593-648

1 *External Polypoid Tumors of Stomach. J. Sherren.
2 *Management of Epidemic Summer Diarrhea and Vomiting, Including Use of Saline Injections. H. K. Waller and G. Walker.
3 *Case of Pleural Tuberculosis with Large Effusion. E. C. Carter.
4 *Detection of Tubercle Bacilli in Sputum. F. W. Eurich.
5 Nutritive Value of Flours. M. Flack and L. Hill.
6 Case of Septic Pneumonia Caused by Hatpin. L. C. V. Hardwicke.
7 *Some Circulation Factors Admitting of Easy Measurement. A. Haig.
8 *Presence of Valves in Veins of Portal System. D. P. D. Wilkie.
9 *Action of Ileo-Psoas Muscles. A. MacLennan.
10 Achondroplastic Skeleton. L. Graham.
11 Effect of Iso-Osmotic Solutions of Various Salts on Isometric Curve of Frog's Muscle. E. W. Carlier.
12 Physiology of Some Allyl Compounds. E. W. Carlier.
13 Some Physiologic Observations on Men Wearing Mine-Rescue Apparatus. D. F. Harris.
14 Tetrachromic Vision. F. W. Edridge-Green.
15 *Nutritive Effects of Beef Extract. W. H. Thompson, W. Caldwell and T. A. Wallace
16 Some Notes on Variation. R. J. Anderson.

September 23, No. 2647, pp. 649-716

17 Treatment of Severe Talipes. R. P. Rowlands.
18 Case of Wry-Neck Following Infantile Paralysis. F. Hernaman-Johnson.
19 Four Hundred Cases of General Anesthesia Preceded by Scopolamin. F. Rood.
20 Brighton United Twins (Pygopagi). J. A. Rooth.
21 Treatment of Syphilis by Salvarsan. C. H. Browning and I. McKenzie.
22 Salvarsan in Leprosy. F. A. de Verteuil and F. L. de Verteuil.
23 *Merits of a Relatively Low Protein Diet. R. H. Chittenden.
24 Scope of Normal and Immune Serum in Treatment. T. J. Horder.
25 Continuous Antiseptic Inhalation in Treatment of Pulmonary Tuberculosis. C. Muthu.
26 Recent Developments in Recognition and Treatment of Syphilis. J. E. Lane, L. W. Harrison and J. E. R. McDonagh.
27 Use of Salvarsan in Syphilis. T. W. Gibbard and L. W. Harrison.

1. **External Polypoid Tumors of Stomach.**—Sherren describes pedunculated growths springing from the stomach, usually originating from its posterior surface near the greater curvature. They grow into and often become intimately adherent to the lesser peritoneal sac. In a few instances they have sprung from the lesser curvature and grown between the layers of the gastrohepatic omentum. These tumors are met with more often between the ages of 35 and 55, and are more common in women. Sherren has been able to collect eighteen cases in which the sex was mentioned; thirteen were women. The characteristic feature of a case of this nature is the discovery of a tumor in the upper or mid-abdomen in a patient whose chief or only complaint is abdominal discomfort. Occasionally the presence of an abdominal swelling is the only thing noticed. The tumors are smooth and rounded, often cystic and movable from side to side. In a woman the diagnosis of an ovarian tumor is almost inevitable if the tumor is large and fills the mid and lower abdomen. Operations were undertaken with this diagnosis in several cases.

Tumors of this type have certain features in common; they are mesoblastic in origin, and usually form polypoid masses hanging from the greater curvature of the stomach into the lesser sac, to which they become adherent. Their exact nature is only discovered on microscopic examination. They are usually malignant, and may start in the submucous, muscular or serous coats, but do not involve the mucous membrane. When originating in the first and last situations they are always malignant, but tumors described as myomata may grow from the muscular coat and present no sign of malignancy. In other cases with similar microscopic characters secondary deposits have been found—leiomyomá malignum. Thus in fourteen recorded cases of operation for gastric myoma four were of this nature. Diagnosis of their exact nature is impossible before operation. Treatment should be by removal with wide resection of the gastric wall from which the tumor springs.

2. **Epidemic Summer Diarrhea and Vomiting.**—Briefly, the method employed in the East London Hospital for Children, as described by Waller and Walker, is as follows: On admission the stomach is washed out with saline (0.9 per cent. solution) at a temperature of 110 F. The gastric contents are often exceedingly foul smelling and copious. With very few exceptions the vomiting ceases absolutely and does not recur. The rectum is next washed out with saline at a similar temperature, the irrigation continuing until the return flow is clear. If done in this order time is saved, as the bowels usually move freely during the gastric lavage, and the subsequent rectal irrigation is a shorter proceeding. If any great degree of collapse or shock is present a mustard bath, or in extreme cases, a mustard pack, is given, and is one of the most useful remedies that can be employed. The child will, as a rule, then sleep quietly for an hour or so, during which time a subcutaneous infusion of normal saline, or of a 5 per cent. solution of glucose in normal saline, is started.

3. **Pleural Tuberculosis with Large Effusion.**—In the case cited by Carter, that of a man 30 years old, 9 pints and 8 ounces (188 ounces) of clear yellow fluid were withdrawn from the right side through a small cannula in twenty minutes. At the end of the time the fluid was still running, but as the patient began to cough and his pulse showed irregularity, it was considered advisable to withdraw the instrument. Tapping was soon needed again, and 90 ounces and 100 ounces were removed on separate occasions from the right side, while the left side yielded 60 ounces once. The fluid removed presented the characters of an exudate rather than a transudate. Fraenkel's pneumococcus was recovered from it, but no tubercle bacilli The latter were also absent from the scanty sputum. Later 125 ounces were removed from the right chest with some temporary improvement. Tapping the pleura toward the end yielded very small amounts of fluid (2 ounces).

4. **Tubercle Bacilli in Sputum.**—The method used by Eurich is the one originally described by Koslow in 1910. A quantity of the sputum is shaken up with a strongly alkaline sodium hypochlorite solution (15 per cent. liquor sodæ hydrasel, such as a measure cylinder, the proportions depending on tus plus liquor sodæ chlorinatus āā) in a glass-stoppered vessel, such as a measure cylinder, the proportions depending on the consistence of the sputum; if the latter is very viscid or dense an equal proportion may be required; if thin, then half the amount may suffice. The mixture is occasionally shaken during five minutes; it is then diluted with a volume of distilled water approximately ten times as great as that of the sodium hypochlorite solution used, and again shaken for a few minutes. Finally there is added a mixture of equal parts of ether (methylated ether will do) and acetone equal in volume to that of the water. It is shaken once more for a few seconds and the whole allowed to stand. In a few minutes the contents of the bottle will be found to separate into three layers. The middle layer, appearing as a more or less dense white ring, will contain nearly all the tubercle bacilli that may be present in the sputum, and can be drawn off with ease by means of a pipette fitted with a teat. The density of this middle layer can be increased after it has been pipetted off, if desired, with the help of a centrifuge (an ordinary hand centrifuge will answer the purpose), but it is not necessary. A film is made, dried and fixed in the usual way by passing it through a flame. Before staining the film Eurich immerses it for a few seconds in 5 per cent. sulphuric acid to neutralize any adhering alkali, and it is washed to remove the acid. If the examiner is interrupted, or otherwise pressed for time, the whole mixture may be allowed to stand till the next day or even longer; the acid-fast property of the bacilli is not affected by the delay. The mixture should be diluted with distilled, not with tap water, as the latter may contain acid-fast bacilli.

7. **Circulation Factors Admitting of Easy Measurement.**—The factors in circulation admitting of easy measurement and which are discussed by Haig are the capillary reflux, the blood-pressure, the ratio of capillary reflux to blood-pressure, the cardiac diameter and the liver dulness.

8. **Valves in Veins of Portal System.**—To sum up, Wilkie emphasizes that we have now definite proof that there are valves in the veins of the portal system; that these valves are widely distributed throughout the tributaries of the portal vein, and that while well developed in the infant and young child they tend to become incompetent in the adult. These valves, which are well developed in most of the lower mammals, appear in man to be undergoing a retrograde metamorphosis.

9. **Action of Ilio-Psoas Muscle.**—Evidence is given by MacLennan to prove that the ilio-psoas muscle is not an adductor, but an abductor, not an inward but an outward rotator of the femur.

15. **Nutritive Effects of Beef Extract.**—The authors' experiments tended to prove that the addition to the diet of the beef extracts used (commercial and self-made) led to an increase of body weight both in the case of animals and of man. Accompanying this increase there was a retention of a considerable proportion of the nitrogen given in the extracts. The extracts also caused a reduction in the output of nitrogen by the feces, this no doubt being due to a better digestion and absorption of food of the ordinary diet. The extracts may therefore be accredited with both a direct and an indirect nutritive value. During the feeding with the extracts there was also a retention of water in the body.

23. **Merits of Low Protein Diet.**—Reliance on protein as a source of energy is held by Chittenden to be theoretically and practically undesirable. It is true that the protein molecule contains, in addition to its 16 per cent. of nitrogen, 52 per cent. of carbon. After the molecule is denitrogenated, the residue, the non-nitrogenous moiety of Foster, can serve the same purpose in the body as fat and carbohydrate, but to obtain energy from this source means letting loose in the system a mass of nitrogenous waste products which the body cannot use and which must be eliminated at some expense, even if no other undesirable results follow. Why not, asks Chittenden, rely on fat and carbohydrate for the energy needed by the body, and use protein food solely for the purposes which it, and it alone, is especially fitted to fulfil? Such a course has the merit of being more closely in accord with physiologic laws, while at the same time there is a suggestion of conservation of health and strength, combined with a certain amount of physiologic economy, that may ultimately result in increased efficiency.

Australian Medical Journal, Melbourne

August 5, I, No. 3, pp. 25-36

28 Surgery of Chronic Gastric Ulcer. B. T. Zwar.
29 Hypertrophic Stenosis of Pylorus, with Spasm. T. E. Green.
30 Proteolytic Power of Proprietary Preparations. S. W. Patterson.
31 *Hydatid as Cause of Appendicitis. A. S. Trinca.

August 12, I, No. 4, pp. 37-46

32 Splenic Anemia and Splenectomy. R. A. Stirling and J. Grantley-Shelton.
33 Deviations of Nasal Septum. D. McM. Officer.
34 Variation in Stethoscopic Cardiac Physical Signs. W. H. Summons.
35 Pneumococcic Meningitis. A. V. M. Anderson.

August 19, I, No. 5, pp. 47-56

36 Lacerations at Vaginal Outlet. G. Horne.
37 Hypernephroma. A. S. Trinca.
38 Clinical and Bacteriological Investigation of Infantile Diarrhea. R. L. Forsyth.
39 Case of Actinomycosis. C. E. Dennis.

August 26, I, No. 6, pp. 57-66

40 Acquired Talipes Valgus. W. K. Hughes.
41 Adrenalin. J. L. Jona.
42 *Case of Hydatid of Colon. A. Honman.
43 Intrauterine Crying of Child. R. H. Fetherston.

31. **Appendicitis Due to Hydatid.**—In this case the appendix was found lying behind the cecum with an adherent mass near its tip. The mass proved to be a hydatid cyst. Spread over the cyst and along the anterior surface of the appendix were tortuous dilated veins. The cyst had developed between the layers of the meso-appendix, from which the adventitious coat had arisen. Traction of the cyst at the appendix had produced a kink at the point of attachment, and this kink had apparently caused the symptoms, for a microscopic section of this part of the appendical wall showed constriction of the lumen and engorged, dilated vessels, but no other signs of inflammation. Examination of some of the clear cyst fluid revealed typical hydatid scolices. Projecting through the serous coat of the appendix nearer the proximal end were two small white rounded bodies, probably hydatid cysts in an early stage of development.

42. **Hydatid of Colon.**—Honman's patient had had during eight months four attacks of severe abdominal pains, accompanied with vomiting. In December he had a severe attack and had vomited a quantity of blood and large quantities of bile, and had passed a quantity of blood by the bowels; this was followed by obstruction of the bowels, which was finally relieved by high enemas, etc. His condition was diagnosed as ulcer of the stomach and he was sent into a private hospital and treated by artificial feeding, etc., and he left there the following January considerably improved. On returning to work, which entailed a lot of riding, his pains returned, and on consulting Honman he stated that while he was in no pain he suffered from indigestion, had had blood in his motions to a more or less degree for the previous three weeks, and had tarry motions and complained of pain in the right groin and on urinating. There was marked rigidity of the muscles over the right side of the abdomen, and a mass could be felt rather higher than the normal appendicular region, and there was some tenderness on deep pressure there. The urine was free from albumin, pus or blood. Honman operated and found a hard mass covered with adhesions, which, on separating, showed a growth attached to the ascending colon, and as it presented every appearance of being a sarcoma, and was protruding into the lumen of the intestine, Honman resected the colon, joining by end-to-end anastomosis. The mass had a very thick wall and was closely packed with hydatid cysts; the larger pole of the growth had only mucous membrane covering it, and it had evidently started in the muscular walls.

Malaya Medical Journal, Singapore

July, IX, Part 3, pp. 5-97

44 Production and Treatment of Milk in Europe. S. A. R. Glennie.
45 System of Medical Education. R. D. Keith.
46 Working of Births and Deaths Registration Ordinance. W. R. C. Middleton.
47 Night-Soil Conservancy in Cantonments. P. Hehir.
48 Foreign Bodies in Knee-Joint. K. C. Sinha.

Journal of Tropical Medicine and Hygiene, London

September 1, XIV, No. 17, pp. 254-268

49 Etiology and Prophylaxis of Malta Fever in South Africa. A. Garrow.
50 *Transmission of Leprosy. E. C. Long.

50. Abstracted in The Journal, Sept. 30, 1911, p. 1164.

Annales de l'Institut Pasteur, Paris

July, XXV, No. 7, pp. 497-560

51 Classification of Trypanosomes. (Identification et essai de classification des trypanosomes des mammifères.) A. Laveran.
52 Pulmonary Tuberculosis in Cattle Not of Digestive Origin. (La tuberculose thoracique du bœuf n'est pas d'origine digestive.) P. Chausse.
53 Salvarsan in Relapsing Fever. (Essais de traitement de la fièvre recurrente d'Afrique par l'arsenobenzol "606." Réaction méningée de la tickfever chez l'homme.) J. Rodhain, C. Pons and F. van den Branden.
54 Research on Japanese Snake Poison. (Expériences sur le venin du Trimeresurus riukiuanus. M. Nicolle and A. Berthelot.

August, No. 8, pp. 561-624

55 Action of Horse and Beef Serum on Isolated Guinea-Pig Heart. (Etude de l'action du sérum de bœuf et du sérum de cheval sur le cœur isolé du cobaye.) L. Launoy.
56 Anaphylaxis Induced by Ingestion of Crepitin. (De l'anaphylaxie alimentaire par la crépitine.) C. Richet.
57 Monkey Plasmodium. (Plasmodium des macaques de Tonkin.) C. Mathis and M. Leger.
58 Peculiarities of Growth of Bacterium zopfii Kurth. (Note sur les tropismes du Bacterium zopfii "Kurth.") H. Kufferath.
59 Agglutination of Non-Motile Microbes by Normal Serums. (Agglutination des microbes immobiles par les sérums normaux.) L. Nègre and M. Raynaud.

Annales des Maladies des Org. Génito-Urinaires, Paris

August 15, XXIX, No. 16, pp. 1441-1536

60 Tuberculosis of the Kidneys of Blood-Borne Origin. (Quelques considérations sur la pathogénie de la tuberculose rénale d'après deux autopsies.) P. Heresco and M. Cealic.
61 *Perineal Prostatomy for Gonorrheal Abscess Cures the Gonorrhea. (Sur les résultats éloignés de la prostatomie périnéale dans les abcès blenorrhagiques de la prostate, avec des considérations particulières sur la guérison de la blenorrhagie.) M. Cealic and L. Strominger.

61. **Perineal Prostatomy for Gonorrheal Abscess Cures the Gonorrhea.**—Cealic and Strominger report twenty-two case histories, all showing that perineal evacuation of a gonorrheal abscess in the prostate is a simple and excellent measure, as it not only cures the local lesion in the prostate but it facilitates the cure of the gonorrhea as a whole, even in cases in which it had long resisted the ordinary measures. They advise prostatomy without delay as soon as the diagnosis is made. In one case typical of many in their experience the abscess perforated into the rectum and the patient felt relieved and treatment was restricted to massage and lavage of the urethra. The prostate persisted large and tender and traces of the urethritis were evident for a year, when the prostate swelled again with perceptible fluctuation and fever. Prostatomy was done at once and the gonorrhea was eradicated.

Presse Médicale, Paris

September 13, XIX, No. 73, pp. 729-736

62 Choleriform Syndromes. E. Joltrain and M. Maillet.
63 *Diagnosis of Ulcer in Duodenum-Pylorus Region. (Diagnostic de l'ulcère de la région duodéno-pylorique.) L. Meunier.
64 Synthetic Purgatives. (Les purgatifs synthétiques.) A. Martinet.
65 Specific Precipitin Reaction in Meningococcus Cerebrospinal Meningitis. Collignon and Pilod.

63. **Diagnosis of Duodenal Ulcer.**—Meunier has found it possible to diagnose a duodenal ulcer by rinsing out the stomach with a 1 per cent. solution of glacial acetic acid. Under the

influence of this acid fluid the pylorus shuts up and thus prevents the fluid from passing along into the duodenum. At the same time, if the ulceration is in the stomach, the acid solution dissolves the crystals of hematin found on the surface of a relatively recent raw surface. The positive reaction indicating the presence of blood in the rinsing fluid thus indicates ulceration in the stomach. The absence of traces of blood in the rinsing water, in connection with the symptoms suggesting duodenal ulcer, such as paroxysmal tardy pain in the stomach region—all this points to a duodenal ulcer. In every case in his experience in which the acetic acid reaction in the stomach rinsing water was positive, the following operation confirmed the presence of an ulcer in the body of the stomach. In two patients the reaction was negative. One was operated on by Moynihan at Leeds and the other by Pauchet at Amiens, and in each case the diagnosis of an exclusively duodenal ulcer was confirmed. The acetic acid test of the rinsing water of the stomach should be supplemented by examination of the stools for traces of blood. If blood is found in the stools and none in the rinsing water of the stomach, this locates the lesion below the stomach and it is almost invariably to be found just below the pylorus.

Semaine Médicale, Paris

September 13, XXXI, No. 37, pp. 433-444

66 *Dangers of Alkaline Intravenous Injections: Toxic Effects of Sodium. (Les dangers des injections intraveineuses alcalines; effets toxiques du sodium.) L. Blum.

66. **Dangers of Intravenous Alkaline Injections.**—Blum is convinced that many symptoms and disturbances observed after injection even of saline solution are due to the sodium chlorid in itself, recent research on "salt fever" in infants having revealed unsuspected pathogenic properties in it. It is certainly safer to use a physiologically balanced solution, adding a little alkali to the salt solution, as the physiologists have long been doing in their research. With alkaline solutions the problem is even more difficult, Blum's clinical experience with them having demonstrated the possible mishaps liable from their use. In two patients drifting into diabetic coma, the injection of a 2.5 or 5 per cent. solution of sodium carbonate was followed in about four hours by convulsions and death. The injection was difficult on account of spasmodic contraction of the vessels preventing the infusion. When it finally succeeded, the walls of the vessels were evidently injured by the alkaline solution as the blood infiltrated into the surrounding tissues the entire length of the vein. The symptoms of intoxication in both these cases, as also in two other patients who had been given a preceding injection of sodium glutarate, testified to the toxic action of the sodium. Many clinicians, including Frerichs and Naunyn, have never witnessed convulsions in the course of diabetic coma, and Blum has been able to find records of only six cases of the kind in the literature. His experience with only these four cases, in his twenty-five of diabetic coma, in which fatal convulsions developed after the alkaline injection, when he never witnessed anything of the kind before and none since he has abandoned the use of these alkaline solutions, points to the injections as the causal factor. Two of the patients thus succumbing were girls of 15 and 16, the others women of 23 and 71, all with diabetic somnolency but not amounting to coma in every case. Blum refers parenthetically to Labbé's recent report of an old diabetic, a woman of 65, of a diabetic family, who seemed to be lapsing into diabetic coma. He made an intravenous injection of 500 gm. of a 3 per cent. solution of sodium bicarbonate daily for five days, while the patient took about 70 gm. of sodium bicarbonate by the mouth; she gradually recovered and is now in good condition. Labbé added that he knows of only seven other cases on record in which diabetic coma failed to terminate fatally. He has also reported equally favorable results in a second, less severe case, after two intravenous injections of 15 gm. of sodium bicarbonate in a 3 per cent. solution, the patient a woman of 52, diabetic for twelve years. Blum further refers to the fact that Stadelmann has emphasized the importance of using the sesquicarbonate of sodium instead of the carbonate or bicarbonate as better tolerated than the carbonate while containing more sodium than the bicarbonate. It is produced merely by heating the solution of sodium bicarbonate, thus permitting some of the carbonic acid to escape.

Beiträge zur Klinik der Tuberkulose, Würzburg

XX, No. 3, pp. 343-433. Last indexed September 30, p. 1168

67 *Immunization Against Tuberculosis with Partial Antigens. (Das Problem der Tuberkuloseimmunisierung und die Ableitung einer neuen Immuntherapie der Tuberkulose.) H. Much.
68 *Importance of the Different Elements of the Tubercle Bacilli for Tuberculosis and Leprosy. (Die Tuberkelbazillen im Systeme der säurefesten Bakterien und die Bedeutung der einzelnen Bazillenbestandteile für Tuberkulose und Lepra.) H. Much and E. Leschke.
69 *The Separation of Tubercle Bacilli Into Their Elements. (Die Auflösung von Tuberkelbazillen nach Deycke und Much.) E. Leschke.
70 *Action of Dissolved Tubercle Bacilli. (Das biologische und immunisatorische Verhalten der Tuberkelbazillenauflösungen nebst Tuberkulinstudien und Tuberkuloseimmunitätsstudien.) H. Much and E. Leschke.

67 to 70. **Importance of Various Elements of Tubercle Bacilli for the Clinical Reaction.**—Much and Leschke believe that they have established that the fat, the albumin and the aromatic substance in the tubercle bacilli each play a part in the reaction to tuberculin, and that it is possible to isolate these various elements and induce a reaction to each separately. Each of these elements is able to induce a hypersusceptibility and induce the production of antibodies for each of these elements separately. The reaction in different persons thus may be of an entirely different nature, either an albumin-antialbumin reaction, a fat-antifat reaction or a toxin-antitoxin reaction, or all of these reactions may occur at once. By the complement-binding tests it may be possible to determine which of the above antibodies is lacking in the individual case, and by vaccinating with the antigen in question induce durable immunity or a complete cure. The organic acids seem to be most effectual in separating the tubercle bacilli into these elements, which is a different matter, they explain, from simple dissolving of the bacilli. They prefer for it the term *Aufschliessung*, which means an unlocking, and state that this conception of partial antibody production and partial antigens opens a new horizon for vaccine therapy with partial antigens.

Beiträge zur klinischen Chirurgie, Tübingen

LXXIII, No. 3, pp. 569-814

71 General Anesthesia by Injection of Preparation of Opium and Scopolamin. (Injektionsnarkose mit Pantopon-Skopolamin.) M. von Brunn.
72 Roentograms of Some Rare Traumas of the Wrist. (Ueber seltene Handwurzelverletzungen im Röntgenbilde.) A. Nast-Kolb.
73 Deforming Ostitis. (Zur Kenntnis der Ostitis fibrosa.) K. Hartmann.
74 Contusion of the Duodenum. (Zur Kenntnis der Verletzungen des Duodenums durch stumpfe Gewalt.) E. Lonhard.
75 Experiences with Fractures. (Knochenbrüche und deren Behandlung während der Jahre 1908-10 im Katharinenhospital zur Stuttgart.) E. Lonhard.
76 *Fractures and Roentographic Findings. (Zur Diagnostik und Statistik der Frakturen vor und nach der Verwertung der Röntgendiagnostik.) H. Plagemann.
77 Torsion Tension in the Upper Arm. (Die Torsionsspannung im Oberarm.) H. Zuppinger.
78 Arteriovenous Femoral Aneurysm; One Case. (Zur Kenntnis des arteriovenösen Aneurysmas der Arteria und Vena profunda femoris.) B. Rubesch.
79 The Non-Striated Musculature of the Orbit and Its Importance for the Eye Symptoms in Exophthalmic Goiter. (Die glatte Muskulatur der Orbita und ihre Bedeutung für die Augensymptome bei Morbus Basedowii.) H. Freund.
80 Bone Formation in Laparotomy Scar. (Ueber Knochenbildung in Laparotomienarben.) W. Capelle.
81* Operative Treatment of Metastatic Carcinoma of the Spine. (Chirurgische Eingriffe bei metastatischen Karzinom der Wirbelsäule.) A. Tietze.

76. **Fractures and Roentoscopy.**—Plagemann tabulates the details of 3,664 fractures treated at the Rostock surgical clinic, 1891-1910, and compares the ultimate outcome with the roentographic findings in a large number. He remarks in conclusion that the Roentgen rays have simplified the diagnosis of fractures and have been of great aid as a guide to treatment, but still they are of little use and even misleading with certain fractures, such as fracture of the base of the brain. In a number of other fractures, also, the injury of neighboring organs has more to do with the ultimate outcome than the fracture of the bone itself. The chief advantage of the Roentgen rays is that they permit constant oversight of the objective condition later.

81. **Operative Treatment of Metastatic Cancer of the Spine.**—Although a radical cure is not possible, yet immense relief can be obtained by a palliative operation in these cases, and Tietze has applied it in five of his six cases of the kind. The patients were women from 32 to 54 years old and the primary cancer had been in the breast which had been amputated from a few months to three years before. The findings are illustrated in the operative cases. The benefit from the operation was great at first but did not last longer than a few weeks, except in one case. This patient was delivered from her agonizing pains and lived for more than a year in a satisfactory condition, dying then of pneumonia. In considering a palliative operation of the kind, the comparative malignancy of the primary cancer is an important factor to be borne in mind in estimating the possible benefit from the operation.

Beiträge zur klinischen Chirurgie, Tubingen

LXXIV, pp. 1-754. L. Rehn Festschrift

82 *Resection of Left Lobe of Liver for Cancer. (Totalresektion des linken Leberlappens bei primärem Leberkrebs.) H. Klose.

83 Cancer of the Kidney in Young Children: Two Cases. (Ueber das Nephroma embryonale malignum.) H. Klose.

84 Plasmocytoma of the Pleura. H. Klose.

85 Gangliocellular Neuroma. (Ueber das Neuroma gangliocellulare benignum et malignum.) G. Brossok.

86 Tuberculosis of the Parotid Gland. (Parotistuberkulose.) O. Homuth.

87 Nature and Early Stages of Deforming Ostitis. (Zur Kenntnis des Frühstadiums der sogenannten Ostitis fibrosa.) C. Haeberlin.

88 *Achievements and Problems of Operative Neurology. (Die heutigen Leistungen und die nächsten Aufgaben der operativen Neurologie.) S. Anerbach.

89 End-Results of Operative Treatment of Appendicitic Peritonitis. (Die gegenwärtigen Erfolge bei der chirurgischen Behandlung der freien eitrigen Wurmfortsatzperitonitis.) K. Propping.

90 Serum-Proof Typhoid Bacilli in an Ovarian Cyst. ("Serumfeste" Typhusbacillen im Eiter einer Ovarialcyste.) K. Laubenhelmer.

91 Tuberculosis Toxin and Anaphylaxis. (Tuberkulosegift und Anaphylaxie.) G. Landmann.

92 *The Value of the Differential Leukocyte Count in Surgical Diagnosis and Prognosis. (Wert der Sondern'schen Resistenzlinie für die Diagnose und Prognose in der Chirurgie.) E. Lampé, Jr.

93 Resection of Upper Jaw for Cancer. (Ueber totale und ausgedente Oberkieferresektionen wegen maligner Tumoren.) H. Bade.

94 Treatment of Trauma of Pleura and Lung. (Zur Behandlung der Pleura und Lungenverletzungen.) J. Amberger.

95 Hernia and Eventration of the Diaphragm. (Ueber Zwerchfellinsufficienz.) O. Franck.

96 *Extradural Spinal Cord Tumors. (Zur Klinik der extraduralen Rückenmarksgeschwülste.) E. Siegel.

97 Perforation of Gastric Ulcer in Soldier During Army Maneuvers. (Durchbruch eines Magengeschwürs im Manöver.) L. Drnner.

98 *Tumors in Large Intestine. (Dickdarmgeschwülste.) E. Schmidt.

99 Incarceration of Hernia in Artificial Anus. (Incarceration einer Dünndarmschlinge in der prolabierten Darmwand eines Coecalafters.) F. Bode.

100 Prolapse of Invaginated Intestine Through Postoperative Fistula. (Prolaps des invaginierten Colon ascendens und Coecum durch eine nach Blinddarmoperation zurückgebliebene Kotfistel.) F. Becker.

101 Opening the Common Bile Duct Through the Duodenum. (Transduodenale Choledochotomie.) B. Bosse and S. Brotzen.

102 Splenectomy for Traumatic Rupture of the Spleen and Blood Changes Thereafter. (Zur Splenektomie bei der traumatischen Milzruptur und zur Frage der dadurch bedingten Blutveränderungen.) F. Schulze.

03 Cysts and Pseudocysts in the Pancreas. (Pankreascysten und -pseudocysten.) E. Wolff.

04 Elimination of Bacteria in Normal Secretions of Glands. (Zur Frage der Bakterienausscheidung in den normalen Drüsensekreten.) W. Noetzel.

05 Circular Suture and Transplantation of Vessels. (Ueber die cirkuläre Gefässnaht und über die Transplantation der Gefässe.) J. M. Glasstein.

06 Deformity of the Wrist in Relation to Rachitis. (Die Madelung'sche Deformität in ihrer Beziehung zur Rachitis.) O. Homuth.

07 Removal of the Shoulder from the Rear. (Die Freilegung des Schultergelenks und der Achselhöhle von der Rückenseite her und die totale Exstirpation des Schultergürtels und Armes.) L. Drüner.

08 *Surgical Treatment of Sagging Gastro-Intestinal Tract; Movable Cecum. (Das mobile Coecum mit seinen Folgezuständen und die chirurgische Behandlung ptotischer Erkrankungen des Magendarmkanales.) H. Klose.

09 *Cancer Following Trauma. (Zur Frage der "posttraumatischen Krebse.") S. Löwenstein.

10 Rosenbach Tuberculin in Treatment of Local Tuberculosis. (Zur Behandlung der örtlichen Tuberkulose mit Tuberkulin Rosenbach.) L. Seyberth.

11 Prophylaxis and Treatment of Inguinal Hernia. (Eine einfache Methode zur Beseitigung der weichen Leiste.) L. Seyberth

82. **Resection of Liver for Cancer.**—Klose reports what he thinks is the first successful resection of the entire left lobe of the liver for cancer. His patient was a man of 45. He died a few days afterward from fulminating endocarditis affecting a heart already in chronic fatty degeneration. Necropsy showed that the operation on the liver had been a complete success and that there was no trace of metastasis. The first symptoms of the cancer had been noticed six months before in the form of occasional stomach cramps and oppression, but no vomiting or jaundice. The stomach region began to protrude after four or five months, the man lost 42 pounds in weight. He was a manufacturer, well nourished, and the solid tumor palpated in the epigastrium could be pushed about within a range of 15 cm.; it was apparently independent of the stomach.

88. **Operative Neurology.**—Auerbach reviews the history, achievements and outlook for operative treatment of exophthalmic goiter, hysteria, epilepsy and brain, spinal cord and peripheral nerve affections. Rehn, in whose honor the bulky volume is issued, was the first in Germany to attempt operative treatment in exophthalmic goiter. The experiences to date indicate that the slightest tendency to myxedema formally contra-indicates an operation on the thyroid, and myodegeneration of the heart is also a dangerous element, although a complete cure or great improvement has been realized by some surgeons even in these very severe cases. Auerbach has himself had an experience of this kind. If the patients are wage-earners, he advises not delaying more than two or three months for a trial of vigorous internal measures before applying operative treatment, but, when possible, he prefers a six-months' course of medical treatment before resorting to strumectomy. He protests against the general hospital for such patients on account of the inevitable nervous shocks encountered there; such patients do better under oversight in the home or, better still, in convalescent homes, which are the crying need of the modern hospital system, especially for care of the severer nervous affections.

92. **The Blood Count for Diagnosis and Prognosis in Surgery.** Lampé has been applying F. E. Sondern's method for the differential leukocyte count and has become convinced of its value for both diagnosis and prognosis. The twenty cases he reports confirm Sondern's statements in every particular, with one possible but not certain exception. He also reports experimental research which gave still further confirmation of Sondern's views and of the value of his "resistance curve." "It permits," Lampé says, "an amazing insight into what is going on in the organism, reflecting as in a mirror the fight the body is putting up against the invading infection. Every repulse and every victory can be overlooked, and in the puzzling cases the method is of extreme importance; of course, it is not needed in the cases in which conditions are plain before the eyes without this aid."

96. **Extradural Spinal Cord Tumors.**—Siegel recently operated in two cases of this kind with complete success, although the tumor was secondary to cancer elsewhere, which has already proved fatal in one case, about a year after the operation. The patient was a man of 30 and the tumor removed was of the adenomacarcinoma type. The other patient was a woman of 33 with a small goiter for the last six years which had never caused any disturbances. The tumor removed from the spinal cord proved to be a metastasis of the struma. Siegel reviews the cases on record of metastasis from an apparently benign struma. The metastasis was generally in a bone and nothing malignant could be found in the thyroid after death in the cases in which necropsy was possible, except in Hugnenin's case; in the others the findings were merely those of a colloidal goiter or normal thyroid. Riedel has had a case in which a metastasis of this kind recurred in the jaw ten years after removal of the first metastasic tumor, and yet the thyroid has been apparently normal all the time.

98. **Experiences with Tumors in the Large Intestine.**—Schmidt concludes from his sixty-three operative cases that resection and suture at one sitting give the best end-results, especially or care of the severer nervous affections.

108. **Movable Cecum.** Klose reviews the history of operative treatment of conditions resulting from sagging of any portion of the gastro-intestinal canal, and discusses the subject from the standpoint of embryology, anatomy, physiology and symptomatology, especially the clinical picture of movable cecum. He states that 134 patients in this latter category have been given operative treatment at Rehn's clinic, including twelve children, and 75 per cent. were under 25 years old. In 70 per cent. the trouble was evidently of congenital origin. The main symptom was intermittent afebrile or subfebrile colic pains, like neuralgia, generally localized in the right side. There was also a localized elastic resistance in the ileocecal region, an air-cushion sensation on palpation, with ileocecal gurgling or splashing, increased peristalsis during the attacks, constipation followed with diarrhea, admixture of blood and mucus with the stools and carbohydrate fermentation. Klose remarks that the question of "pseudo-appendicitis" and "intestinal hysteria" needs to be studied anew by the internists as this assumption of a movable cecum has knocked out most of the foundation for them. Roentoscopy showing retarded peristalsis in the cecum shadow is typical for the movable cecum. Patients with this anomaly are liable to wander from one doctor to another, finding no relief, their disturbances being unjustly classed as neurasthenic, while operative fixation of the movable bowel clears up the diagnosis and generally cures the patient at one stroke. He gives the details of a few typical or unusual cases and of cases showing how the anomaly spreads to involve other parts of the bowel the longer it is left untreated. He concludes with an illustrated description of the preferred operative technic; the curving incision is unusually long and the cecum is sutured throughout its entire length to fasten it in place, taking up in the suture only the serosa of the bowel and fastening the bowel as far back as possible. When the ptosis is universal, he prefers a long incision in the median line, curving around the umbilicus; in one case illustrated the sagging large intestine, spleen and liver all required fixation.

109. **Posttraumatic Cancer.**—Löwenstein published last year a compilation of 271 cases of cancer developing apparently in connection with a trauma and adds nine more cases to the list here. This research indicates that we must now reckon with the effects of a single trauma as liable to induce the production of cancer just as certainly as we accept chronic irritation as a factor. He discusses the connection between the accident and the cancer from the standpoint of industrial insurance, and states further that his experience with disinfectants in treatment of inoperable cancer and in prophylaxis after operations—especially with large doses of quinin, santonin and thymol, given by the mouth or injected into the muscles or parenchyma or directly into the tumor—all the phenomena and results obtained have converted him to the view that a parasitic origin of cancer is not so impossible or improbable after all.

Berliner klinische Wochenschrift

September 18, XLVIII, No. 38, pp. 1705-1740

112 Local Anesthesia in Gynecology and Obstetrics. (Anwendungsbreite der Lokalanästhesie in der Gynäkologie und Geburtshilfe.) P. Kroemer.

113 Fracture of Spinous Processes. (Ueber Dornfortsatzfrakturen.) O. Ehringhaus.

114 Tumor of Spermatic Cord; Two Cases. (Samenstrangtumoren.) H. Schlueter.

115 Paralysis Agitans, Especially the Behavior of the Larynx. (Verhalten des Kehlkopfes bei der Paralysis agitans nebst einigen allgemeineren Bemerkungen über die Krankheit.) W. Graeffner.

116 *Diagnosis of Arteriosclerosis of the Legs. (Zur Diagnose der arteriosklerotischen Erkrankungen der unteren Extremität.) J. Rosenbusch.

117 Cultivatibility of Ameba on Hay. (Kultivierbarkeit der Amöben auf Heu.) G. Franchini and Raspaolo.

118 *The Meiostagmin Reaction in Cancer. (Die Meiostagminreaktion bei malignen Geschwülsten.) F. Leidi.

119 Relative Immunity of Lepers to Cancer. (Die relative Krebsimmunität der Leprakranken.) M. Soegaard.

120 Sensitizing of Spirochetes in Infants Nursing Mothers Under Influence of Salvarsan. (Ist das Auftreten von spezifisch luetischen Erscheinungen beim Säugling nach Stillen mit Salvarsanmilch als Endotoxinwirkung aufzufassen?) G. Stümpke.

121 Disturbances in Tear Production. (Ueber Tränenstörungen und ihre Behandlung.) H. Bergemann.

122 Diagnosis of Masked Diphtheria in Children. (Zur Diagnose der larvierten Diphtherie im jüngeren Kindesalter.) E. Blochmann.

123 How to Avoid Operative Pneumothorax. (Ueber die Methoden zur Beseitigung der Pneumothoraxgefahr.) F. Lotsch.

124 Apparatus for Artificial Respiration; the "Pulmotor." (Maschinelle künstliche Atmung.) O. Roth.

116. **Diagnosis of Arteriosclerosis of the Legs.**—The importance of detecting and locating arteriosclerotic changes in the vessels of the legs in diagnosing intermittent claudication and similar affections is emphasized by Rosenbusch. He applies the Strauss turgosphygmograph at different points along the leg. This records the volume of the pulse-wave and thus shows at a glance the vessels or the segments of the vessels which are functioning defectively. It is able to reveal findings in this line at points inaccessible to palpation, and at all points is far more reliable than the latter, pointing out the portions of the vessel which can be relied on to do normal work.

118. **The Meiostagmin Reaction in Cancer.**—Leidi reports positive findings with the Ascoli technic in 80 per cent. of twenty cancer patients tested and in less than 8 per cent. of twenty-four patients with other diseases.

Correspondenz-Blatt für Schweizer Aerzte, Basel

September 10, XLI, No. 26, pp. 897-928

125 Definition of Hysteria. A. Maeder.

Deutsche medizinische Wochenschrift, Berlin

September 14, XXXVII, No. 37, pp. 1681-1728

126 *Surgery of Lungs and Pleura. (Beiträge zur Pleura-Lungenchirurgie.) M. Martens.

127 Treatment of Diphtheria. (Zur Diphtheriebehandlung.) F. Hoesch.

128 *Treatment of Old Congenital Dislocation of the Hip-Joint. (Zur Behandlung der veralteten kongenitalen Hüftgelenksluxation.) E. Patschke.

129 Spontaneous Rupture of Uterus During Pregnancy. (Fall von spontaner Uterusruptur in der Schwangerschaft.) F. Sieber.

130 Spontaneous Rupture of Uterus After Classic Cesarean Section. (Fall von Uterusruptur nach vorangegangenem klassischen Kaiserschnitt.) P. Schick.

131 Specific Stimulation of Organs Producing Antibodies by Infectious Diseases. (Spezifische Stimulation der Antikörper bildenden Organe bei Infektionskrankheiten.) H. Lippmann.

132 Action of Liver Autolysis on Tuberkulin. (Versuche über die Einwirkung der Leberautolyse auf Tuberkulin.) F. Ditthorn and W. Schultz.

133 Examination of Sputum. (Zur Untersuchung des Tuberkuloseverdächtigen Sputums.) M. Nemmser and E. Martos-Lissowska.

134 Enrichment of Typhoid Bacilli in Water. (Ueber Anreicherung von Typhusbazillen in Wasser.) Lemke.

135 *Modifications of Babinski and Oppenheim Reflexes and Calf Phenomenon. (Ueber Modifikationen des Babinski- und Oppenheim-Reflexes und ein neues Fussphänomen—Wadenphänomen.) E. Trömner.

136 *Severe Toxic Symptoms After Intravenous Injection of Salvarsan and Means to Avoid Such. (Ein Fall schwerer Intoxikation im Anschluss an eine intravenöse Salvarsaninjektion, nebst weiteren Bemerkungen über die Entgiftung dieser letzteren.) T. v. Marschalko.

137 Salvarsan in Kala-Azar. (Therapeutischer Wert des Salvarsans bei Kala-Azar.) A. Christomanos.

138 River Steamboat Trips from Therapeutic Standpoint. (Die Binnen-Dampfschiffahrt als Heilmittel.) Mulert.

139 Hygiene in China. (Einige hygienische Prinzipien im Volksleben der Chinesen.) R. Baron Budberg.

126. **Pleura and Lung Surgery.**—Martens reports a number of successful operations on the lungs or pleura such as were undreamed of before the introduction of the differential pressure procedures. Among them is a case of chondrosarcoma successfully removed from the anterior chest wall and pleura close under the clavicle. The defect left after excision of the focus was closed with a large flap drawn around from the axilla and mamma, with which the lung was directly covered after the lung had been sutured to the edge of the defect all around. In another case he yielded to the appeal of a patient and removed a recurrence of a mammary cancer in the chest wall after the breast had been removed for recurrence of a primary tumor in the mamma, the tumor alone having been merely excised six months before. As a rule he refrains from such operations for recurring cancer in the chest and in this case the patient succumbed not long after to recurrence elsewhere. But the operation proved comparatively simple and easy, a large portion of the sternum and of three ribs being cut out with shears, leaving the lungs, pericardium and pleura exposed. He sutured the lung to the edges of the defect and twisted the remaining mamma around to close it. Healing was complete so that the patient was dismissed in twelve

days. In another case he resected part of two ribs to locate a bronchiectatic cavity in the lungs. When found he did not attempt to evacuate it, but sutured the pleura again and then evacuated the cavity by puncture with the actual cautery. He had a similar success in another case in which he opened into the cavity with the actual cautery, finding it at a depth of 5 cm. from the surface and 13 cm. in extent. He discusses the various technics for differential pressure, his work having been done mostly with the Brat-Schmieden positive pressure mask method.

128. **Old Congenital Dislocation of the Hip.**—Patschke reports the successful correction of congenital dislocation of both hip joints in a woman of 26. He scooped out a new cavity for the head but broke off the head in fitting it into the new cavity. The neck stump answered every purpose, however, and the functional use of the limb was restored. A similar operation was then done on the other hip joint six months after the first and without a fracture this time, so the patient was restored to practically normal gait and endurance. Her deformity had not caused her much disturbance till her eighteenth year, so she had never consulted a physician on account of it, but after that year she became unable to walk and no benefit was derived from long systematic courses of medical and orthopedic measures.

135. **Modifications of the Reflexes and the "Calf Reflex."**—Trömner has been examining the reflexes in twenty cases of recent nervous disease and in forty cases of long standing, and tabulates the compared findings. He remarks that it is generally possible to elicit the Babinski sign by the usual technic, but in dubious cases he applies a stronger method, pressing with a rapid hard pressure in the middle of the arch of the foot, below the ball of the great toe. This not only entails extension of the great toe but possibly also flexion of the foot, knee or thigh, or all together, in the pathologic cases. Sometimes the reflex followed when the foot was thus grasped firmly; in others it occurred only when the pressure was abruptly released. This Babinski-pressure phenomenon is more constant and more sensitive than the ordinary Babinski or Oppenheim signs and it is pathognomonic, he asserts, for foci above the lumbar region and it is less liable to be misinterpreted while it needs no instrument except a firm hand grasp. He has also found that the easiest way to induce the Oppenheim phenomenon is by applying strong brief pressure to the inner margin of the tibia, at a point between the middle and lower thirds. He presses forcibly with his thumb, the other fingers grasping the outer edge of the tibia, and the great toe is extended while the knee and hip joints flex—thus the same reaction as with the Babinski-pressure sign. The pressure must be made strong enough to hurt a little in the dubious cases. He also calls attention to what he entitles the "calf reflex," *Wadenphänomen*. It is a dorsal flexion of the foot when the hollow of the half-flexed knee is grasped from the inside and strong rapid pressure applied stroking downward as if to massage centrifugally the gastrocnemius muscle. The leg is held half bent and rotated outward, supported by the other hand. Dorsal flexion of the foot is the pathognomonic reflex; sometimes it may include flexion of the knee and hip-joints. In his study of the various reflex phenomena in forty cases of organic nervous affections of long standing and in twenty recent cases the calf sign was found in seventeen of the recent and in thirty-eight of the old cases, and the modified other phenomena in nearly as many, while with the usual technics the Babinski was elicited only in fifteen of the recent and only in thirty-three of the old cases and the Oppenheim only in twelve and eighteen, respectively. He was careful to make the tests allowing ample pauses between to exclude the influence of fatigue. The Bechterew-Mendel phenomenon can be elicited by merely tapping on the ball of the great toe or sole of the foot. This reflex occurred in five of the recent cases and in twenty-nine of the old, and the Rossolino reflex in the same number, coincident in all but one case. Trömner does not claim that the modifications he describes are new, but only emphasizes that the technic is simpler and more sensitive than those hitherto in vogue.

136. **Toxic Symptoms After Intravenous Injection of Salvarsan.**—The dose injected had been only 0.28 gm. but the signs of intoxication were extremely severe, including total anuria for over twenty-four hours. Study of them has, however, convinced Marschalko that the drug itself is not responsible for them but rather the vehicle in which it is administered as he explains in detail. He ascribes the disturbances to the germ content of the salt solution or distilled water. During the hot weather especially, a prolific microbian vegetation flourished in the water, and although it was killed by boiling the water, yet the germs persisted as albumin-containing bodies which are liable to induce serious intoxication if introduced directly into the circulation. The only means to avoid this is to redistil afresh the water to be used for intravenous injections, and then boil it for half an hour before adding the salt solution or drug. In his case the patient had chills, vertigo and high fever, vomiting and diarrhea, with great depression. The symptoms gradually subsided so that by the fourth day he felt entirely well. In all his other 400 patients there was no reaction or it was moderate, passing over before nightfall.

Medizinische Klinik, Berlin

September 17, VII, No. 38, pp. 1445-1482

140 Problems and Outlook for Internal Medicine. (Ueber einige neuere Gesichtspunkte und Probleme der inneren Medizin.) H. Kämmerer.
141 Gonorrhea. (Unsere Resultate der Gonorrhoebehandlung.) N Markus.
142 Habitual Vomiting of Infants. (Zur Therapie des habituellen Erbrechens der Säuglinge.) H. Hahn.
143 Influence of Miliary Tuberculosis on Chronic Myeloid Leukemia. J. Löwy.
144 Some Unusual Malformations. (Einige Fälle seltener Missbildungen.) J. Strauss.
145 Nerve Massage for Functional Neuroses. (Ziele und die Bedeutung der Nervenmassage für die Behandlung der funktionellen Neurosen.) A. Wiszwianski.
146 Physiologic Isolation of Parts of Plant Organism as Origin for New Plants and Restitution. R. Muschler.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 4, pp. 543-738. Last indexed October 14, p. 1329

147 Case of High Shoulder and Partial Hemiplasia. (Fall von angeborenem Schulterblatthochstand bei Hemiplasie der oberen Körperhälfte.) J. Reich.
148 *Perforated Gastric Ulcer and Behavior of the Neutrophil Leukocytes. (Das perforierte Magengeschwür und das Verhalten der neutrophilen Leukocyten.) M. Mannheimer.
149 *Mechanical Predisposition of the Apices of the Lungs and Development of Apical Tuberculosis. (Entstehung der Spitzentuberkulose.) A. Bacmeister.
150 *Modification of Sense of Taste with Tumors in Posterior Cranial Fossa. (Geschmacksstörungen bei Tumoren der hinteren Schädelgrube.) B. Scholz.
151 Pneumococcus Peritonitis. (Zur Kenntnis des typischen Krankheitsbildes der Pneumokokkenperitonitis.) F. Rohr.

148. **Leukocytosis with Perforated Gastric Ulcer.**—Mannheimer's experience with twelve cases, which he reports in detail, confirms the advantages of watching the curve of the neutrophil leukocytes as an index of the virulence of the inflammation and of the resisting powers of the organism after perforation of a gastric ulcer. The curve is not so regular as with appendicitis, as the hyperleukocytosis does not develop until the peritoneum begins to be inflamed. But this very fact, with others, makes the differential blood-count exceptionally instructive.

149. **Mechanical Predisposition of Lung Apex to Disease.**—Bacmeister reports the details of experimental research in which he succeeded in inducing an isolated tuberculous process in the apices in animals. Injection of cinnabar into the circulating blood and inhalation of soot both confirmed the fact of the impeded circulation and respiration in the apex, hampered by certain artificially induced mechanical conditions. He never succeeded in infecting the apex in animals by having them inhale infectious material, but by injecting the material into the blood he regularly and constantly induced a focus in the apex when the mechanical conditions had prepared a predisposition. The research reported confirms the etiologic assumption of the injurious influence of a rigid and confined upper part of the chest, and justifies chondrotomy or any other means aiming to restore normal mechanical conditions and put an end to the stenosis of the upper aperture.

150. **Disturbances in Taste with Brain Tumors.**—Scholz urges closer study of this subject, citing Funkenstein's case in which the combination of paralysis of the nerve of taste with paralysis of the auditory nerve, while the facial, fifth and glossopharyngeal nerves were intact, led unerringly to discovery of a tumor in the posterior cranial fossa. He reports a case from his own experience in which a neurofibroma in the cerebellopontine angle had induced, besides the usual symptoms, paralysis of the taste in the regions innervated by the intermedius. He discusses the anatomy of the nerves involved, with a diagram.

Monatsschrift für Geburtshülfe und Gynäkologie, Leipsic

September, XXXIV, No. 3, pp. 273-396

152 *End-Results and Prospects of Treatment of Inherited Syphilis. K. Baisch.
153 Pituitary Extract and Digitalis in Obstetric Cases. (Pituitrin und Digitalis in der geburtshülflichen Praxis.) J. Hofbauer.
154 Hydatidiform Mole with Twin Pregnancy, One Twin Developed to Term. W. Falgowski.
155 Tuberculosis of Ovarian Tumors. (Zur Tuberkulose der Eierstocksgeschwülste.) T. Rosenthal.
156 *Operative Treatment of Chronic Inflammatory Tumors in Ovary or Tube. (Chronisch entzündliche Adnextumoren.) J. Schiffman and R. Patek.
157 Malignant Melanoma of the Vulva. N. Markus.

152. **Inherited Syphilis.**—Baisch urges that the puerperium is an excellent time for commencing treatment of syphilis and that apparently healthy women bearing syphilitic children will consent to treatment then who heedlessly disregard the necessity for it a few weeks later as they feel well. He has had a case of rupture of the uterus from syphilitic changes, which were also responsible in another case for premature separation of the placenta. He advocates salvarsan treatment of all syphilitic pregnant women and parturients, and reports thirty cases in which this was done during the puerperium. In three cases salvarsan treatment during the pregnancy was well borne and seemed to have a favorable influence on the offspring, all three being apparently free from syphilis, but the blood from the umbilical cord in one gave a weak Wassermann reaction. These three women had aborted at each preceding pregnancy.

156. **Operative Treatment of Chronic Inflammation in Ovaries or Tubes.**—Operative treatment was applied in only ninety-three of the 2,633 cases in this category at Wieden, 1902 to 1910. Three-fourths of these patients have been reexamined recently, after at least a year since the operation. The findings on reexamination teach that conservative treatment should be perseveringly applied but that if operative measures become necessary, the operation should be radical; conservative, half-way surgical measures cannot be relied on for a permanent cure.

Münchener medizinische Wochenschrift

September 12, LVIII, No. 37, pp. 1945-1992

158 Paroxysmal Tachycardia. H. E. Hering.
159 Electrocardiogram of Pulse with Regular Alternation of Weak and Strong Beats. (Elektrokardiogramm des Pulsus alternans beim Menschen.) G. Joachim.
160 *Diagnostic Importance of Emotional Instabillty of the Blood-Pressure. (Diagnostiche Bedeutung der psychogenen Labilität des Blutdruckes.) P. Schrumpf and Zabel.
161 Kinematography of the Heart (Zur Herzkinematographie.) A. Weber.
162 *Normal and Premature Sensation of Satiety. (Normale und vorzeitige Sättigung.) E. Neisser and H. Bräuning.
163 *Specific Reactions with Cancer. (Ueber Tumorreaktionen mit bes. Berücksichtigung der Meiostagminreaktion.) A. Stammler.
164 *The Family of Patients with General Paralysis. (Untersuchungen an Kindern und Ehegatten von Paralytikern.) F. Plaut and M. H. Göring.
165 *Rhizotomy Below Lumbar Enlargement of Spinal Cord. (Modifikation der Försterschen Operation, Resektion der Wurzeln am Conus medullaris.) M. Wilms and Kolb.
166 Night Treatment of Acute Gonorrhea. (Die Nacht-Behandlung der akuten männlichen Gonorrhoe.) E. Kuhn.
167 Treatment of Mercuric Chlorid Poisoning. (Therapeutische Versuche bei Sublimatvergiftung.) W. Meyerstein.
168 Dosage in Roentotherapy. (Dosierung der Röntgenenergie.) T. Christen.
169 Vasoconstricting Substances in Serum in Rachitis, Tetany and the Exudative Diathesis. H. and L. Hirschfeld.

160. **Diagnostic Importance of Emotional Fluctuations in the Pulse.**—Schrumpf and Zabel report experiences which show that the rigid vessels in arteriosclerosis are unable to compensate the emotional changes in the heart-rate, and consequently the radial pulse reflects them. Any fluctuations in the diastolic blood-pressure of psychic origin, which amount to more than 15 per cent. of the systolic fluctuations, testify to the presence of arteriosclerosis.

162. **Premature Sensation of Having Eaten Enough.**—Neisser and Bräuning have had some patients who grew thin because their appetite was appeased with a few mouthfuls of food and they did not care to eat more and consequently were starving although their appetites were good. Experimental and clinical research was undertaken to determine the mechanism of the feeling of satiety, and they found that it depended on the pressure within the stomach. This pressure may be from the food itself or from the peristaltic contraction of the stomach or from pressure from without as from a tight corset. The peristaltic contractions of the stomach are started by the act of swallowing; they found that by pouring the food into the stomach through a tube, thus avoiding swallowing there was no sensation of satiation until much later than when a much smaller amount of fluid had been swallowed naturally. The research reported indicates that there is the same delicate and constant connection between the motor functioning of the mouth and of the stomach as between the secretory functioning of mouth and stomach to which Pawlow called attention. Besides laying aside the corset, some suggestion was needed to train the young girls to eat normally and enjoy the entire meal with appetite instead of being satisfied with a few mouthfuls, but this once accomplished they rapidly took on weight. None of his girl patients was unduly nervous or hysteric. In another group of patients the early satiation was traced to excessive tonicity of the stomach walls and hasty eating. When they were trained to eat more hygienically they soon became normal eaters. He found it a help in treating these patients and others with various stomach troubles, to have them recline while taking their meals. This seemed to alter the pressure within the stomach in some beneficial way.

163. **Specific Cancer Reactions.**—Stammler has been testing the various ferment reactions that have been proposed as an aid to the diagnosis of cancer, and has found that the meiostagmin reaction is frequently a most valuable aid for differentiation of dubious conditions. He examined the serum of 340 patients with various affections, including 120 with certain cancer, and obtained a positive reaction in 73 per cent. of the cancer cases. At the same time he warns that a positive reaction was obtained also in 20 per cent. of the patients with other affections, mostly diphtheria and scarlet fever, diabetic gangrene and enlargement of the prostate. The reaction, however, was never positive in cachexia of non-cancerous origin. [The technic for the meiostagmin reaction was described editorially in The Journal, May 28, 1910, page 1790.] Stammler in studying these various reactions happened on another which he thinks may prove of value. It proved positive in 82 per cent. of the 100 tumor patients and only in fourteen of the 130 patients with other affections examined. The technic is the same as for the meiostagmin reaction, only both serum and antigen are used less diluted. The mixed fluids are set in the autoclave for six hours and then set aside to cool gradually. With the cancerous serum precipitation soon occurs, leaving the supernatant fluid clear, while the precipitation with non-cancerous serum is very slight and the fluid persists turbid. He used an extract of a recently excised liver carcinoma, adding to 2 c.c. of the extract dilution 0.1 or 0.5 c.c. of undiluted serum. The findings were identical with this and the meiostagmin test. All the various reactions that he reviews are traceable to the presence of a special ferment in malignant growths.

164. **The Families of Paralytics.**—Plaut and Göring were amazed to find that the families of fifty-four persons known to have general progressive paralysis had so seldom been suspected of syphilis, and yet many of the consorts and children gave a positive Wassermann reaction and some of them presented unmistakable evidences of syphilis. They urge the necessity for investigation of conditions in the families of persons known to have syphilis, as an important task which physicians should not shirk.

165. **Modified Technic for Rhizotomy.**—Wilms and Kolb severed the sensory nerve fibers in the conoid distal end of the spinal cord, instead of the typical Dana or Förster operation, in three cases and commend this technic as liable to prove equally effectual, while it is a much less serious operation than the original technic. They describe their cases and analyze the anatomic conditions in the conus medullaris. The first patient had Little's disease and slight but decided benefit was apparent even from the timid tentative operation. The second patient was a man of 30 with spastic paralysis of both legs and great benefit was derived although a tendency to ataxia had to be overcome. This patient had bladder disturbances with retention of urine, and these were not modified by the operation. In the third case the contractures were due to athetotic spasm and the functional result was less good. The operation is so simple that scarcely ten minutes were required for it after the dura had been opened.

Therapie der Gegenwart, Berlin

September, LII, No. 9, pp. 385-432

170 Clinical Importance of the Electrocardiogram. H. E. Hering.
171 *Comparative Frequency of Differences in the Right and Left Radial Pulse. (Häufigkeit von Pulsunterschieden an der Radialis zwischen rechts und links.) Könnecke.
172 *Hemoptysis and Its Treatment with Digitalis. (Entstehung des Langenblutens und seine Behandlung mit Digitalis.) C. E. Focke.
173 Means to Keep Milk Cool and Free It from Fat. (Kuhlhaltung der Säuglingsmilch. Entfettung der Säuglingsmilch.) W. Klink.
174 Dose of Roentgen Rays for Deep Exposures. M. Fraenkel.

171. **Differences in the Radial Pulse Right and Left.**—Könnecke examined 500 persons, sick and well, and found the radial pulse alike on both sides in only 56 per cent.; in 2.5 per cent. there was marked difference. These differences in the pulse were traceable in some cases to purely local or slight central causes with otherwise intact vascular system. His practical conclusion is that the radial pulse on both sides should be tested and not one alone. The left pulse was the stronger in 14 per cent. of 455 right-handed individuals and in 43 per cent. of 21 ambidextrous. With persons over 45 the difference in the pulse is generally due to arteriosclerosis of the orifices of the arteries, if no peripheral changes in the artery wall can be detected.

172. **Digitalis in Treatment of Hemorrhage from the Lungs.**—Focke analyzes forty cases from his own experience and a number on record, his conclusions being that hemorrhage from the lungs is by no means due to tuberculosis in as large a proportion of cases as is generally assumed. Tuberculosis could be incriminated in only seven, that is, in a small per cent. of his cases. In three other cases there was pronounced anemia, in another furunculosis, n another nephritis. In twelve others there was a severe cough, from acute caarrh in five, with congestion in the head n one. In seven other cases there was chronic irritation of the air passages in elderly persons with asthma, bronchial ectasia or arteriosclerosis. The hemorrhage occurs almost invariably from local congesion, inducing diapedesis; rupture of a vesel is very rare. As the diapedesis occurs only from local stasis, treatment should im to regulate the circulation in the region nd for this nothing is so effectual as digitalis. The emoptysis may not be threatening but it always frightens he patient and his family and it may run into something hreatening, so that treatment should be instituted at once. The proper measures are those that put an end to the causal ocal disturbance in the circulation and prevent its recurrence, amely, by dietetic and medicinal measures, keeping the bowels open and regulating the circulation with digitalis. He enerally orders for adults an infusion of the leaves.

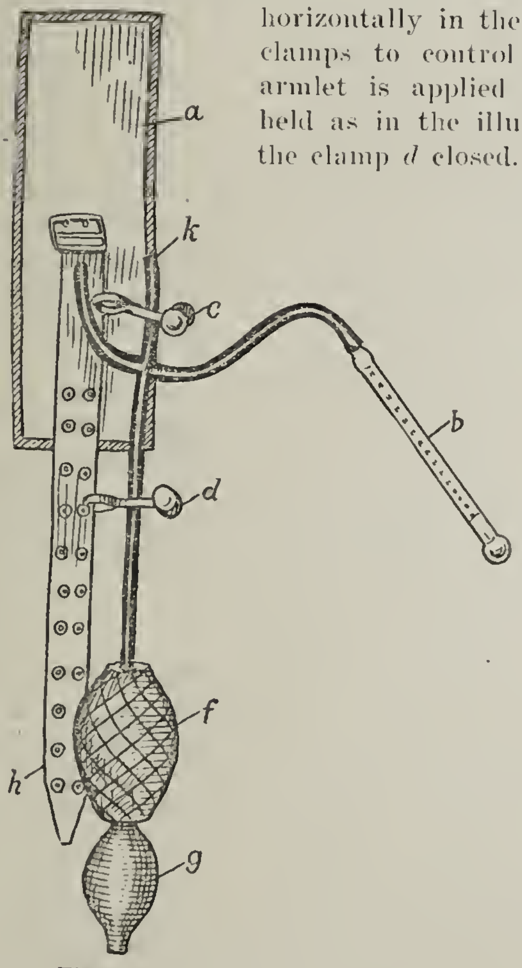

Figure 1.

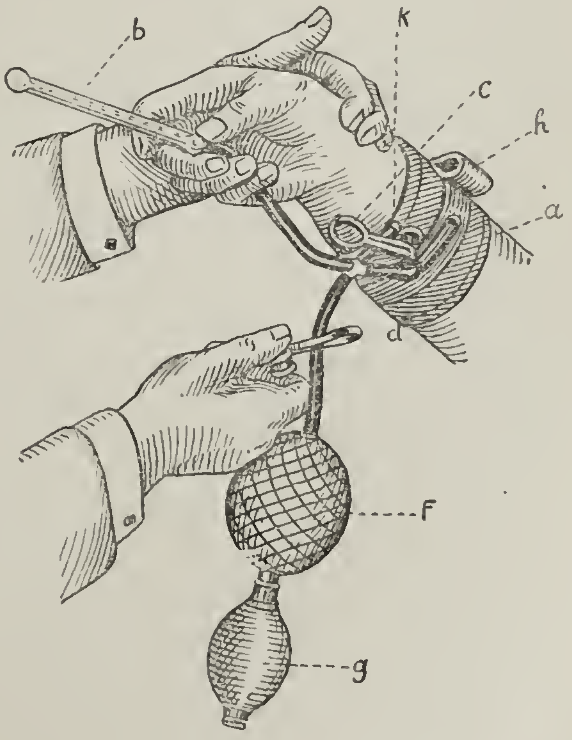

Figure 2.

Virchows Archiv, Berlin

July, CCV, No. 1, pp. 1-160

175 Regenerative and Blastomatous Formation of Tissues. C. S Engel.
176 Solid Ovarian Tumor Originating in the Three Layers of the Derma. (Zum Studium der festen Tridermome des Eierstockes.) E. E. Franco.
177 Case of Multiple Cysts in Appendix. T. Sissojeff.
178 Finer Structure of the Giant Cells in Gummas and Sarcomas. T. Wakabayashi.
179 Human Colostrum. F. Berka.
180 Mucoid Connective Tissue. E. Björling.
181 Iron Metabolism in Pernicious Anemia and Leukemia. K. Kennerknecht.
182 Influence of Adrenals on Depression of Blood-Pressure. W. Nowicki.
183 Unequal Bifurcation of Little Finger. H. J. M. Schoo.
184 Anomalies of Pulmonary Veins and Bilocular Heart. R. Schröder.
185 Enlargement of Spleen with Experimental Pneumococcus Infection. G. Porrini.
186 Valves of the Femoral and Saphenous Veins in Relation to Sapheno-Femoral Anastomosis for Varices. E. Hesse and W. Schaack.

Wiener klinische Wochenschrift, Vienna

September 14, XXIV, No. 37, pp. 1295-1322

187 Complement Binding in Scarlet Fever and Measles. (Komplementbindung bei Scharlach und Masern.) J. Kappel.
188 Malformation of Scapula. (Ueber die skaphoide Form des Schulterblattes.) V. Kellert.
189 Bradycardia with Jaundice. (Ueber die Pathogenese der ikterischen Bradykardie.) S. D. Danielopolu.
190 Poisoning from Contact with Certain Plants. (Phytonosen.) F. Kanngiesser.
191 *Simplified Sphygmomanometer. (Das neue Modell meines Blutdruckmessers.) M. Herz.

191. **Simplified Sphygomanometer.**—Herz has modified his blood-pressure indicator so that the pressure is regulated practically automatically while the entire attention of the operator can be concentrated on his palpation of the pulse. Even with this change in his original hemodynamometer, it is still, he asserts, the smallest and simplest of all apparatus of the kind in practical use. Fig. 1 shows at *a* the rubber armlet and leather strap, *h*; *b*, the manometer tube, is held horizontally in the patient's fingers, and *d* and *c* are the two clamps to control the supply of air from the bulb. The armlet is applied and strapped tight, the manometer tube held as in the illustration, the mercury at zero. Then with the clamp *d* closed, the ball *f* is pumped as full of air as possible, until its net is stretched to the utmost. Then the operator feels for the radial pulse with his left hand and with his right opens clamp *d*. The air penetrates very slowly into the cuff and the mercury slowly moves toward the farther end of the tube. The moment that the pulse disappears, the clamp *d* is closed again, so that the communication between the bulb and the cuff is again interrupted. Opening then the clamp *c* permits the escape of the air in the cuff and manometer, and the measurement can then be taken again. The

special feature of the apparatus is that the stout-walled ball *f* serves as a reservoir for the compressed air. It holds enough air for the measurement to be taken over again three or four times. The apparatus further permits recognition of the diastolic pressure by the lessening of the radial pulse. The apparatus is completely emptied by opening both clamps at once.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVIII, No. 3, pp. 591-823. Last indexed September 2, p. 854

192 *Treatment of Asphyxia of the New-Born. (Zur Behandlung des Scheintodes Neugeborener.) B. S. Schultze. (Wiederbelebung asphyktischer Neugeborener.) R. Olshausen. (Behandlung des Scheintods Neugeborener.) W. Nacke.
193 Gestation in Rudimentary Cornu of the Uterus. (Zur Gravidität im rudimentären Uternshorn.) W. Beckmann.
194 Treatment of Eclampsia by Intravenous Injections of Extract of Leeches; Fourteen Cases. II. (Behandlung der Eklampsie mittels intravenöser Hirudininjektionen auf Grund von 14 Fällen.) F. Engelmann.
195 Early Development of the Ovum. (Zur frühesten Eientwicklung.) Heine and J. Hofbauer.
196 *Relations Between Difficult Delivery and Asphyxia of the New-Born and Persisting Psychic and Nervous Disturbances. (Zur Frage der Beziehungen zwischen asphyktischer und schwerer Geburt und nachhaltigen psychischen und nervösen Störungen.) W. Hannes.
197 Sterilization with Tetrapol. (Ueber Desinfektionsversuche mit Tetrapolgemischen.) O. Polano.
198 *Importance of Albuminuria in Pregnancy and Puerperium. (Klinische Bedeutung der Albuminurie in der Schwangerschaft, bei der Geburt und im Wochenbett.) O. Jaeger.

192. **Treatment of Asphyxia of the New-Born.**—Schultze replies to Ahlfeld's recent statement that the swinging method is too dangerous, and recapitulates the directions for this technic. He remarks that one of the principal blunders that beginners may make with this method is to swing the child so slowly that it bends over backward. This is best prevented by letting the last three fingers of both hands lie along the back, thus supporting the child in the upward swing. The swinging may be done so vigorously that the pelvic end goes too far and the spine is flexed in the chest region. This exposes the intestine to danger of being crushed, while it permits no or only imperfect expiration. Or the swinging may be so gentle that the pelvis sinks sideways. To avoid this, as soon as it is seen that the swinging was too gentle, the child should be dropped into the inspiration position or, if one is lively enough, take half a step forward; the resulting compensation in the shoulder and elbow region will catch the child still in the expiration position. Practice will teach the proper medium between too vigorous and too feeble swinging, so that the pelvic end of the child will sink gradually on its thorax. But this practice must not be done on the asphyxiated new-born child; that is too precious material for such exercises. They should be done on infant cadavers. He lays most stress on the supply of oxygen to the medulla oblongata which is attained by the swinging. At each swing about 20 c.c. of atmospheric air flows in and out of the lung, while the circulation of the blood is mechanically started at the same time. Without a supply of oxygen from without, as long as the circulation keeps up, the blood grows poorer and poorer in oxygen as it keeps yielding it up to the tissues. Nothing but a supply of oxygen to the medulla can revive its deeply depressed excitability. Although a hot bath may promote the circulation under other conditions, in the asphyxiated new-born child it can only aggravate the condition of the blood, augmenting its venous character. He regards the chilling of the skin as the best stimulus for the respiration when the child is only slightly asphyxiated. Only when the child does not breathe and cry after a few minutes of mild stimulation of the skin does he cut the cord, with as little loss of blood as possible, and then apply more vigorous measures.

Olhausen speaks a word in favor of blowing air into the lungs and also of letting a little blood escape from the umbilical cord in blue asphyxia when the symptoms seem to indicate that there is undue congestion in the inferior vena cava and right heart; the latter is not able to master its contents. He warns against too hasty and vigorous measures; the tender new-born must be treated differently from an older person or injury may result.

Nacke remarks that the Schultze swinging is probably done far too often and too much, but still the proper technic is rarely used. He wraps the child in a warm cloth, holding it across the back with the forefingers in the axillæ. He first dips the child in a hot bath, then in a cold, then rubs and if the heart is not working, massages the heart, and only when these fail does he swing it. He has found massage of the heart very useful, and thinks that the benefit from the swinging is due more to stimulation of the contractions of the heart than to stimulation of the respiration center. He percusses the heart region with four fingers of his right hand, thus tapping it elastically about three hundred times in a minute. The heart frequently revives after this even when no sounds had been perceptible from it with the stethoscope before.

196. **Relations Between Difficult Delivery and Nervous and Mental Trouble Later.**—Hannes has been investigating the present condition of 150 children born severely asphyxiated at the maternity at Breslau between 1893 and 1904. Also of a second series of 150 children delivered with forceps during the same period, and of a third series of 150 delivered spontaneously and normally. He sent a question-blank containing forty queries to the various families or filled it out himself from his knowledge of the children. The final conclusions from comparison of these groups are that difficult delivery has absolutely no influence on the nervous and mental condition of the child in later years unless there has been some direct injury of an organ, which is most exceptional. When the asphyxiated or forceps child survived the first week or so it developed thereafter the same as the normally born children, the proportion of cases of nervous or mental impairment being practically the same in each of the three groups, and the mortality in the first ten weeks being approximately the same. The data show further that the first-born children survive in much larger numbers than the children born to already large families.

198. **Albuminuria During Pregnancy and the Puerperium.**—Jaeger examined systematically the urine of 100 women during the last months of pregnancy and of 120 immediately after delivery. He found albuminuria in 70 per cent. of the pregnant women, and in 25 per cent. the albuminuria was of the orthostatic or lordosis type. Some latent bacterial influence is often responsible for the albuminuria and this influence may increase to actual direct injury of the kidneys during a later pregnancy or after delivery. He found tubecasts showing already pronounced injury of the kidneys in 11 per cent. With the lordosis type there were no tubecasts until after delivery. Albumin was almost invariably present in the urine during delivery and in larger amounts in primiparæ. Mechanical, toxic and infectious factors evidently are all involved in the albuminuria during pregnancy and childbirth, and also a constitutional predisposition on the part of the kidneys in the lordosis type.

Zeitschrift für Urologie, Berlin

August, V, No. 8, pp. 585-712

199 *Symptomatology, Diagnosis and Treatment of Horseshoe Kidney. (Hufeeisenniere.) T. Rovsing.
200 Congenital Hydronephrosis. J. Verhoogen and A. de Graeuwe.
201 Transformation of Bladder Epithelium Into Secreting Cylinder Epithelium. (Umwandlung des Blasenepithels in sezernierendes Zylinderepithel.) O. Zuckerkandl.
202 Nephrotomy Supplementary to Pyelolithotomy and Importance of Latter in Prevention of Tardy Hemorrhage from the Kidney with Nephrolithotomy. D. Kusnetzky.
203 Non-Prostatic Retention of Urine in Senile Bladder. M. W. Ware.
204 Neuralgia in Bladder, Due to Varicocele. B. Maraini.
205 *Operative Influencing of Kidney Secretion. (Betrachtungen über die Nierensekretion.) P. Heresco.
206 Metastatic Carcinosis of the Ureters with Anuria with Nephritis on Same Side. F. Schlagintweit.
207 Traumatic Hydronephrosis Cured by Pyeloneostomy. H. Wildbolz.
208 Origin of So-Called Hypertrophy of the Prostate. G. Marion.

September, No. 9, pp. 713-800

209 Acute and Chronic Healthy Gonococcus Carriers. (Gonokokkenträger.) P. Asch.
210 Prostate Lipoids and Prostate Concretions. H. L. Posner.
211 Syphilis of the Bladder. V. Pereschiwkin.
212 Congenital Diverticulum of the Urethra. J. P. Haberern.
213 Tuberculosis of Right Kidney Complicated with Right Parametritis; Peculiar Non-Tuberculous Changes in Left Ureter. J. Voigt.
214 Psychic Onanism. M. Porosz.

199. **Diagnosis and Treatment of Horseshoe Kidney.**—Rovsing has encountered four cases of horseshoe kidney in the last seven years and states that this deformity should be suspected whenever a patient complains of oppressive pain across the abdomen from one kidney region to the other, which subsides entirely when the patient reclines on his back; especially when the pain is brought on by physical exertion and becomes intensely exaggerated when the spine is bent over backward, and a tumor can be palpated from the right or left side in front back to the spine. In two other cases this syndrome was manifest except that the pain was not essentially augmented when the spine was bent over backward and the pain did not subside as the patient lay down on his back. In these cases an operation revealed that the trouble was merely a tuberculous affection of some mesenteric lymph-nodes. The pain from horseshoe kidney can be relieved only by repose and avoidance of all physical exertion. Where this is impracticable, operative measures are indicated, and in his third case Rovsing restored approximately normal conditions by cutting the kidney through the center, thus dividing it into two parts, each of which slid into its normal place and the patient thus has now two approximately normal kidneys. His attempt to do this through the ordinary slanting lumbar incision proved impracticable in his first two cases; in the third case he reached the kidney by the transperitoneal route, outside of the colon and duodenum, thus reaching the center of the single kidney by a rather roundabout road, separating and lifting the peritoneum, leaving intact the mesentery over the isthmus part of the kidney, as the mesentery at this point had evidently suffered from chronic pressure from the kidney. The isthmus in this case was a mass of true kidney tissue, and he avoided the otherwise inevitable copious hemorrhage by applying the liver resection technic, slowly squeezing the tissues in the grip of an angiotribe until the isthmus was reduced to a ribbon, and suturing on each side after this ribbon was cut. The results have been so excellent that he intends to propose this operation to the two other patients.

205. **Operative Influencing of Kidney Secretion.**—Heresco operated in 1903 in a severe case of diabetes insipidus in a youth of 15. He exposed the left kidney, which was loose and displaced, and massaged the renal plexus with kneading movements and then restored the kidney to place with the Guyon technic. His aim was to influence the functioning of the kidney as sympathectomy influences the tachycardia in exophthalmic goiter. The results surpassed all anticipations, the polyuria and polydipsia subsiding at once, and permanently over eight years to date. The skin and muscles bled profusely as they were incised, but as soon as the stem of the kidney was kneaded between the fingers all hemorrhage ceased. In 1909 a similar operation was done on another patient, a young man with diabetes insipidus and both kidneys displaced, but the results were not so striking as in the first case although the patient was much improved by the nephropexy on both sides and kneading of the renal plexus. Heresco has been studying on animals the influencing of renal secretion by manipulating the renal plexus, and emphasizes the necessity for abstaining from the slightest contact with the renal plexus when operating in cases with a tendency to anuria as any manipulating of the kidney has an inhibiting influence on its secreting function.

Zentralblatt für Chirurgie, Leipsic

September 16, XXXVIII, No. 37, pp. 1241-1272

215 *Arteriovenous Anastomosis for Angiosclerotic Gangrene. (Zur arterio-venösen Blutüberleitung bei angiosklerotischer Gangrän.) Wieting

216 *Staining of Living Tissues for Better Examination. (Ueber Färbung lebender Gewebe zu topographischen Zwecken.) Z. Slawinski.

215. **Arteriovenous Anastomosis for Angiosclerotic Gangrene.**—Wieting has performed this operation in five cases with excellent results, diverting the arterial blood into the venous system. These five were the only ones in his 150 gangrene cases in which the indications seemed to offer a prospect of success for this special technic, and the excellent outcome refutes, he declares, the theoretical objections that have been made against this operation.

216. **Staining a Fistula, Etc., to Aid in Diagnosing.**—Slawinski has found it of great assistance in excising a fistula passage to inject first a little saturated aqueous solution of methylene blue. The tissues take the stain and all the ramifications of the fistula are thrown into relief. The same technic is also useful at times to trace the course of normal passages. The stain is not washed away at once by the blood like bismuth paste.

Zentralblatt für Gynäkologie, Leipsic

September 16, XXXV, No. 37, pp. 1297-1328

217 *Serotherapy of Pregnancy Toxicoses. (Weitere Erfahrungen über die Behandlung von Schwangerschaftstoxikosen mit normalem Schwangerenserum.) A. Mayer.

218 Pituitary Extract as Oxytocic. (Pituitrin als wehentreibendes Mittel.) V. Bagger-Jorgensen.

219 Action of Epinephrin. (Zur Kenntnis der Adrenalinwirkung.) M. Schwab.

220 Glycogen Production in Uterus Glands. (Glykogenproduktion, eine physiologische Funktion der Uterusdrüsen.) L. F. Driessen.

221 Advantages of Local Application of Camphorated Glycerin in Gynecology. (Verwendung des Kampfers in der Gynäkologie.) R. F. v. Budberg.

217. **Serotherapy in Pregnancy Toxicoses.**—Mayer reports three additional cases with great benefit from three intravenous injections of 20 c.c. of serum from a normal pregnant woman. One patient was a young woman with severe eclampsia coming on during the sixth month of pregnancy. She was brought to the hospital in profound coma, no corneal reflex, pulse, 96 and tense; blood-pressure, 175; 7 per cent. albumin in the 80 c.c. of urine drawn from the bladder, but no distinct edema. The second injection was made after the twenty-first convulsion, the coma persisting unmodified except for transient rousing fifteen minutes after the first injection. In twenty minutes after the second there were signs of returning consciousness and after two hours another and the last convulsion followed, and improvement then rapidly progressed. A third injection was made at the seventh hour and spontaneous delivery followed in less than nine hours after the last convulsion. No other remedies were given. In another case the pregnancy intoxication manifested itself in numbness, itching or formication, all subsiding after an intravenous injection of 10 c.c. of serum from a normal pregnant woman. The third patient had severe and extensive herpes over the body which persisted for two months till delivery, and became much aggravated thereafter. An injection of 20 c.c. of normal pregnancy serum was then made, intramuscularly, as no site for an aseptic injection into a vein could be discovered. Improvement followed at once; two more injections were made before the whole body was freed from the herpes.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 10, XXXII, No. 109, pp. 1147-1162

222 *Syphilis of the Stomach. (La sifilide dello stomaco.) A. Mathieu.

223 Perineal Prostatectomy. (Ipertrofia prostatica complicata a calcolosi vescicale e a restringimento uretrale trattata colla prostatectomia totale perineale.) O. Betti.

September 12, No. 110, pp. 1163-1170

224 Immunizing Properties of Desiccated Tuberculous Sputum. (Proprieta immunizzanti dell'espettorato tubercolare disseccato al calore.) G. Romanelli.

222. **Syphilis of the Stomach.**—Mathieu gives a historical review of syphilitic lesions of the stomach from Andral's two cases in 1838 to date, citing in particular from Fournier's work on syphilis of the stomach in which he described two cases of "false cancer of the stomach;" a tentative course of mercurial treatment was almost casually instituted before the contemplated operation to remove the tumor palpated in the stomach, and in a few months all trace of the cancer had disappeared. In other cases the syphilitic lesions simulated cancerous stenosis at the pylorus or induced ulceration or changes in the shape of the stomach resulting in hour-glass stomach. In one of the cases cited the pylorus was resected before the syphilitic nature of the lesion was ascertained. In other cases the syphilitic stenosis at the pylorus continued to progress notwithstanding vigorous antisyphilitic measures. In another case an actress with a history of syphilis had apparently a hemorrhagic gastric ulcer, rebellious to ordinary measures but healing at once under potassium iodid. The patient had a recurrence a few years later while travel-

ing but no physician would heed her requests for antisyphilitic treatment for the hemorrhagic ulcer, and she used up nearly her last remnant of strength in traveling back to her old physician who again banished all symptoms by vigorous potassium iodid treatment. In another case a man was on the point of having an operation performed to relieve the disturbances from an hour-glass stomach, the change in shape having apparently come on gradually. A tentative course of antisyphilitic treatment induced striking improvement, and the stomach subsided more and more toward normal shape. There was evidently gummatous induration in the stomach wall shriveling and drawing it up at this point and thus separating it into two parts. In every case of severe stomach disturbances in a patient supected of syphilis, the possibility of a syphilitic origin should be borne in mind. The coincidence of tertiary syphilitic lesions elsewhere should suggest a tentative course of specific treatment.

Policlinico, Rome

September 10, XVIII, No. 37, pp. 1161-1192

225 Operative Treatment of Aneurysm of the Aorta. (Sui tentativi di trattamento chirurgico degli aneurismi aortici.) V. Barnabo.

Riforma Medica, Naples

September 11, XXVII, No. 37, pp. 1009-1036

226 Aortic Disease in Persons Working in High Temperatures. (Per l'eziologia delle affezioni aortiche negli individui che lavorano in ambienti sovrariscaldati.) E. Tedeschi.

227 Tumor of Dental Origin in Lower Jaw. (Caso di tumore di origine dentaria del mascellare inferiore.) U. Zandonini.

Ugeskrift for Læger, Copenhagen

September 7, LXXIII, No. 36, pp. 1309-1336

228 *Quack Humbug. (Arkana og Kvaksalvere.) V. Lassen.

228. **Quack Humbug.**—Lassen tells of some of the most flagrant examples of quack practices in Denmark, especially the orthopedic appliances made by quacks and sold at high prices as a remedy for all kinds of diseases and deformities. He gives an illustration of one, for instance, a harness of leather and metal comprising a corset fitting from axillæ to thighs, broad bands strapped around the thighs, calves and ankles, the harness fitting over the shoulders and under each foot—this complicated and expensive contrivance was fitted to an adult man solely for the purpose of correcting a pes valgus. Lassen asserts that the medical profession ought to use its influence in particular to obtain legislation requiring that permission must be obtained from the authorities before electric belts and the like can be advertised or sold, and that physicians and quacks in other countries shall not be allowed to advertise in Denmark without special permit, and that no one shall be allowed to make or sell orthopedic appliances without special training and having passed an examination by a board comprising at least one physician and one skilled orthopedist, and that the appliances must be made only on a physician's prescription and only when the appliance-maker takes the measurements himself. Lassen did not ask the medical society before which he was speaking to vote on these suggestions but he did appeal to the society to call the attention of the public health authorities to the damage wrought by unscrupulous quacks with their ill-fitting, gangrene-inviting bandages and harnesses which they sell for osteomalacia and all kinds of affections, robbing the poor right and left. He knows of many a family where a cow was sold to buy the electric belt or harness. He adds that not a few unthinking persons will ascribe such efforts on the part of the profession to professional envy, but he says that the medical profession never competes with quacks in selling electric belts and the like, and that it certainly will be able to prove its disinterestedness in wishing to place the making of orthopedic appliances in the hands of those specially qualified for the work. Lassen mentions parenthetically a certain James Kidd who lives in America and advertises extensively in the Danish papers that he will cure all diseases gratis. Lassen has ascertained that Kidd sends the same advice to all who apply to him, regardless of the symptoms they describe, and, of course, he has to be reimbursed for the medicines he sends. A postman has told Lassen that over $100,000 is sent out to Kidd every year from Denmark.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Experimenta on the Processing of Persimmons to Render Them Non-Astringent. By H. C. Gore, Assistant Chemist, Division of Foods, Bureau of Chemistry. With an Introduction by David Fairchild, Agricultural Explorer, in charge Foreign Seed and Plant Introduction, Bureau of Plant Industry. Bulletin 141, U. S. Department of Agriculture, Bureau of Chemistry. Paper. Pp. 31, with illustrations. Washington: Government Printing Office, 1911.

A Practical Handbook of the Diseases of the Ear. For Senior Students and Practitioners. By William Milligan, M.D., Aurist and Laryngologist to the Royal Infirmary, Manchester, and Wyatt Wingrave, M.D., Pathologist (Lately Physician) to the Central Throat and Ear Hospital, London. Cloth. Price, $5 net. Pp. 596, with 293 illustrations. New York: Macmillan Co., 1911.

Paludism. Being the Transactions of the Committee for the Study of Malaria in India. Edited by S. P. James and S. R. Christophers. Issued, under the Authority of the Government of India, by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 2 rupees. Pp. 129. No. 3. July, 1911.

Proceedings of the Council Massachusetts Medical Society, October 5, 1910, to June 13, 1911, and Proceedings of the Society, June 13 and 14, 1911. A Directory of the Officers and Fellows, July 1, 1911. Paper. Pp. 96. W. L. Burrage, Secretary, 282 Newbury Street, Boston.

Conduct and Its Disorders Biologically Considered. By Charles Arthur Mercier, M.D., F.R.C.P., F.R.C.S., Physician for Mental Diseases to Charing Cross Hospital. Cloth. Price, $3.25 net. Pp. 377. New York: Macmillan Co., 1911.

Fortschritte der naturwissenschaftlichen Forschung. Von Prof. Dr. E. Abderhalden, Berlin. Dritter Band. Paper. Price, 16 marks. Pp. 352, with 136 illustrations. Vienna: Urban & Schwarzenberg, 1911.

The Practice of Medicine. By Frederick Taylor, M.D., F.R.C.P., Consulting Physician to Guy's Hospital. Ninth Edition. Cloth. Price, $6 net. Pp. 1121, with illustrations. New York: Macmillan Co., 1911.

New Patents

Patents of Interest to Physicians

996200. Attachment for douche pans. Nettie E. Betsworth, Los Angeles, Cal.
996560. Apparatus for purifying water by ozone. Charles S. Bradley, New York.
996561. Ozonizing and compressing process. Charles S. Bradley, New York.
996399. Fumigating apparatus. Daniel N. Calkins, Rochester, N. Y.
996215. Device for producing sulfur dioxid. Philbert Contamin, Paris, France.
996330. Liquid dropper. George B. Haines, Chicago, Ill.
996350. Hot water bottle. Dumont P. Lamb, Portland, Ore.
996424. Hypodermic syringe. Buchannan W. Parsons, Missoula, Mont.
996128. Power syringe. Joseph Payne and J. E. Knapp, Belmont, Mass.
996836. Surgical appliance. George A. Conrad, Houghton, Mich.
996924. Massaging implement. Raymond W. Griffith, Milwaukee, Wis.
996850. Combined ozone generator and inhaling apparatus. Robert P. Guiley, Akron, Ohio.
996759. Disinfectant. Richard Haertel, Basel, Switzerland.
996773. Stable perborate mixture yielding hydrogen peroxid. August Klages and F. Sommer, Salbke-Westerhusen-on-the-Elbe, Germany.
997067. Surgical appliance. John W. Lange, Portersville, Cal.
996989. Shoe for flat-footed persons. Paul Langemann, Bremen, Germany.
997070. Bacteriological oven or incubator. Henry L. Lowe, Pittsburgh.
996679. Thermometer. Alfred Roesch, New York.
996797. Disinfecting device. Thad H. Rowland, Oberlin, Ohio.
997907. Dilator. William B. Dewees, Newark, N. J.
997914. Disinfecting device. Daniel N. Hitchcock, Kansas City, Mo.
997823. Speculum. Thomas H. Humphreys, Kissee Mills, Mo.
997514. Disinfecting compound and making. Joseph M. Schutz, Minneapolis.
997339. Ozonizer. Jan Steynis, New York.
997477. Process and apparatus for purifying solutions. Fritz Tiemann, Berlin, Germany.
998148. Surgical instrument. Robert A. Bachmann, Newoport, R. I.
998328. Massage implement. Charles Czinjak, Cleveland.
998000. Pill packaging machine. Otto E. Hermann and E. C. Dewitt, Chicago.
998310. Endoscope. Reinhold H. Wappler, New York.
41592. Self-recording thermometer case. Theodore H. Wurmb and R. Baumann, St. Louis.

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PRIMARY CARCINOMA OF THE FALLOPIAN TUBE *

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It is a well-known fact that no portion of the body is immune to the invasion of carcinoma. The more ready exposure of certain portions of the structure to traumatism renders its appearance in such tissues more probable. It is not surprising, then, that the cervix, exposed as it is to frequent injury in coitus and the course of pregnancy, should be the most frequently involved.

The many changes to which the active cellular structure of the ovary is subject render it particularly vulnerable to cancer, and authorities agree that probably 20 per cent. of ovarian tumors will prove malignant. Situated as the tube is, between two such vulnerable organs and in direct functional relations with them, it could scarcely be seen how extension from these structures to the tube could be avoided.

Notwithstanding the frequency of cancer in the ovary, the investigations of Orthmann would seem to show that carcinoma is rarely transmitted from it to the tube. It is true that 8 per cent. of all reported cases of tubal cancer are associated with tubo-ovarian cysts, but careful observation indicates that the disease was primary to the tube and had been projected into the ovarian portion.

In seeking a cause for such involvement it is found in the irritation cells which result from tubal inflammation. In all the cases, carefully observed, the malignant disease has been preceded by long-continued tubal inflammation. Inflammatory conditions of the tube are so frequent that abundant opportunity exists for development.

Primary carcinoma of the Fallopian tube is regarded as a rare affection, and it is rare, when compared with the frequency of carcinoma in the uterus. The investigations of Orthmann, Boxer and others, have demonstrated its occurrence more frequently than supposed. While sarcoma and chorio-epithelioma have been found, carcinoma is much more frequent.

Boxer, in his contributions to the knowledge of tubal carcinoma, has analyzed 100 cases.

In its early stages the disease presents no symptoms which are likely to awaken the fears of the physician. Indeed, the gravity of the condition may be overlooked when the patient is subjected to operative procedure, unless the specimens removed are as a routine procedure subjected to microscopic investigation.

The most frequent symptom is menorrhagia, and a watery discharge is not infrequent. Pain as a consequence is rare. It is true the patient may complain of an uncomfortable sensation in the affected side of the pelvis.

The symptoms enumerated are common to a number of conditions within the pelvis, and take place in women who have had prolonged or repeated inflammatory attacks. The appearance of such symptoms in women who have pelvic disorder, and especially a thin, watery discharge, should be an indication for early operative interference.

The neoplasm, even when exposed, does not always present an appearance which should warn the operator of its gravity. While the largest percentage of reported cases occur between the ages of 45 and 50, the proportion is not sufficiently great to be of any diagnostic importance. It has been found in women who had passed the sixtieth year, and as early as the twenty-seventh year.

The occurrence of menorrhagia and watery discharge in women who have been victims of pelvic inflammation, when found associated with enlargement of the tubal structure should be regarded as danger-signals of sufficient importance to demand investigation through an operative procedure.

Neoplastic rather than inflammatory involvement indicates radical removal. When both tubes and ovaries are involved in neoplastic change, or the tubes only, the operative procedure should include the removal of uterus and ovaries as well as the tubes.

The diagnosis of malignant neoplasm cannot be made from the macroscopic appearance only. No case should be accepted as malignant when such diagnosis is not confirmed by the microscopic findings.

A very interesting case illustrating the importance of the position I have just stated was sent by me to my private service at the Jefferson Hospital, Sept. 9, 1910.

History.—The patient was aged 34 years, married twice, but never pregnant. The only constitutional condition incident to the family was tuberculosis, although none of the immediate family had died of it. The patient's husband informed me that his wife's first husband had died of cancer. Puberty was established at the age of 14. Periods were regular, profuse, painless, and lasted four to five days. She had been treated for pulmonary tuberculosis during the last two years, but had apparently recovered. Five months before coming under my observation she began to experience pain in the pelvis for four or five days preceding menstruation. The menstrual periods occurred every three weeks, lasting three to four days, and were very profuse. She had also noticed during this time a whitish discharge.

Examination.—This disclosed a retroversion of the uterus, and behind it to the right was a mass the size of an English walnut, which was quite movable. Diagnosis was retroversion with endometritis and a prolapsed right ovary.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Operations.—The patient was subjected to operation on September 10. The uterus was dilated and curetted, and the abdomen opened by the Pfannenstiel incision. The mass on the right side was found to be a neoplasm of the end of the tube, which was not adherent but freely movable. It was removed. The left tube was adherent and considerably thickened in its central portion. I contented myself with separation of the adhesions, and proceeded to shorten the round ligaments by carrying a loop of each between the layers of the broad ligaments and through the aponeurosis. The appendix was removed, although it presented nothing of an inflammatory character. The neoplasm, when cut through, gave the appearance of a fibroid which was undergoing fatty change. Microscopic examination disclosed the growth to be cylinder-cell carcinoma.

This report reached me on September 23, and the following day I removed the uterus, the remaining tube, and both ovaries. I was impelled to do this by the fact that at the previous operation I had found the left tube considerably thickened in its central portion.

Postoperative History.—With the exception of a slight phlebitis of the left leg, which developed on the fifth day after the second operation, the convalescence was very satisfactory. The patient was discharged in good condition Oct. 22, 1910. A week later some induration occurred at the lower angle of the wound, and a small quantity of sero-purulent fluid was discharged. A sinus discharging very slightly persisted for some months before it finally healed. It was difficult to account for this, as no silk was employed, either as ligatures or buried sutures. At the end of eight months the patient had gained 50 pounds, and seemed in the best of health. The uterus removed, aside from a small interstitial fibroid, was in good condition. The left tube the pathologist reported to be a tuberculoma.

This patient, but 34 years of age, presented the anomalous condition of carcinoma in one tube, tuberculosis of the other, and a myoma in the uterus. Her future cannot but be interesting.

CONCLUSIONS

The study of the cases which have been reported by a number of observers would seem to justify the following conclusions:

1. Menorrhagia and watery discharge occurring in women giving a history of previous tubal inflammation should be regarded as danger-signals demanding careful investigation.

2. The association with such symptoms of tubal masses should be considered as requiring their removal, and where both tubes are involved the removal of the uterus through an abdominal incision.

3. All neoplastic masses of the tube should be subjected to microscopical investigation, for only thus can the diagnosis as to malignancy or non-malignancy be accurately determined.

1426 Spruce Street.

Scientific Investigation vs. Theorizing and Speculation.—The utter futility of the speculative method as a means of attaining effective knowledge is completely demonstrated by the stagnation and inefficiency of medicine under its influence for thousands of years. The only sure and effective way of gaining knowledge is the empirical method, by patient observation and investigation, the tardy adoption of which was the sole means by which internal medicine has been revolutionized and vivified. The keynote of the true method was struck by John Hunter in his advice to Jenner when the latter was beginning to ponder on the subject of vaccination. "Do not think, investigate." The whole history of medicine is an imposing demonstration of the futility of theorizing and the utility of scientific investigation.—Nichols in *Popular Science Monthly.*

A MILK-BORNE EPIDEMIC OF TYPHOID FEVER

AND THE DEMONSTRATED VALUE OF THE WIDAL REACTION IN DETECTING A TYPHOID CARRIER

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This epidemic of typhoid fever, which occurred among the customers of one milk distributor, is reported, that once more the probable danger to the community of a carrier of infection, engaged in the production of a food, may be emphasized, and the value of the agglutination reaction of Widal, as a means for locating such a carrier, be more fully appreciated. By reports of such epidemics the public will be aroused to the dangerous possibilities of these carriers. With this realization, the cooperation of whole communities, which is lacking at present, will be enlisted, the selfish personal motives and prejudices of ignorance, which attempt to block the efforts of the health service, will be overcome and the culmination will be a general demand that methods be devised and means be generously provided that such carriers may be sought out in advance, and such epidemics thus anticipated.

In the last twenty-five years, an average of 106 cases of typhoid fever has been reported yearly to the Board of Health of Worcester, a city with a population of 145,000 at present. This is, roughly, an average of one case a thousand of population a year for this period. In fact, however, the city has more than doubled in population in these twenty-five years, while the aggregate number of cases of typhoid fever is actually less in the second half of this period than in the first, increasing this ratio markedly. In the year 1910, the records of the health board show 295 reported cases, more than one case to each five hundred of population. The source of infection in 204 of these cases can be traced to one milk distributor's route. Through misunderstandings between responsible parties because of a change in physicians or transfer to the hospitals, nine additional cases were discovered after the epidemic was over, no report of which had been made to the Board of Health, and this number rightfully should be added to these 204 cases. Thus, in this epidemic at least 213 cases with ten deaths may be certainly attributed to one milk route. If the source of infection in several other cases could be surely traced, it is probable that several more of the 295 reported cases would be enumerated in this epidemic. Of these 213 cases, more than 180, after careful study, may be classed as primary, and it may be said that their infection was incurred at practically the same time. The remainder for the larger part were cases developing in families secondarily to one of the primary cases. Two were nurses employed in the hospitals in the care of primary cases, and a few are to be attributed probably to two cases among the employees of the distributor, who will be mentioned later.

From Jan. 1 to Aug. 11, 1910, only eighteen cases of typhoid fever had been reported to the Board of Health. During that day (August 11) seven more cases were reported. Six of these were on one milk distributor's route. An investigation of the premises of this distributor was made the following morning. Two of his employees complained that for the past two or three days they had had head and back aches, loss of appetite, felt weak and tired, but had continued about their work of distributing milk, washing bottles and other utensils used in the distribution of the milk. On physical examination, both had rose spots and temperatures, the higher only 100.5°. Blood examination showed positive Widal agglutination reactions in both. They were at once removed to the hospital. Specimens of blood and examination of all other persons on the premises were negative in results. These two cases of typhoid fever were not the source of the infection of the six cases reported on the day previously, as their symptoms were synchronous or even later in onset. It was concluded, however, that their infection was incurred from the same source. Therefore, evidently a prior source for the common origin of the infection had of necessity to be sought.

This distributing milk man secured his supply from a milk car and four dairies within a few miles of the city. From the milk car several other distributors also obtained their supply. No cases had developed on their routes. This fact seemed temporarily to rule out the car and its supply as the source of infection. That afternoon the four dairies were investigated. On ordinary inspection there was nothing suspicious about them. No person living on any of these farms, so far as could be learned, was or had been recently sick, with the exception of one woman, who, it was definitely proved before the day was over, did not have typhoid fever. That evening the specimens of blood obtained from every person connected with these dairies—men, women and children—were examined by the agglutination test for typhoid. Of these twenty-five or more specimens one gave a positive Widal test.

This man of the positive Widal was visited again the next day, and his previous history more carefully taken. He had been producing milk for thirty years. He said that he had had typhoid fever twenty-six years ago. For years he had not been sick enough to be confined to the bed. Two weeks before, however, he recalled that for a few days he had had a slight attack of diarrhea with some headache, accompanied by a small amount of bright blood in the bowel movements. He had not given this any especial attention, because he had been subject for years to such attacks, together with bleeding from hemorrhoids. He daily assisted his hired man with the milking and handled the utensils. He boarded in a family of nine, none of whom had had typhoid recently. Their Widals were all negative.

Subsequently (August 19-26), specimens of urine and feces were obtained from this man on four different occasions over a period of eight days. These were examined after the method described by the Overlanders, Graham and Dailey,[1] oxbile, malachite green and Endo's fuchsin agar media being used. The stools were negative as to typhoid. From each of the four specimens of urine, one or more actively motile bacilli was isolated. These bacilli did not stain by Gram's method, did not produce gas in dextrose agar, nor curdle milk, but did produce, however, a slight initial acidity in litmus milk followed by a return to the original reaction the same as did the control. There was no production of indol in peptone solution and no liquefaction of gelatin in seven days. These organisms were agglutinated in a few minutes by a dilution of 1-200 of blood-serum obtained from three different known typhoid patients. At this time, I was undergoing a course of inoculations with typhoid vaccines; my blood-serum also completely agglutinated them in the same dilution in fifteen minutes.

More than two months later (October 31-November 4), this man's blood and urine were again examined. The blood in a dilution of 1-200 gave a positive agglutination reaction with typhoid organisms in less than one-half hour. The three specimens of urine collected on alternate days and plated on Endo gave an abundant growth of only one type of colony. More than seventy of these colonies having been picked off, it was found that each one reacted similarly to the tests previously enumerated. In addition, at Professor M. J. Rosenau's suggestion, a rabbit was repeatedly inoculated during a three-week period with a vaccine made from one of these organisms. The serum of this rabbit at the end of that time gave a macroscopic agglutination reaction when tried out in series against cultures of the laboratory typhoid organism in a dilution as high as 1-1100. The serum of a second rabbit, employed as control and similarly treated with vaccine from the stock laboratory typhoid organism, agglutinated one of these organisms isolated from the urine in a dilution of 1-1350. This was as high a dilution as that in which the stock laboratory typhoid organism itself in the control series was agglutinated by the serum of this second rabbit.

The plates of this last examination were in marked contrast, presenting an entirely different condition of affairs from that which was found when, this same technic having been employed the preceding year, an examination was made of the urine and feces of twelve convalescent typhoid fever patients from the wards of the Worcester City Hospital, the bacteriologic work of both years having been performed in the laboratory of that institution. These twelve patients had been free from fever for from ten days to two weeks or more when examined. A typhoid organism was recovered from three, a positive result of 25 per cent. for the twelve cases. However, out of more than five hundred organisms isolated from these twelve cases, only three proved to be typhoid organisms — that is, only one typhoid organism was isolated in each of the three cases which were positive, while in this carrier case every one of the numerous colonies on the plates apparently was a typhoid colony.

The agglutination reaction seems of much value in tracing the source of milk-borne epidemics of typhoid fever, to judge not only from the experience just cited, where it was most instrumental in bringing this case of a carrier to light, but also from that of the preceding summer in two epidemics of fortunately a markedly smaller number of cases. The probable proof of the source of these two epidemics was not as certainly established by actual attempted isolation of the organism as in this epidemic just reported. The cooperation of the suspected individuals was lacking in submitting to further tests than a Widal, for their hostility was aroused because of the fear that their private interests would be jeopardized.

In the first of these epidemics eight cases occurred on one milk route. On the dairy farm suspected as the source was a case later diagnosed as typhoid fever, synchronous in symptoms with these eight cases, and therefore not the source of their infection. The people living on the farm were questioned, and it was discovered that one young man who had never had any severe illness in his life, had had, some two or three weeks previously, an attack of so-called "grippe" of about two weeks' duration, during which time he had felt unable to attend to his business. For two of those days he had had an attack which he called "cholera morbus." His blood gave a positive Widal reaction.

To the second of these epidemics at least fourteen cases of typhoid fever on one milk distributor's route can be attributed. In the search for a source of infection more than fifty Widals were performed on specimens of blood obtained from all the persons living on the different dairy farms supplying this distributor. Only one of these Widals was positive. The man from whom this specimen was obtained gave no history of any recent illness. The evidence that he might be the probable source was strengthened by this fact: the milk from this one of the several dairies was the milk bottled for the more particular customers, and on further analysis of the cases it was found that it was among those consuming this bottled milk that the fourteen cases occurred.

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[1] Overlander, C. L. and J. E., Graham and Dailey: Boston Med. and Surg. Jour., Jan. 14, 1909, clx, No. 2, p. 38.

It has been remarked that the light cases of typhoid fever, unrecognized as such, and the carriers of the specific organism constitute the most formidable source of infection in a community possessing a pure water-supply. Each epidemic leaves its residue of chronic carriers, that are a threat of future epidemics. These carriers should be sought out and prohibited from engaging in such an occupation as cooking, baking, dairy work, etc., which may from the articles handled and consumed without further cooking endanger the lives of others. Milk, from its nature, is an especially fine culture medium; if contaminated with typhoid bacilli, particularly in the warm summer months, it is a most “effective” intermediary agent from the carrier to the consumer.

The recommendation of the committee of the American Public Health Association on typhoid fever that physicians should be impressed with the necessity of reporting this disease promptly is an excellent one. For, “until the physician, who is really the scout of the public health service, reports the location of the enemy, all our paraphernalia with all its elaborate organization is at a standstill.”[2] The truth of this statement is shown by the epidemic reported in this paper, since the Board of Health had no inkling that such an epidemic was about to burst on the community until physicians reported actual cases, when the two employees as secondary sources of further infection were promptly recognized and removed. But these light cases, for which physicians are not called in, and carriers, because they are unrecognized as such, are the real danger of initiating other epidemics.

Typhoid fever has been called a preventable disease, and to consider it as such is certainly the goal which the public health service must strive to attain. That man constantly harbors the specific organism of typhoid fever is generally recognized at present. Precautions are taken to protect the public from typical cases. If the chronic carriers of this disease could be known, and the food and water-supplies, as intermediate bearers, be protected from their contamination, typhoid fever could soon be stamped out. The disease is preventable only by working along this line. Therefore, the new and serious problem that confronts the health service at present is, How is this knowledge of a carrier, which is of such recent recognition, to be gained, before it is bought at the extravagant price of an epidemic? A method of defense for this new problem, that is in the least satisfactory, has not as yet been advised.

The various methods advocated for the discovery of carriers, as general examination of excreta, or even only the examination of the excreta of those persons with a history of a previous typhoid infection, are propositions too large to be practicable. The second suggestion makes no allowance for the fact that in many cases of typhoid carriers there is a lack of a previous history of typhoid fever, and again that many carriers excrete the bacilli only intermittently.

From the experience of the last two years as set forth in this paper, the suggestion is made that specimens of blood for Widals be taken generally from persons living on dairy farms or handling foods that are consumed without further cooking, and then that the excreta of those only that give a positive agglutination reaction be examined. The Widal reaction in most cases of typhoid fever rapidly disappears after defervescence. The presence of post-typhoid suppuration somewhat increases its persistence.[3] Most carriers possess it. Therefore, if a Widal reaction persists, that person if employed as mentioned above should be looked on with suspicion until proved free from typhoid organisms by repeated examinations of excreta.

This procedure also is an immense proposition, when, as is the case in the city of Worcester with a population of 145,000 for an example, milk is supplied from more than 600 dairies and 900 stores and distributors. These statistics take no account of bakers, cooks and other persons who come in intimate contact with other kinds of food. This simple procedure of a Widal reaction, however, should certainly be carried out on the blood of all persons handling, or living on farms producing, milk which is put on the market as certified.

61 Pearl Street.

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[2] Am. Jour. Pub. Hyg., February, 1910, xx, No. 1 (New Series vi, No. 1), p. 50.

[3] Louisson and French. Guy's Hospital Reports, 1907, lxl, p. 227.

THE TRYPTOPHAN TEST FOR CANCER OF THE STOMACH WITH SPECIAL REFERENCE TO PEPTIDOLYTIC ENZYME IN THE SALIVA *

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INTRODUCTION

The attention of the medical profession has recently been drawn to new ways of diagnosing cancer of the stomach by means of tests for the simplest products of protein digestion. Emerson,[1] who was among the first investigators to approach this field, found that “cancer tissue contains a ferment which, in the thermostat as well as in the stomach, is able to digest proteins beyond the peptone (‘albumose’) stage.” He also observed that “this ferment is active in the presence of *free* hydrochloric acid.” Emerson's discovery, coupled with the well-known fact that pepsin does not, in the stomach, conduct the cleavage of proteins beyond the stage of peptones, offered a method of determining whether or not the stomach has been invaded by a cancerous growth. A test for cancerous enzyme, if based on Emerson's findings, could not be applied, however, with the ease and directness which is desirable in clinical work.

THE GLYCYLTRYPTOPHAN TEST[2]

About two years ago Neubauer and Fischer[3] published a new test for cancer of the stomach, which was based on this same principle, but was applied specifically to the detection of an enzyme having the power of digesting a simple peptid. The substrate selected for this test was glycyltryptophan, a synthetic dipeptid containing the molecular radicals of glycin and tryptophan. Glycyltryptophan is readily hydrolyzed into these two amino-acids. Neubauer and Fischer selected glycyltryptophan as the peptid substrate for their test because tryptophan, which can readily be produced from it by enzymolysis, is the amino-acid that may be detected in the easiest and most direct manner.

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* From the laboratory of biological chemistry of Columbia University, at the College of Physicians and Surgeons, New York, and under the auspices of the George Crocker Special Research Fund.

[1] Emerson: Deutsch. Arch. f. klin. Med., 1901-02, lxxii, 415.

[2] In this paper the phrase “glycyltryptophan test” is invariably employed to indicate the Neubauer and Fischer process, which includes the use of glycyltryptophan. The term “tryptophan test” will be used to designate the author's method, which does not involve the use of glycyltryptophan. See Weinstein, J. W.: The Journal A. M. A., Sept. 24, 1910, p. 1085.

[3] Neubauer and Fischer: Deutsch. Arch. f. klin. Med., 1909, xcvii, 499.

In the test, as recommended by Neubauer and Fischer, glycyltryptophan is added to a sample of the stomach contents in question and the mixture is incubated for twenty-four hours. The presence or absence of peptidolytic enzyme is then ascertained by determining with the aid of bromin water, whether or not tryptophan has been produced. A positive result which, according to Neubauer and Fischer, could not occur through the action of anything in normal gastric juice or contents, indicates the presence of a peptidolytic enzyme and implies the occurrence of carcinoma of the stomach, whereas, according to the same authors, a negative result indicates the non-occurrence of carcinoma. Neubauer and Fischer supported their conclusions as to the significance of this test with a series of convincing clinical observations. Naturally, this new test for cancer of the stomach promptly received a great deal of attention and interest.

THE TRYPTOPHAN TEST

I recently published[2] the results of some experiments which showed that the use of glycyltryptophan is superfluous for the detection of tryptophan-producing enzyme in gastric contents. A gastric cancer secretes enzyme which is capable of hydrating proteins into tryptophan and other amino-acids. Gastric contents always contain proteoses and peptones that are readily convertible by cancer enzyme into their corresponding simpler peptids and amino-acids, including tryptophan.[4] Consequently, it is unnecessary to add either a specific protein, or a simple peptid, or glycyltryptophan, as a tryptophan-yielding substrate for the easy detection of cancer protease in stomach contents.[4] It was shown by me that plain stomach contents served more satisfactorily for this purpose than stomach contents mixed with glycyltryptophan.

Previous observers, among them Erdman and Winter-itz,[5] Glaesner,[6] and Volhard,[7] employed stomach con-ents directly for a similar purpose, but as incubation vas not a part of the process in any of their methods, heir observations as well as their findings, have little practical bearing on the method which was recommended n my original paper.

WARFIELD'S STUDY OF THE ACTION OF SALIVA ON GLYCYLTRYPTOPHAN

There has been wide difference of opinion regarding the value of the glycyltryptophan test for gastric carcinoma. A few have commended it highly, but a large majority have pronounced it valueless. The main objection which has been raised against the test is that glycyltryptophan yields tryptophan in a large number of cases in which no cancer exists, as shown at autopsy and by operation. It has been asserted that most achylia gastrica cases, whether due to carcinoma or not, give a positive reaction with glycyltryptophan.

Warfield[8] has lately made observations which help us to understand the current differences of opinion regarding the value of the glycyltryptophan test.[9] Warfield has found that the saliva of some people, when not acid (to litmus) to begin with, is capable of decomposing glycyltryptophan into glycin and tryptophan. He concluded that *swallowed alkaline saliva*, when mixed with neutral or faintly acid gastric liquid, imparts to the latter the power of producing tryptophan from glycyltryptophan, thus rendering "the *glycyltryptophan test* of no value in the diagnosis of cancer of the stomach." Warfield has shown that the peptidolytic enzyme in saliva is destroyed by heat.[10]

THE AUTHOR'S CONFIRMATION OF WARFIELD'S RESULTS

I have verified Warfield's findings. Every specimen of saliva, except one, in a total of eight was found to exert marked peptidolytic power on glycyltryptophan within twenty-four hours. The experiments in this connection were performed with glycyltryptophan and saliva directly, as a simple mixture, *and also after their mixture with stomach contents, which had either been neutralized or which contained a slight proportion of acid.* Neutralization in these cases was effected with one of the following alkalies: calcined magnesia, sodium bicarbonate and sodium hydroxid (1 per cent. solution).

No attempt was made to ascertain the limit of acidity within which saliva is able to induce the production of tryptophan from glycyltryptophan. Warfield states that acidity greater than that of a 0.05 per cent. hydrochloric acid solution prevents such action.

THE SPECIAL SIGNIFICANCE OF WARFIELD'S FINDINGS

The important facts which have been disclosed by Warfield explain in part the past difficulties with the glycyltryptophan test. That they render its positive responses particularly unreliable in cancer diagnosis is obvious, for such results may be due to swallowed saliva. On the other hand, that Warfield's findings do not disqualify my tryptophan test for cancer of the stomach is equally clear, since the salivary protease does not produce tryptophan from the proteins in non-cancerous gastric contents.

All investigators of the subject agree on the proposition that cancer secretes enzyme which is capable of converting protein into amino-acids. The tryptophan test has all the advantages and none of the disadvantages of the glycyltryptophan test. Warfield's peptidolytic salivary enzyme is devoid of effect on the tryptophan test. I have repeatedly added saliva to normal stomach contents of different degrees of acidity, but have never been able to detect tryptophan, even after prolonged incubation of the mixtures. In one special instance a specimen of stomach contents that contained no *free* hydrochloric acid, and which had been carefully neutralized with sodium hydroxid, (1 per cent. solution), *was mixed with saliva and kept in a thermostat for fourteen days.* Not a trace of tryptophan could be detected in the mixture at any time during the period. A few protocols, in this and other connections, are appended:

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[4] It is not very likely that stomach contents ever contain mixures of proteins which would wholly fail to yield tryptophan among he products of complete proteolysis. Gastric mucus yields tryptohan under such conditions. Casein, egg albumin, gliadin and practically all other ordinary food proteins yield tryptophan in comparatively large proportions. It is probable that the proportion of ryptophan which is produced from the proteins in stomach contents, nder favorable conditions for the test, is sufficient for detection in ll cases except those characterized by practical absence of peptidolytic enzyme. But in such instances glycyltryptophan would lso fail to yield detectable proportions of tryptophan. Whether e tryptophan that arises from proteins in stomach contents (in e tryptophan test) is ever decomposed, and sufficiently reduced quantity (through the continued action of the enzyme), to yield negative result with bromin water cannot be decided at present. hus far, however, all observations indicate that no uncertainty is troduced into the test in this way.

[5] Erdman and Winternitz: München. med. Wchnschr., 1903, 982.

[6] Glaesner: Berl. klin. Wchnschr., 1903, xl, 599.

[7] Volhard: München. med. Wchnschr., 1903, l, 2129.

[8] Warfield: Bull. Johns Hopkins Hosp., 1911, xxii, 150.

[9] In referring to "the stages in the complete digestion of coagulable proteins" Warfield states that metaproteins are "commonly called albumoses." It is evident that in this case *albumoses* is a misprint for "albuminates."

[10] Dr. Gies, although suggesting the probability of ereptic and tryptic excretion by the salivary glands, thinks it possible also that the tryptophan-producing enzyme in mixed saliva is derived in part from bacteria in the mouth, especially from cavities in carious teeth. He has planned to investigate these possibilities.

Mrs. S. N., suffering from chronic gastritis, has been coming to my service at the Vanderbilt Clinic for the past nine years to get hydrochloric acid, which does her good. Examination of stomach contents shows: Free hydrochloric acid, none; combined acid, none; total acidity, 4; reaction to litmus, faintly acid.

GLYCYLTRYPTOPHAN TESTS (I-III)

I. Stomach contents, 20 c.c.
Saliva, 10 c.c.
Glycyltryptophan, 1 c.c.[11]
= Marked tryptophan reaction in twenty-four hours.

II. Stomach contents, 20 c.c.
Saliva (previously *boiled*), 10 c.c.
Glycyltroptophan, 1 c.c.
= Marked tryptophan reaction within twenty-four hours.[12]

III. Stomach contents, 20 c.c.
Water, 10 c.c.
Glycyltroptophan, 1 c.c.
= Tryptophan reaction; not so marked, however, as before, in twenty-four hours.[12]

TRYPTOPHAN TEST (IV)

IV. Stomach contents (neutralized with NaOH), 28 c.c.
Saliva, 20 c.c.
Glycyltryptophan, *None.*
Toluol, a few drops.
= No tryptophan reaction.[13]

The effect of saliva on Witte peptone has been tried in experiments of a similar nature—such as are outlined below:

TRYPTOPHAN TESTS (A-B)

A. Witte peptone, 2 gm.
Saliva (Jacob's), 10 c.c.
Water, 20 c.c.
Incubation, 7 days (with toluol).
= No tryptophan reaction.

B. Witte peptone, 2 gm.
Saliva (Kraus's), 10 c.c.
Water, 20 c.c.
Incubation, 7 days (with toluol).
= No tryptophan reaction.

THE AUTHOR'S FURTHER EXPERIENCE WITH THE TRYPTOPHAN TEST

I have been employing the tryptophan test for over a year and have found it a valuable sign in the diagnosis of cancer of the stomach. The main objection to the Neubauer and Fischer test is the frequent occurrence of positive responses in non-carcinomatous contents. This is not the case with the tryptophan test. On the contrary, in the case of the tryptophan test, *negative* responses have occurred in some specimens of stomach contents from true cancerous cases. By means of the tryptophan test I was able recently to distinguish all the malignant from the benign states in a series of pyloric obstruction cases prior to operation. Everybody knows the unusual difficulties that beset the endeavor to make a differential diagnosis of malignant from benign obstruction of the pylorus, since all the clinical features are the same in both conditions.

I am confident that the tryptophan test outranks every other available laboratory means for the diagnosis of cancer of the stomach. Further investigation is necessary, however, before it can be said that one or two positive tryptophan findings in stomach contents absolutely prove the existence of carcinoma. This degree of uncertainty is much less, however, than that connected with any other "sign of cancer." Among the "other signs" are absence of free hydrochloric acid from stomach contents, presence of lactic acid in stomach contents, occurrence of occult blood in stomach contents or feces, stasis of food, and the results of such newer methods as the Solomon, meiostagmin and hemolytic tests. Free hydrochloric acid is absent from stomach contents not only in gastric cancer, but also in chronic gastritis, pernicious anemia, exophthalmic goiter and achylia gastrica. On the other hand cancer of the stomach, chiefly of the pyloric region, may be accompanied by normal and even hyperacid states of the contents. Lactic acid, an important sign, frequently fails to occur in the contents of the stomach in cancerous cases, and it is occasionally present in undoubted cases of chronic gastritis. In general, lactic acid is prone to occur when free hydrochloric acid is absent and especially, also, when the motor powers of the stomach are impaired. Boas-Oppler bacilli are an excellent diagnostic feature of carcinoma ventriculi, but only when present in large numbers. Unfortunately they appear only when the invasion of the stomach by the carcinoma is extensive. They are never present unless free hydrochloric acid is absent and, in general, are not of very common occurrence. Occult blood in stomach contents and in feces occurs in ulcer of the gastro-intestinal tract, cirrhosis of the liver, and also in cardiac and renal cases that are attended by congestion of the viscera. The Solomon, meiostagmin and hemolytic tests are positive in conditions other than carcinoma.

I have made hundreds of applications of the tryptophan test to stomach contents. I have never obtained a positive response in any *undoubted* non-cancerous case, except such as resulted from gastro-enterostomy, in which the resultant artificial conditions favored the flow of intestinal contents into the stomach and thus caused the hydrolysis of the proteins into amino-acids by intestinal protease.

Whether the occurrence of tryptophan in the gastric contents affords an early sign of cancer, I cannot say. Thus far I have not diagnosed a case in its early stages by means of the tryptophan test. I have had several cases, however, in which the first sign of cancer of the stomach was a positive response in the tryptophan test —all other signs failing to give a clear indication. I have lately had an elderly patient (Mrs. O. R.), who suffered from digestive disturbances accompanied by low gastric acidity. Her nutrition and general condition were such as to preclude the diagnosis of carcinoma, and I thought I was dealing with a case of chronic gastritis. The tryptophan reaction, however, was repeatedly positive. Four to five weeks later a tumor appeared in the region of the stomach, which grew very rapidly. The case was then diagnosed by every one who saw the patient as an undoubted case of cancer of the stomach. Operation was proposed, but the patient disappeared from observation.

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[11] This quantity of glycyltryptophan solution is the volume provided by Kalle & Co. (Biebrich am Rhein) for a single test in accord with the directions of Neubauer and Fischer. The volume is usually a little greater, though it is seldom more than 1.5 c.c. The exact concentration of the solution is unknown to me.

[12] This positive result was due undoubtedly to the enzyme which had been introduced into the gastric contents in the saliva *swallowed* by the patient.

[13] This mixture was kept in a thermostat for seven days, but no trace of tryptophan could be detected at any time during that period.

Another experience of mine related to an elderly man (N. F.) who presented himself to my service at the Vanderbilt Clinic with stomach trouble. I obtained several positive tryptophan tests and on the strength of these only, as the other features did not clearly indicate malignancy, I advised an operation. This was refused by the patient, who disappeared from observation. Three months later I traced him to Mount Sinai Hospital. There an exploratory laparatomy was performed and a lymphosarcoma of the middle of the stomach was found and resected.

ANOMALOUS EXPERIENCES WITH THE TRYPTOPHAN TEST

In numerous applications of the tryptophan test I have had anomalous experiences with several cases. The stomach contents of one patient (Case 16 of my original paper), a man of 54 with a suspicious history of carcinoma, gave repeated tryptophan tests in the presence of free hydrochloric acid. The patient felt well afterwards for a couple of months, when I lost track of him for a time. Lately, however, I have had the opportunity of again examining him. He is now in good health and apparently free from cancer of the stomach.

Another anomalous case was that of a middle-aged woman, who had a typical pyloric obstruction, with marked peristaltic movements and gastrectasia. The tryptophan test was repeatedly positive. The patient refused an operation. Four months later she seemed to be somewhat improved, but still had all the stigmata of pyloric obstruction. At that time two tryptophan tests applied to different specimens of gastric contents were negative. This patient is now in the hands of a colleague who thinks that her pyloric obstruction is a benign one, because it shows no signs of further increase. We should not forget, however, that a scirrhous carcinoma is of slow growth and that, with a very small open passage through the pylorus, and lavage, the patient may hold her own for a long time.

Another case of interest in this connection was that of Mrs. L. S., aged 64, who presented a typical history of cancer of the stomach, such as sudden onset of illness of nine months' duration, loss of appetite, considerable loss of flesh and strength, vomiting, and vomiting of coffee grounds. Occult blood was found repeatedly in the stomach contents and feces. An exploratory laparotomy was performed by Dr. A. A. Berg, who failed to find any abdominal lesion. In this case repeated tryptophan tests were negative. Once, however, it was strongly positive, but in that instance the contents had been rendered very faintly alkaline with magnesium oxid, and the resultant proteolysis was undoubtedly due to intestinal protease. It was intended, in this procedure, to enhance, if possible, the action of the cancer enzyme through alkalization, an expedient which, as was found, may possibly lead to error.

Dr. Berg performed a pylorectomy on another patient, Mrs. S., whose history and findings pointed strongly to the diagnosis of cancer of the stomach. Several tryptophan tests were positive. The pathologic report was "inflammatory," and not malignant.

DISADVANTAGES OF THE TRYPTOPHAN TEST

The tryptophan test is inconstant. Tryptophan may appear in the contents from one meal and fail to appear in the contents from the next. This implies inconstancy in the secretion of the carcinoma enzyme, but it does not indicate variability in the reactive tendencies of the reagent in the test. I saw in consultation about three months ago an old lady who had all the stigmata of cancer of the stomach (no palpable tumor, however), and I failed to get a positive tryptophan test in a specimen of stomach contents. Only one test was tried in this case. As a rule, however, several tests of different specimens of gastric contents yield a positive reaction in each case of cancer.

SOURCES OF ERROR IN APPLYING THE TRYPTOPHAN TEST

There appears to be one important source of error in the tryptophan test, and that is regurgitated intestinal fluid. Boas[14] was the first to obtain duodenal contents from the stomach. He massaged the duodenum toward the stomach and obtained a variable quantity of bile-stained fluid through a stomach tube. Later Boldyreff,[15] at the instigation of Pawlow, introduced olive oil into the stomach through a tube and subsequently extracted the contents. Olive oil has the double effect of checking gastric secretion and stimulating pancreatic secretion. It also acts as a lubricant, and back flow of intestinal contents is facilitated. By such means, duodenal contents may be secured. This line of work was taken up by a good many investigators, such as Faubel,[16] Volhard,[17] Molnar,[18] Ohrl and Schittenhelm[19] and their experiences coincide in the fact that some duodenal secretion may be secured in this manner. The observations of Ohrl and Schittenhelm indicate that under ordinary conditions spontaneous regurgitation of intestinal contents into the stomach takes place. In considering, however, the degree to which the tryptophan test may be vitiated by erepsin or trypsin, or both, we must not forget that these enzymes are destroyed by the acid of gastric contents. Moreover, I have repeatedly kept non-cancerous stomach contents, devoid of free hydrochloric acid, in a thermostat at 40 C. for days and even weeks, without obtaining a positive response in the tryptophan test. It is obviously necessary, however, in every serious application of the tryptophan test, to prevent all possible regurgitation of duodenal contents. To prevent this occurrence the stomach contents should be withdrawn gently, and also without any straining on the part of the patient. For this purpose the aspiration method instead of the expression process should be employed. A tube with thin walls and a bore not more than 10 mm. in diameter (30 French) should be selected for the purpose. The patient should be instructed to breathe continuously during the extraction. The manipulation should be conducted by one who is skilled in the work and not by an untrained assistant. By disregarding these rules, by letting the patient press forcibly on the tube until he gets blue in the face, some intestinal regurgitation will probably result and may vitiate the test. Vomitus is not reliable for obvious reasons. If, in spite of all these precautions, one obtains a specimen of stomach contents with a greenish color, and which gives the chemical tests for bile, the specimen should be discarded and another one secured.

Various authors have stated from time to time that occult blood vitiates the glycyltryptophan test. They might also presume that it vitiates the tryptophan test. In my original paper I discussed these improbabilities. I have not ignored the fact that blood contains proteases. I am certain, however, that blood, even when present (in the tryptophan test) in a quantity sufficient to impart a distinct red tinge to the contents, is not able to produce tryptophan in detectable proportion. I have repeatedly studied this matter, from various points of view, and have always obtained negative tests for tryptophan in contents to which moderate amounts of blood had been added—in one case even after incubation of the mixture for seven days. I have also obtained negative tryptophan results in such mixtures of glycyl-tryptophan and blood, even after incubation for the same length of time. Of course, it is likely that the addition of large quantities of blood would effect hydrolysis of associated protein, but in such cases the tryptophan test could not be carried out, for it would be impossible to discern the characteristic red color resulting from the addition of the bromin.

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[14] Boas: Zentralbl. f. klin. Med., 1889, x, 97.

[15] Boldyreff: Zentralbl. f. Physiol., 1904, xviii, 457; also, Arch. f. d. ges. Physiol., 1908, cxxi, 13.

[16] Faubel: Hofmeister's Beitr. z. Chem. Phys. u. Path., 1907, x, 35.

[17] Volhard: München. med. Wchnschr., 1907, liv, 403.

[18] Molnar: Ztschr. f. klin. Med., 1909, lxvii, 188.

[19] Ohrl and Schittenhelm: Zentralbl. f. ges. Phys. u. Path. d Stoffwechs., 1910, v, 881.

The presence of *free* hydrochloric acid does not necessarily interfere with the test. I have found tryptophan in several instances of carcinoma with high gastric acidities.

TECHNIC OF THE TRYPTOPHAN TEST

The Test Meal.—The ordinary Ewald test breakfast is not suited to the test. This has been shown repeatedly. A simple and effective test meal is a glass of water, hot or cold and very sweet, with some white bread, or toast or biscuits. Milk may also be added. The contents are extracted in about one hour. A regular dinner with extraction after two to four hours, also serves the purpose. Any substance that is likely to impart color to the contents, such as strong tea, coffee, strawberries, tomatoes, etc., should be excluded from the test meal. After their extraction a portion of the contents should be *filtered* and tested directly for tryptophan. If the test is positive, no further treatment is necessary. If the direct test is negative, however, the contents, filtered or unfiltered and without the addition of toluol or other preservative, should be kept in a thermostat for from twenty-four to forty-eight hours, and then tested again for tryptophan. The addition of a preservative appears to be superfluous, for I have shown repeatedly that the bacteria which develop do not produce tryptophan in a detectable proportion.[20] The tryptophan test may often be obtained in positive cases without incubation, by merely keeping the contents at room temperature for from twenty-four to forty-eight hours. Incubation, however, is preferable.

The Test for Tryptophan with Bromin Water.—In completing the tryptophan test, *filtered* stomach contents should be employed. A volume equal to 6 or 7 c.c. is satisfactory for the purpose. This volume in a test-tube is treated with a few drops of a 3 per cent. acetic acid solution and then saturated aqueous solution of bromin is added, drop by drop, from a pipette. The appearance of a reddish-violet or rose-red color shows the presence of tryptophan. If, after the addition of about 4 drops of bromin water, the expected color does not appear, the mixture should be allowed to stand for about fifteen or twenty minutes, when the characteristic color may develop. If, by the end of that time, the rose color fails to show, then more bromin water should be slowly added, drop by drop, until the mixture becomes yellow or until a rose-red color is imparted. If a reddish color is produced, the mixture should be allowed to stand again, when the tinge may grow deeper. Considerable practice is required for the accurate performance of the test in the presence of very minute proportions of tryptophan, because a slight excess of bromin may make the characteristic color indistinguishable. Excess of bromin imparts a lemon-yellow color to the mixture. Whenever the reddish color merges into a yellow we know positively that there is an excess of bromin in the mixture. The opening at the tip of the pipette from which the bromin solution is dropped should be a very small one. The bromin water should invariably be added drop by drop, and the mixture should be well shaken after each addition.

Bromin itself should be handled with great care, for it is extremely irritating to the respiratory mucous membrane. Under no circumstance should plain liquid bromin be mixed with the gastric contents to be tested. An aqueous bromin solution may be kept saturated by retaining in it a slight excess of the heavy liquid bromin.

Acetic acid is added to the mixture to be tested, because the reaction appears at its best in an acid medium. Alkali, by combining with the bromin, prevents the reaction with tryptophan. Almost all stomach contents are acid and in testing them for tryptophan the addition of acetic acid may not be necessary. In mixtures of very low acidity, however, the addition of acetic acid is especially desirable.

I wish, in conclusion, to express my indebtedness to Prof. William J. Gies for the use of his laboratories and suggestions in my work.[21]

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THE TREATMENT OF HEMOPTYSIS IN PULMONARY TUBERCULOSIS *

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Two months ago I read a paper on the treatment of hemoptysis in tuberculosis before the meeting of the Medical Society of the State of California, at Santa Barbara. When I returned from the meeting, I was notified on my arrival in San Francisco that a dozen of my patients were having hemorrhages. The peculiar feature of this fact was that they all started to bleed at about the same time, which can be explained only by changes in atmospheric pressure. A number of these patients bled for only one or two days, and showed no alarming symptoms, but two of them continued to bleed severely, and in spite of all the usually employed means and manipulations the hemorrhages did not stop.

I shall give in detail the history of one of these patients, because this one case will be sufficient to explain the soundness of the method I have used for the last two years in treating severe and dangerous hemorrhages. All other cases are more or less alike, and their description would be only a repetition in slightly varied form.

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[20] I cannot say that this would always be the case, for some bacteria and fungi that I have not thus far encountered may be able to produce detectable proportions of tryptophan under the conditions of the test.

[21] The following, together with references numbered 2, 3, 8 and 19, constitute a complete bibliography of the glycyltryptophan and tryptophan tests to the time of writing this paper.

Abderhalden: Ztschr. f. physiol. Chem., 1909, lxii, 136.
Kohlenberger: Deutsch. Arch. f. klin. Med., 1910, xcix, 148.
Lyle and Kober: New York Med. Jour., 1910, xci, 1151.
Kuttner and Pulvermacher: Berl. klin. Wchnschr., 1910, xlvii, 2057.
Ley: Berl. klin. Wchnschr., 1911, xlviii, 119.
Oppenheim: Deutsch. Arch. f. klin. Med., 1910-11, ci, 293.
Pechstein: Berl. klin. Wchnschr., 1911, xlviii, 375.
Hall and Williamson: Lancet, London, 1911, clxxxi, 731.
Neubauer and Fischer: München. med. Wchnschr., 1911, lviii, 674.
Ehrenberg: Berl. klin. Wchnschr., 1911, xlviii, 704.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

History.—The patient in question is a young man of 18 years, from Stockholm. He went to Turban's sanatorium in Davos about two and one-half years ago, on account of tuberculosis of the left upper lobe. During his stay there the right lung also became involved, but after nineteen months' treatment he was discharged, as all the symptoms had subsided. He returned to Sweden, then came to California to spend the winter of 1910-11.

Examination.—The patient came to my office in February, 1911. Two weeks before he had caught cold and had had some sputum which was examined, and tubercle bacilli in abundance were found. The evening before he came to my office, he had had a hemorrhage. Examination showed increased resistance over the left upper lobe, with sharp scar breathing. In the back of the left lung, between scapula and vertebræ, there was pronounced crepitation during inhalation and exhalation over an area the size of a dollar. There was harsh bronchovesicular breathing over the right upper and middle lobe, with small and medium sized moist and dry râles. The spot in the right lung had again become active.

Treatment and Course.—The patient went to our sanatorium in Belmont, and during February, March and April he was under the usual treatment. The last examination (April 6) showed no change in the breathing over the left lung. The ight lung had improved considerably. There were only a ew râles in the second intercostal space. There was sharp reathing in the right upper lobe during inhalation and xhalation, and exhalation was prolonged. The patient had ained from 15 to 20 pounds, and was looking and feeling fine. His temperature was normal; the cough had diminished; there were no night sweats; and the sputum was about one-tenth he amount which he had had on entrance, but there were still rom 6 to 8 tubercle bacilli to the field. He was allowed o get up for a little while every day and to take moderate xercise. In the night of April 21 he had a severe hemorrhage, nd another the following morning. As he complained of pain n the right lung, my assistant strapped that side tightly. He elieved that the hemorrhage came from the right lung, but ould not examine the patient at the time on account of the anger of renewed hemorrhage. The patient was given gelatin, alcium chlorid, ice-bags, etc., but that night he had another emorrhage. The temperature rose to 101.5-102. He was iven very slight doses of opiates, just enough to keep the ough under control. We tried to examine him on the morning of April 23; there were medium and large râles over the ight as well as over the left lung. It was impossible to find ut definitely from which side the hemorrhages came, but we ad the impression that it was from the right side. That ight he had a hemorrhage, another the following morning, nd again the next morning. We examined him again, and gain were unable to tell with certainty the spot from which he hemorrhages came. As soon as the boy tried to breathe a ttle deeper, he would have a hemorrhage. We had an *x*-ray aken by Dr. Freytag, from which it was evident that the ght lung was a good deal more involved than the left, and s this harmonized with our findings, and the hemorrhages ecurred regularly every twelve or twenty-four hours, we ecided to compress the right lung. On the morning of April we produced an artificial pneumothorax on the right side. e let about 600 c.c. of nitrogen run in, and from that oment the hemorrhages stopped. At the second inflation, wo days afterward, we found about 2 cm. negative pressure. e again let 600 c.c. of nitrogen run in, which produced bout 2 cm. positive pressure. Since that time the patient as been treated in the usual way, the artificial pneumothorax as been kept up, and so far there has not been a particle of ood in the sputum.

This case is in my opinion a most interesting one and aches us a great deal.

To summarize: A young man, tuberculous for two ars, has acute hemorrhages which are not only very intense, but also obstinate. All the usual methods of treatment are without effect; the temperature is gradually going up to 102; the patient is not only frightened to death, but is becoming weaker daily; and the hemorrhages show no tendency to cease. The artificial pneumothorax stops the hemorrhages instantly; the temperature goes down; and the patient begins to improve. (Unfortunately, this patient died of miliary tuberculosis a few days ago, but that has no bearing on the phase of his sickness under discussion.) Besides this case, I have treated seventeen others during the last two years, all with just as severe and obstinately recurring hemorrhages.

It is needless to state that in cases in which there was blood in the sputum only occasionally, or in which there were decided hemorrhages without any serious aspect, or without a tendency to recur too frequently, I have confined myself to the usual old remedies or manipulations, which are too well known to necessitate an enumeration. Only when these different remedies seemed to have no effect, or when the hemoptyses had a serious aspect on account of their intensity, have I used the artificial pneumothorax. I have chosen only such cases, not because I thought that the operation might be harmful in lighter ones, but merely because I did not want to feel, in publishing these first cases, that our old remedies might have done the work just as well.

It is advisable to discuss here to some extent the indications and contra-indications for artificial pneumothorax.

Forlanini himself gives the following as the indications:

1. In uncomplicated cases of one-sided phthisis with slow or subacute course and with free pleura, without regard to the degree of the lesion.
2. In cases in which adhesions exist, if these adhesions can be removed by artificial pneumothorax.
3. In cases of double-sided phthisis which do not show an acute course, and in which the lesions in both sides are not far advanced.

Karewski,[1] in his paper discussing the newer methods of surgical treatment of tuberculosis of the lungs, speaks well of the artificial pneumothorax. He says, however, that it is indicated only when all physical and dietetic means have been exhausted, and that it is absolutely contra-indicated when the other lung is involved. The autopsies of patients who were treated with artificial pneumothorax, but who died in spite of its use, showed that the clinically observed improvements corresponded with the post-mortem findings. In the lung which was artificially compressed were found a large amount of interstitial tissue and indications of scar formation; only a very few fresh tubercles were found, and these contained a surprisingly large amount of dry, cheesy degeneration, showing *in toto* signs of a reparative process. He also found that in the clinical picture of properly selected cases, the weight of the patient increased and the general condition improved considerably; he noticed a decrease in the number of bacilli, and a disappearance of the elastic tissue in the sputum, which itself became less and often disappeared entirely.

I should like to divide the indications for the operation into different groups.

1. Those which might be called safe indications: Severe one-sided involvement, with a healthy other side, and no adhesions, or only fresh ones, on the diseased side.

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[1] Karewski: Ztschr. f. Tuberk., xiv, No. 6, 1909, p. 465-479.

2. Permissible indications: (A) Severe one-sided involvement, with fresh or not too old adhesions on the other side. (B) Severe involvement of one side; slight involvement of the other, not including more than one-third of the lung, and without cavity formation. Involvement of the upper lobe on the better side gives the more encouraging outlook. (C) Severe involvement of one side, with adhesions, and obstinate hemorrhages with or without adhesions.

3. Dubious indications: Severe involvement of one side and cavity formation in the lower lobe of the other lung.

4. Contra-indications: (A) Extensive involvement, with cavity formation in the better side. (B) Thick and firm adhesions all over the side on which the pneumothorax should be made. (C) Severe complications of other organs.

A tuberculous larynx can only be favorably affected by the pneumothorax, as less sputum will pass the larynx.

There are also many cases of diarrhea in tuberculosis, in which this complication is not a result of organic tuberculosis of the intestines, but only represents the attempt of the body to secrete the poisons. The diarrhea can disappear after this secretion of poisons has been removed by artificial pneumothorax.

One of the most important works which has been published on artificial pneumothorax is that of Brauer and Spengler.[2] It gives a report of 102 cases, each case described in detailed, and afterward shortly and exactly discussed.

These men have not confined themselves to the narrow indications given by Karewski or by Forlanini, and their results are surprisingly good. I mention this fact especially, as one might say that the cases of hemoptysis are few in which artificial pneumothorax should be used. This is not true. Naturally, the ideal cases are those in which only one side is affected, and the other side is entirely healthy, but we do not see many of these.

In the great majority of cases the other side is slightly affected, and this fact is no contra-indication. On the contrary, many writers on the subject agree that the slightly affected side shows an improvement while the badly diseased side is compressed. I want to mention again that I am not discussing the pros and cons of the artificial pneumothorax in the treatment of tuberculosis, but only in the treatment of one symptom, i. e., hemoptysis; and that I am especially discussing this method in cases of severe hemorrhages in which all usual remedies have failed. In such cases I should not hesitate to produce an artificial pneumothorax; but—and this is an important point—I should not keep the bleeding side compressed for any length of time if the other side showed a decided progress of the disease. After the first inflation the nitrogen becomes absorbed rather quickly; usually in twenty-four hours the pressure, which was positive or neutral just after the operation, is again negative. If the hemorrhages have stopped, and if the general condition of the patient is not good, I should not reinflate. In other words, one must be guided by clinical observation in each case; and if the physician has his eyes open, and notices every change in his patient, there is no real danger connected with this method.

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[2] Brauer and Spengler: Klinik der Tuberkulose, xix, 1911, p. 1-335.

CLIMATE IN THE TREATMENT OF PULMONARY TUBERCULOSIS *

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It is to be expected that men who live in health resorts would make some special study of climatic influence on diseases, and through experience of many years reach some definite opinion of the effects due to climate. It is well known that the physicians of the southwest have decided views in favor of climatic treatment with their own special brand, and I make no apologies for being classed as one of them. Space does not permit, nor is it my intention to give explanations and descriptions of the factors, atmospheric conditions, and the principal types of climate, or descriptions of different health resorts; all of which may be read in recent publications under my signature. It would seem better to give the indications and contra-indications for climatic treatment of tuberculosis and to give the classes of cases suitable for this type of climate.

Climatic treatment must deal not alone with the factors or atmospheric conditions of climate, such as temperature, humidity, sunshine, pressure, etc., but also with others quite as important, the non-climatic features, i. e., temperament of the individual, financial resources, stage of the disease, individual characteristics, etc. With these considerations in view, the essential thing in selecting suitable climate is to individualize all cases. Since the search to find specific climate for tuberculosis is apparently at an end, we must remember always that the place which has suited one case may be entirely unfit for the next, and that each patient must necessarily be separately studied in connection with the non-climatic features of a place.

All fresh-air and open-air treatment is a part of the climatic treatment and is now being used in each part of the country, in every kind of climate, for all diseases, especially all chronic diseases, so that a change to meet the right conditions for open-air treatment in any climate is sufficient proof of the value of such treatment. No hospital ward to-day is complete without its open-air balcony or adjacent porch, and patients are being placed out of doors in every climate in all but the worst weather. With the proper use of this treatment, pneumonia has lost much of its terror and some eastern physicians using it say they have saved many lives that formerly would have seemed beyond help. It is Nature's way of bringing about benefit or a cure, and, fortunately, the use of it for the cure of tuberculosis has shown us how inexcusably it has been neglected in the treatment of other chronic diseases.

If we acknowledge then, that climatic treatment is a great factor in our care of the tuberculous, is it not reasonable to suppose that the place suited to the individual, where he can obtain the best climatic factors would give better results than his own home where the atmospheric conditions are not so favorable?

What then are the atmospheric conditions of greatest importance? They are:

1. Plenty of air.
2. Percentage of sunshine.
3. Amount of humidity.
4. Temperature with its variations.
5. Pressure of air.
6. Severity of winds, dust, etc.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Certainly the pure air and abundance of sunshine must be accepted as a help for every case. With regard to humidity and temperature, whether the climate chosen should be dry or moist, cool or warm, it must depend on the non-climatic factors, or the individual considered. Certainly for the majority of cases that climate which is dry and cool is to be preferred. As to the pressure of air, also, whether the case should be in high, medium or low altitude, depends on other factors than those of climate alone. Careful consideration must be given to the individual, the age, temperament and the stage of the disease. Further, climatic change should not be made until the patient has been under treatment at home sufficiently long to have him understand the details of the open-air cure, the dietetics and hygienic management of tuberculous cases, and until the physician in charge has familiarized himself with the resort selected that the patient may obtain the right accommodations and the best medical care. It is absolute folly to send any patient who needs attention to a climatic resort unless the home physician has assured himself that the patient will have as good medical care as at home. Experience of several years in a health resort has taught me that many lives are sacrificed through this omission, and by rough and improper handling of sensitive, peculiar temperaments, which class of patients are too often set adrift. Unless climatic treatment can be properly carried out, it is far better to keep the patient at home under right management, because it is conceded by all that many tuberculous patients will recover in any climate under the sun.

For a general rule to be specialized with exceptions given later in the paper, I would state that patients with pulmonary tuberculosis developing between the ages of 17 and 40 should be sent to a high, dry altitude. When disease has begun after the age of 40 years, patients should be kept in lower altitudes, in climates more equable and relaxing; some patients show greater improvement near the coast where sunshine and equability are features. Children will do better always at or near the coast in either cold or warm climates.

INDICATIONS AND CONTRA-INDICATIONS FOR HIGH-ALTITUDE TREATMENT

The great mass of tuberculous patients under the age of 40 years, early tuberculosis with or without fever and constitutional symptoms, including patients with hemoptyses, and those with beginning destruction, present indications for high-altitude treatment (3,000 to 7,000 feet). So also do cases with compensated cardiac disease and with no great degree of emphysema.

Contra-indications are presented by acute pneumonic cases with high fever, rapid pulse and respiration, advanced cases with extensive involvement or cavity formation of both lungs, with extensive adhesions and dyspnea, chronic fibroid cases which have a good deal of bronchitis and emphysema, young children and infants, and many patients of a neurasthenic type, or nervous temperament.

In selecting high altitude, limitation in this paper is made to those resorts in the United States with which I am familiar as it will be impossible in this short time to mention all the resorts that are available. Patients demanding high-altitude treatment for the whole year should be sent to the Rocky Mountain region, the chief resorts of which are to be found in Colorado, New Mexico and a few in Arizona. All of these resorts show similar characteristics, Colorado leading in accommodations, care and medical attention, New Mexico being somewhat superior in its climatic advantages. The winters are cold and stimulating, the summers cool and bracing. They have the natural advantages for the treatment of pulmonary tuberculosis; pure air, dryness, abundance of sunshine, altitude, a wide difference of temperature between day and night.

The chief resorts of Colorado are, of course, Denver (altitude 5,200 feet) and Colorado Springs (altitude 6,198 feet), with their outlying districts. No better places than these may be found for the treatment and care of pulmonary tuberculosis, and nowhere else are climatic features that will agree with so many patients. They may be compared favorably with the famous resorts of Switzerland. The chief objections to not a few patients are the sharp diurnal changes and the cold of winter. For such patients my plan has been to recommend the lower elevations of Arizona and California for the winter months and to have the patients return to Colorado for the other six or eight months. As before stated, each case must be separately studied that one may know what influence cold or warm temperature has on the individual. Higher elevations in Colorado, such as Manitou (altitude 6,300 feet), Glenwood Springs (altitude 5,200 feet), and Estes Park (altitude 7,000 feet) are changes that are made for the summer season.

The New Mexico resorts are always to be considered for high altitude treatment, remembering that the winters and summers there are both slightly warmer than in Colorado and for this reason may often be more suitable. The atmosphere is sufficiently dry to make the heat of summer at any of the resorts never uncomfortable or oppressive and the nights are always cool. When more accommodations and comforts are provided, the resorts of New Mexico will be second to none. Santa Fe (altitude 7,013 feet), Las Vegas (altitude 6,500 feet) and Albuquerque (altitude 5,200 feet) are the three resorts in the northern part of the state with a climate not unlike that of Denver. The cold is not quite so great nor the summer temperature so high, with the exception of Las Vegas. Of the three places, Santa Fe has the best summer climate. The principal resort in the southern part of the state is Silver City (altitude 6,000 feet), which has become well known for its climatic advantages and can be safely recommended for high-altitude treatment at any time of the year. The summers are never too hot nor the winters too cold and of all the southwest region it has no superior. Patients who have lost ground at other places have often made surprising gains in this region. Fort Bayard (altitude 6,200 feet) is not far from Silver City and has been chosen by the government as offering the best climatic conditions of our states.

Arizona is limited in its high altitude resorts, only one of which, Prescott (altitude 5,260 feet), can safely be recommended for pulmonary cases. It has all the advantages of the Rocky Mountain region except that the winters are milder and warmer, which may be an advantage. It is well protected from severe wind and dust storms. Flagstaff (altitude 7,000 feet) has perhaps the best all-year-round climate in Arizona, but no provision has yet been made for invalids, though it has every natural advantage.

Southern California has places of high altitude with natural and excellent climatic features in the valleys of the San Jacinto and the San Bernardino Mountains, but these places cannot be recommended, as there is no provision made for the treatment of patients with pulmonary cases. These mountain places, as well as those of the northern part of the state, are more or less well equipped for summer tourists and those who no longer need medical attention.

For medium-altitude treatment (1,000 to 3,000 feet), there are many resorts throughout the east which are available and suitable for the whole year. There are the Adirondack Mountains of New York represented by its many lake resorts so well known that they need no exploitation here. Saranac Lake stands as no other one place for its great representation in the out-door treatment of pulmonary tuberculosis, and no man in the profession is more loved than the one who made this region famous. Besides the Adirondacks, the east has the Catskill Mountains, the White Mountains, resorts of New Hampshire, the Blue Ridge Mountain region of Pennsylvania, and the several resorts of Virginia. In the south, however, none stand so well to-day as Ashville (altitude 2,255 feet), which has gained an enviable reputation. There is no better place for all-year-round residence for those who need this altitude. The air is tonic and stimulating like that of higher elevations. In the west we have only two important places of medium altitude, Phoenix (altitude 1,087 feet) and Tucson (altitude 2,400 feet). I place all the resorts of Southern California in the low altitude group. Both Phoenix and Tucson are suitable only for the winter months, both having distinct advantages for dryness, amount of sunshine and the mildness of the winter climate. Tucson on account of its altitude and more stimulating climate has an advantage over Phoenix, and experience has taught me that Tucson will suit more cases than will Phoenix when climate alone is considered. For those who can exercise and ride about the country, Phoenix will be more agreeable.

Low-altitude resorts are to be found for different months of the year in almost every section of the United States. In the east are the places along the lake region, the Great Lakes, the Thousand Islands, Central Plateau of Massachusetts, the Berkshire Hills, northern New Jersey, etc. In the south are the resorts of North and South Carolina and Georgia including, of course, Aiken, Augusta and Thomasville, each having their advantages for the winter months and all more or less relaxing in type. In the west, we have San Antonio, Texas, (altitude 680 feet), which can be safely recommended for the winter months (December to April). Near the Pacific coast in California a great valley has recently been made comfortable and many find health under these dry, equable conditions. I refer to the Imperial Valley. Banning and Palm Springs, Cal., are similar resorts of a desert type cut off from the humidity and rain storms of the Pacific Coast.

The low-altitude types of Southern California are chiefly situated in the San Gabriel Valley which extends from Redlands (altitude 1,200 feet) to Pasadena (altitude 800 feet). Along this valley are growing towns and outlying districts which have been built up chiefly by health seekers: Redlands, San Bernardino, Riverside, Ontario, Pomona, Duarte, Monrovia, Sierra Madre, Altadena and Pasadena. The best winter climate of this group and the one offering the best accommodations for tuberculous cases is found at Redlands, Riverside, Monrovia and Sierra Madre. Redlands, Riverside and Ontario are too warm in summer for most invalids, but the other places reaching from Monrovia down through Pasadena and to the coast are suitable for all-year-round residence with some hot days in summer when the temperature reaches 100 F., but the relative dryness always saves any great discomfort. Many invalids reside in these localities, especially the tuberculous who need low altitude treatment under equable conditions. Here are found the climatic advantages of pure air, abundance of sunshine, equable temperature and a few hours of dryness each day. Part of the twenty-four hours throughout most of the year in southern California is moist. Fogs are numerous in the spring and summer months for a part of many days, extending many miles over the inland places, usually 30 and often 50, and disappearing earlier the greater the distance from the ocean. The days of summer without these fogs are the hot, dry days; this is especially so for the inland resorts.

The chief charm of southern California is the great amount of sun through the greater part of the year, its equability, the foliage and vegetation, the out-door life possible for everyone and the sedative or relaxing effect produced, a paradise for children and old people and those handicapped by ill health.

People 40 years of age with pulmonary trouble or children with any tuberculous lesion do better in southern California near the coast or in her low altitude resorts than do young adults. The latter class, except those contra-indicated, should be sent to a high, dry altitude where the air is more stimulating and where the cold and changes of temperature usually act favorably.

It is hard to think that anyone should believe that there is no therapeutic value in climate. Dr. Hinsdale in a recent publication has emphasized the value of climatic treatment. He sent a question to the deans of medical colleges in several of our large cities. "What would you do for yourself, climatically, if you were told for the first time that you had incipient pulmonary tuberculosis?" All the answers were in favor of climatic treatment under the direction of a man who understood the disease. If such a question were put to you to-day what would your answer be?

Fifth and Spring Streets.

THE USE OF HYPODERMICS OF CITRATE OF IRON IN THE SECONDARY ANEMIA OF TUBERCULOSIS *

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Some years ago, Dr. B. R. Shurly, of Detroit, urged on me the importance of using citrate of iron hypodermically in the secondary anemia of tuberculosis. Shortly before, it had been his privilege to visit Italy, where he became acquainted with the common practice of Italian physicians of using iron in this manner, and the very great success of the method as applied to almost all secondary anemias.

As all understand, a high altitude is in itself very efficient in the removal of the secondary anemia of tuberculosis, and, therefore, I began the use of iron hypodermically tentatively and only in those cases in which the anemia proved resistant to dietetic, hygienic treatment, plus residence in a high altitude. Thus, it may be seen that I have confined its use to the most unfavorable class of patients, furnishing a most rigid test of the usefulness of the method.

Employing the hemoglobin content as an index of the degree of secondary anemia, as well as an actual erythrocyte count, I found that the hypodermic use of the citrate of iron permitted me to control the anemia with

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

almost mathematical precision, and that it actually in no single instance failed to improve the quality of the blood to at least some degree in the 256 cases in which we had employed it. I would like to emphasize that over 70 per cent. of these cases are in the advanced and far advanced classes, in which the anemia is a commonly manifested phenomenon, and in which we have the right to expect the least from any remedial measure.

I found it to be uniformly successful in raising the hemoglobin standard to normal in all cases in which the patient might be considered to be doing well, or in which the status quo was seemingly maintained; that in most cases it required but thirty or forty consecutive daily doses to accomplish the ideal of such medication, and, as before stated, in no instance whatever did it fail to be efficient, at least in some degree.

As time went on and I became impressed with the scientific exactness of the method, its employment was made a routine procedure in all cases in which there was a reduction of 10 per cent. or more in the hemoglobin content. This was done for the purpose of removing as quickly as possible at least one of the manifestations of tuberculous toxemia, without awaiting the considerably slower restoration of the blood which follows the combination of high altitude and sanatorium treatment. During the past five years there has been a slight improvement in our results in the treatment of all classes of pulmonary invalids. As we have changed our methods in no other particular, I feel safe in attributing the improvement to the hypodermic use of iron.

In a paper before the National Association for the Study and Prevention of Tuberculosis, at the recent Denver meeting, my associate, Dr. L. S. Peters and myself, presented the tabulated statistics of our use of iron. I would refer those interested in the actual facts on which this paper is based, to our joint presentation of the subject before the Denver meeting. Heretofore, I have referred only to the use of citrate of iron in doses of 0.05 gm. for the sole purpose of removing secondary anemia. We, however, in practice employ a number of formulas in which the citrate of iron is combined with metarsenate of soda, strychnin, glycerophosphates, etc., the purpose being to utilize the alterative tonics of demonstrative value. We have not found it necessary to use a larger dose of citrate of iron than .05 gm. Others, who have used larger doses, have observed sudden vomiting to follow its administration.

The technic of the method is to employ the ordinary hypodermic syringe and needle, selecting the buttock as the least inconvenient site of injection, and giving an injection daily until the result is obtained.

Under ordinary conditions, I would not consider it necessary to explain the source of the iron we employ. Having recommended this method to a great many physicians, however, we have received many complaints of marked irritation at the site of injection, sometimes continuing for hours, where in our experience we have never witnessed this phenomenon, and patients complain so little of the subjective sensations following injections that they will often voluntarily request a so-called course of iron for its general tonic effect. On inquiry we have discovered that those instances in which local irritation followed the injection, some of the American preparations of iron had been employed. It seems, therefore, that this paper would be wholly incomplete without mentioning the fact that we obtained these preparations from the Italian pharmaceutical houses, as they have been much more successful in manufacturing preparations free from irritating local effects.

ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. ROTHSCHILD, BARLOW AND BULLOCK

Dr. William C. Voorsanger, San Francisco: Dr. Rothschild has quoted Brauer and Spengler in their report of 102 patients treated by artificial pneumothorax. I have studied their monograph very carefully, and I did not get the impression that their results were uniformly good. In their work they draw no conclusions. They simply give the indications for producing nitrogen compression of the lung, and the results therefrom, some of which were fairly good, but many were negative. They only reported one case of hemoptysis treated in this manner, and this patient died two weeks after the compression had been made. Dr. Rothschild certainly deserves great credit for pioneering artificial pneumothorax in this part of the country, and unquestionably this method should be attempted in those cases in which the hemorrhages cannot be stopped by any other means, and in which the tuberculosis can be with certainty diagnosed as limited to one lung, or in which the case is absolutely hopeless and we must try some therapeutic measure.

I agree with Dr. Barlow in the statements he has made. His remarks concerning the patient living in a climate best adapted to his condition should impress us, but I would go still further and insist that a patient with tuberculosis should remain in the climate where he has received his cure. I have seen patients who have been cured or improved in Arizona or southern California, come back to northern California and break down very rapidly. Only recently I was called to see a patient who had been home one week from southern California, discharged as cured. Although he lived in a very lovely bungalow in the Piedmont hills, and carried out all the instructions he had received in the south, he was taken with a very severe hemoptysis. It lasted five days, and the patient's condition at the present time is none too promising. This is only one illustration of how a patient suddenly changing climate may suffer bad results.

Dr. John W. Foss, Phoenix, Ariz.: Dr. Rothschild's paper is most interesting, yet from personal observation I would advise against placing too much confidence in this proceeding. As a lost resort I would most certainly advise its use after the results described by Dr. Rothschild. I have seen at post mortem a case in which the lung had been compressed with nitrogen gas for some time, yet the hemorrhage which produced death was from the lung so compressed. The length of time of compression may have been a factor in this instance. Dr. Barlow's advice that both physician and patient should familiarize themselves with conditions of life in the open air of the western country is exceedingly valuable. It is the exception to find an eastern physician who understands the conditions to which he sends his patient in the west. Any physician in the southwest would be glad to give his fellow practitioner any information he may wish. Mayor Alexander at the general meeting very forcibly brought out the fact that many patients, particularly tuberculous patients, are sent into the West for the benefit of their health without means and without a knowledge of existing conditions. This is positively cruel, not only to the patient, but it is placing an unreasonable expense on the people of the West. For instance, Maricopa County, Arizona, spends at least $12,000 a year for the care and support of indigent patients sent there by physicians and friends of the patients who do not understand the conditions under which they must live. Every patient should have sufficient resources to be able to expend at least $1,000 yearly for his living and personal expenses. Dr. Barlow states that all tuberculous patients between the ages of 17 and 40 years should go to a high, dry climate. I will agree with him that they should go to a dry climate with a high percentage of sunshine, but I positively disagree with him that they should all go to a high altitude, especially when they can be sent to a dry climate at a moderate altitude. As Dr. Voorsanger says, the patient suffering from tuberculosis should be cured at as nearly as possible the same altitude as that in which he wishes to make his future home. If he wishes to live in a high altitude, then he should go to the mountains, but if he wishes to live at a moderate or low altitude he should go to that resort where he can have the benefit of dry, pure air and a maximum of sunshine. At Phoenix the humidity averages the lowest of any place in this country. It has a high percentage of sunshine; the average wind movement is 4.7 miles per hour for the year; the annual rainfall is only 6.7 inches; the sensible temperature or wet-bulb thermometer rarely goes above 72 degrees in the summer and the altitude is only 1,080 feet. No place in the world presents so nearly an ideal condition for the recovery of the tuberculous patient who wishes to make his future home at a low altitude at the minimum risk of reinfection or relapse.

Dr. James W. Laws, Lincoln, N. M.: Eight or nine years ago I had occasion to use, by means of the Murphy apparatus, nitrogen gas compression of the lung in pulmonary hemorrhage in a number of cases. As with other remedies for pulmonary hemorrhage, in many cases the result seemed marvelous, while in other cases pleuritic adhesions prevented compression of the lung, and where the adhesions were torn loose harm resulted. It is difficult to know from which lung the bleeding comes, but a knowledge of the physical examination and clinical symptoms of the patient before the hemorrhage, along with what can be ascertained at the time of the hemorrhage, usually enables one to form an idea which lung is bleeding and whether compression of the lung is indicated or not. When sufficient vesicular breathing space is left over the other lung, after compression of the bleeding lung, and in cases in which there is reason to believe the bleeding comes from a congested area of recent infection, and in cases in which there are recurrences of bleeding from day to day, sapping the vitality of the patient and not controlled by ordinary measures, I believe that the compression of the bleeding lung by nitrogen gas is a valuable remedy.

Dr. Max Rothschild, San Francisco: Artificial pneumothorax should be used with caution. But it is always possible, if one should inflate the wrong side, to deflate again. It is just as easy to take out gas by means of a bottle with a vacuum as it is to take out fluid after a pleuritic exudation. It has been asserted that the results of Brauer and Spengler are not uniformly favorable. This assertion seems to overlook the fact that many of their cases appeared to be pretty nearly hopeless from the start; and even some of these patients were cured by artificial pneumothorax. If Brauer and Spengler consider the artificial pneumothorax contra-indicated in hemoptysis, I can only say that I do not agree with them. The indication in severe cases of hemoptysis is a most logical one. In Brauer and Spengler's publication of 102 cases, I found only one of hemoptysis, and this was a hopeless case in which the patient died about two weeks after the hemorrhage. As far as I remember, this is the only case in which Brauer or Spengler advocated pneumothorax on account of the hemoptysis, which stopped promptly after the pneumothorax was made. The patient died, not as a result of the pneumothorax, but of the tuberculosis which was far advanced at the time of the operation. Dr. Foss is correct when he says that a hemorrhage from the compressed lung is possible, because it stands to reason that a diseased lung is so tightly adherent to the chest wall that a complete compression is not possible. But if a complete compression is possible, there does not exist any logical reason why a hemorrhage of the lung should not stop just as a bleeding blood-vessel would stop under compression during a surgical operation.

Dr. W. Jarvis Barlow, Los Angeles: Patients should have no climatic change unless they can be put under as good medical attention as at home. The statement is correct that individuals even then should not go unless one is sure to whom one is sending them and what the patient will do. If one is sure that the patient will do as he is told, then he should have climatic treatment. Otherwise they will get into the hands of somebody who will set them adrift, as so often happens here in our southern country. Dr. Voorsanger spoke of the return of the disease if the patient returned to his home. That is true. He should stay until he has immunity or cure and then he is able to live elsewhere. The treatment consists in individualizing the patient. There are patients who gain benefit but not an arrest. I think often patients go away from the place where they have made that arrest too early. In regard to Dr. Foss' criticism of my statement in regard to altitude, I expected that would be challenged. That young people should be in high, dry altitudes, I know is true. Of course they might do well in a climate of low altitude, but many need the stimulating effect of the high altitude. After 40 I do not think altitude is so important.

THE DIETETIC MANAGEMENT OF PELLAGRA

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While the etiology of this malady is by no means settled, most observers agree that in its major manifestations it is a gastro-intestinal disease, and since it is such, curative measures for the irritation of this tract, combined with supportive measures for the upkeep of the body, are of prime importance.

There are some principles in its dietetic management rather differing from that properly accorded to gastro-intestinal disturbances in other disorders, which seem worthy of consideration.

Until the theory is exploded that pellagra is due to some toxic substance in either sound or spoiled corn or corn products, I feel that we are in duty bound to give our patients the benefit of the doubt by excluding such articles from the dietary.

Simply to prohibit this class of foods, without entering into details, is likely to result in misunderstanding with consequent failure. I recently knew of a north Georgia mountaineer, who obediently cut out corn bread and grits, but did not consider it necessary to omit his daily quota of corn whiskey.

Bass, of New Orleans, also reports a female pellagrin who denied ever having eaten corn food of any sort. She had been reared in a section of the country and in a family in which corn was considered good food for horses and hogs, but not for people. It seemed this case was about to disprove the maize theory, when her husband reluctantly admitted that she was in the habit of eating corn starch secretly—a pound or more daily.

That this morbid craving for starch—amylophagia—is not so very uncommon, is shown by the fact that three women, one white and two negroes, observed in the clinic for internal medicine at the Atlanta School of Medicine during the last four months, have acknowledged this habit, though in each instance with evident unwillingness.

Another fact worth mentioning is the adulteration of the cheaper grades of flour with "corn hearts," a custom quite prevalent up to a short time ago. I am informed, however, that, since the pure food laws have been enforced, this adulteration has practically ceased.

Occasionally some case of pellagra is reported, in which there is no apparent evidence that the sufferer has ever eaten any corn products, but I am confident, if the history is thoroughly enough investigated, corn in some form will be found to have entered into the dietary at some time.

Beginning with the earlier gastro-intestinal manifestations, we are generally called on to treat an intermittent and seemingly causeless diarrhea. This early diarrhea I believe to be mainly of central origin, and, to an extent, compensatory. For this reason it is not wise to cut down too greatly the daily amount of food, nor does a very limited dietary seem to exert any marked effect on the disordered bowels.

The patient whose incipient pellagrinous symptoms are recognized is known to be in for a long and taxing siege, and his daily caloric requirements should be guarded most zealously.

The woody vegetables and those yielding a large amount of residue are mechanically contra-indicated at any time diarrhea is present, but care should be exercised that they are replaced by other nourishing articles.

It seems that all along in the course of the disease the flesh proteins are specially well borne, and even in those cases in which there is much active gastro-intestinal irritation, they agree better than in a like amount of irritation from other causes. Tender broiled steak or roast beef may be given once or twice daily, or, if the mouth is too sore to chew, either the scraped beef or that ground in a sausage mill may be given. This also applies to the white meats.

Eggs are generally permissible, though if there is a flatulent tendency, it is well to give only the whites. The albumin of raw eggs may be prepared in various ways, limited only by the ingenuity of the nurse, and I have never known them to set up any trouble.

Sweet milk is valuable when it agrees, but unfortunately many pellagrins show an idiosyncrasy against it. Flatulence frequently follows its ingestion, and in many patients the stomachs furnish enough rennin to coagulate the milk promptly, but are tardy in disintegrating the curds, so there is present a sense of weight and discomfort in the epigastrium. Peptonizing the milk occasionally obviates this, but very few pellagrins relish peptonized milk.

Buttermilk is a most useful article of diet, seldom upsetting the stomach or intestines. It has served me well in so many cases that I can in general recommend it. The artificially soured milk, or lacteal champagne, containing all the fat, is also worth a trial, and is often found highly appetizing.

Where constipation is in evidence, oatmeal, tender vegetables (in puree form), thoroughly baked Irish—not sweet—potatoes, or cereals with but little sugar, will aid the peristalsis of the intestines.

My experience with pellagra has made me chary in the use of alcohol. It would appear that the possible food value of alcohol is more than counterbalanced by its malign effect on the gastro-intestinal mucosa; so, when possible, I omit it entirely from the dietary.

In exceptional cases, when I permit whiskey or brandy, I see that it is well diluted, either as milk punch, egg-nog, or with grape juice or lemonade.

Practically the same may be said concerning the alcoholic proprietary food preparations. As an aid to the laily regimen, or to tide over some dietetic emergencies, ome of these are useful; but as a dependence to supply odily caloric requirements, they are a "delusion and a nare." To furnish sufficient calories with these preprations alone would keep the patient in a state of lcoholic coma, plus all the resultant evils reflected on he whole alimentary tract. This is no imaginary icture, I assure my readers; the fact has been impressed n me by some melancholy instances coming under my bservation, in which zeal had outstripped discretion, nd in which evidences of alcoholic stimulation were houghtlessly attributed to other causes.

During the whole course of pellagra, the patient hould be nourished to the limit of assimilation, and in nost instances the gastro-intestinal tract will "stand or" and care for more aliment than when similarly nflamed from other diseases.

The foregoing brief suggestions I trust may be of service, as they are deduced from a considerable number of dietetic experiences in the management of this protean malady; and when the problem of upkeep in pellagra is solved, the outlook for the sufferer is greatly brightened.

920 Candler Building.

IMMUNITY IN TUBERCULOSIS

ITS PRODUCTION IN MONKEYS AND CHILDREN *

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AND
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In former publications[1, 2] we have shown that large numbers of virulent tubercle bacilli may be inoculated into guinea-pigs without producing tuberculosis, provided that very few bacilli are at first inoculated, and that the numbers are increased slowly. In addition, Lieb[3] has shown the possibility of inoculating rabbits with virulent bovine tubercle bacilli in a similar manner.

The work now reported will indicate that monkeys (*Macacus rhesus*), animals which, when kept in captivity are exceedingly vulnerable to tubercle bacilli, can also be safely given increasing amounts of virulent human tubercle bacilli, if inoculated in a manner similar to that in which the animals above referred to were inoculated.

Twelve monkeys (*Macacus rhesus*) were procured and were tested with Old Tuberculin according to Römer's[4] method for cattle. A positive reaction is indicated by at least a 75 per cent. increase in the measurement of the skin-fold.

When we were satisfied that the monkeys were probably not already infected with tuberculosis, we started inoculations with the living virulent human tubercle bacilli, June 8, 1910, and the following plan indicates how each animal was to be treated:

1. Control.
2. 25 bacilli in one dose and no further inoculations.
3. 100 bacilli in one dose and no further inoculations.
4. 200 bacilli in one dose and no further inoculations.
5. Increase slowly, 1, 3, 5, 10, 15, 20 bacilli, etc.
6. Increase slowly.
7. Increase rapidly, 1, 5, 10, 20, 50, 100 bacilli, etc.
8. Increase rapidly.
9. Increase slowly, 5, 10, 15, 20, 25, 30 bacilli, etc.
10. Increase rapidly, 5, 15, 45, 75, 125, 200 bacilli, etc.
11. Control.
12. 50 bacilli at one dose and no further inoculations.

The culture used in the following work was isolated Jan. 19, 1909, by Professor M. A. Barber with the aid of antiformin. The patient, from whom it was isolated, died of pulmonary tuberculosis a few days later.

On account of scarcity of guinea-pigs, we were not able to test the virulence of the culture on guinea-pigs until May 22, 1911. At this time Guinea-pig 1, weight 744 gm., received a subcutaneous inoculation of 35 bacilli; Guinea-pig 2, weight 575 gm., received 75 bacilli; Guinea-pig 3, weight 723 gm., received 125 bacilli.

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* A large number of the tables are omitted on account of lack of space, but they are included in the Transactions of the Section and in the authors' reprints, a copy of which will be sent by the authors or by The Journal, on receipt of a stamped, addressed envelope.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Laboratory of Cragmor Sanatorium.

[1] Webb, Williams and Barber: Immunity Production, etc., Jour. Med. Research, xx, No. 1; Immunity Production, etc., Tr. VI Internat. Cong. of Tuberc.

[2] Webb and Williams: Immunity in Tuberculosis, Jour. Med. Research, xxiv, No. 1.

[3] Lieb: Immunity Production in Rabbits, etc., Jour. Med. Research, xxii, No. 1.

[4] Römer: Ueber intrakutane Tuberculinanwendung, Beitr. z. Klin d. Tuberk., 19[illegible], xii, 182.

All these pigs were killed a few weeks later and found to be infected with active tuberculosis.

After five months had elapsed since the previous tuberculin inoculations, the monkeys were again tested by the Römer method.

Two and a half months later, the weekly living bacilli inoculations still being continued, the Römer test was again applied.

It appeared from these tests that Monkeys 8, 10 and 11 must be infected, having given in their skin-fold measurement a percentage increase of 75 and over. The amount 20 mg. was unusually large and was given by mistake. Monkey 11, a control, was now killed and careful search was made for the presence of tuberculosis. Smears were made from the bronchial, mesenteric and inguinal lymph-glands and stained by the Ziehl-Nielsen and Gram methods. No tubercle bacilli could be found. Portions of the glands were macerated and injected into a guinea-pig, Feb. 10, 1911. This pig was tested intradermally, April 9, 1911, with 20 mg. Old Tuberculin. No reaction.

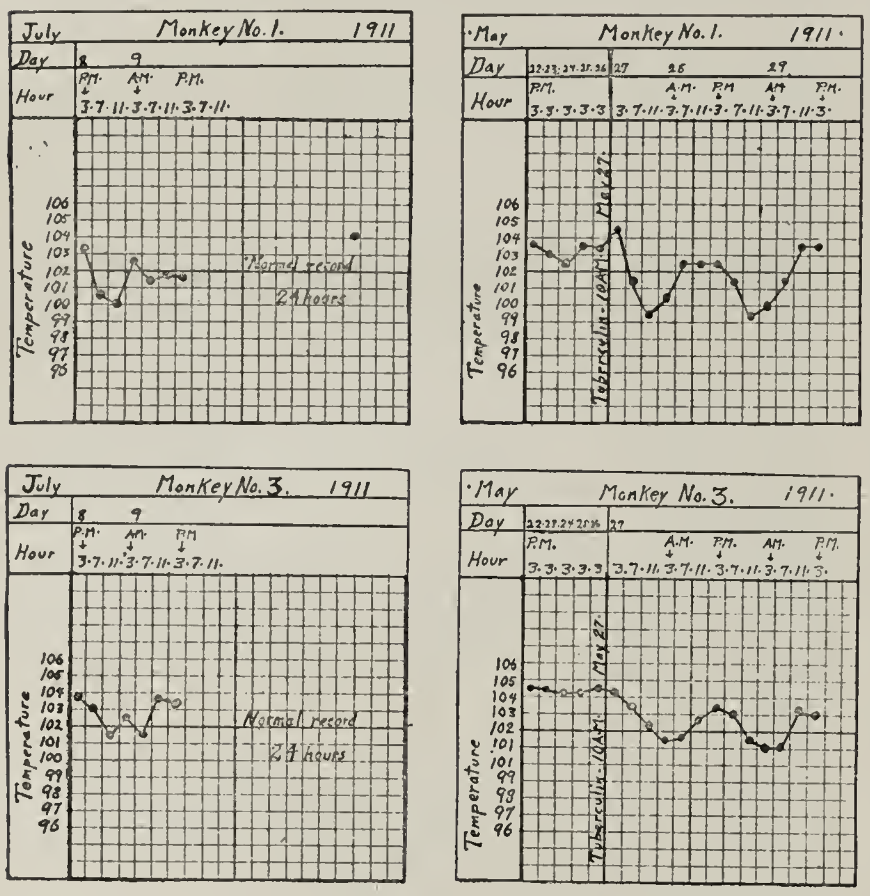

Fig. 1.—Temperature charts for Monkeys 1, 3 and 4.

May 28, 1911, the guinea-pig was killed. Necropsy showed no evidence of tuberculosis. From the fact that Monkey 11 was proved to have had no infection with tuberculosis it would seem that the positive intradermal reactions were a result of tuberculoprotein hypersensitiveness. Monkeys 7 and 8 were again tested, May, 1911, with 20 mg. Old Tuberculin intradermally. No reactions followed. The conjunctival test was again applied as follows:

May 25, 1911. One drop of 2 per cent. O. T. (Cutter's) in 9 per cent. sodium chlorid instilled into the right eye of each monkey.

May 26. No change.

May 27. No change.

It was now decided to give the remaining monkeys a subcutaneous injection of 5 mg. Old Tuberculin and to watch the temperatures resulting. The work of White and Fox[5] was carefully followed and the accompanying temperature curves show no increase of temperature following the injection of the tuberculin.

It will be noticed in the table of Monkey 2 that a severe night drop occurred on the second day and the monkey became so ill it was thought he would die. He recovered the next day, but it was decided to kill him and also Monkey 8, which had received such large doses.

TABLE 2.—DATES OF INOCULATIONS AND THE NUMBERS OF BACILLI INOCULATED

	Monkeys Nos. 5 and 6 Each	Monkeys Nos. 7 and 8 Each	Monkey No. 9	Monkey No. 10
Date	No. of bacilli	No. of bacilli	No. of bacilli	No. of bacilli
6/ 8/10......	1	1	5	5
6/15/10......	3	5	10	15
6/23/10......	5	10	15	30
6/30/10......	10	20	20	50
7/ 7/10......	15	50	25	75
7/14/10......	20	125	30	105
7/28/10......	30	300	40	150
8/ 4/10......	40	450	55	200
8/11/10......	50	700	70	250
8/18/10......	65	1,000	90	325
9/ 7/10......	80	1,500	115	400
9/17/10......	100	2,000	140	500
10/ 6/10......	125	2,800	175	600
10/15/10......	150	4,000	185	700
10/20/10......	175	5,500	215	800
10/28/10......	200	7,000	250	900
11/ 4/10......	225	9,000	300	1,000
11/11/10......	250	11,000	350	1,100
11/17/10......	275	13,500	400	1,200
11/25/10......	300	15,000	450	1.300
12/ 1/10......	350	18.000	550	1,500
12/ 8/10......	400	21,000	650	1,700
12/15/10......	450	25,000	750	2,000
12/22/10......	500	30,000	850	2,400
12/29/10......	550	35,000	1,000	2,800
1/ 5/11......	600	40.000	1,200	3,300
1/12/11......	700	50,000	1,500	4,000
1/19/11......	800	60,000	1,800	4.800
1/27/11......	900	65,000	2,100	5,600
2/ 3/11......	1,000		2.400	

The autopsies of these monkeys gave no evidence of tuberculosis. Smears were made from a large number of lymph-nodes and stained by Ziehl-Nielsen and Gram methods. No tubercle bacilli could be found. Portions of their lungs, lymph-nodes, spleen, liver and kidneys were macerated and injected into guinea-pigs. The guinea-pigs showed no evidence of tuberculous infection at autopsy. Portions of the macerated organs were treated with antiformin, but no tubercle bacilli could be found.

The feces of each animal were twice examined by the antiformin method for tubercle bacilli; none, however, could be found. The normal night drop of a healthy monkey is well shown in the case of Monkey 1. It will be noticed that some interference with this night drop following the injection of the 5 mg. Old Tuberculin seems to have occurred in some of the monkeys. This may be due to the presence of specific antibodies or to tuberculoprotein hypersensitiveness as also the curious effect on Monkey 2 may have been.

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[5] White and Fox: Observations on Monkeys After Injections of Koch's Old Tuberculin, Tr. VI, Internat. Cong. of Tuberc.

Antibodies in the serums of the monkeys were tested for by means of the meiostagmin reaction described by Ascoli[6] and Izar.[7] This reaction depends on the decrease in surface tension which occurs when the specific antibodies in serum unite with the appropriate antigen when incubated together. The surface tension is accurately measured before and after incubation by means of the stalagmometer of Traube.

We prepared the tubercle antigen from the same culture used in the inoculation of the monkeys, following the direction of Izar and Ascoli.

The monkey serum was obtained in large quantities by dissecting out the jugular vein under chloroform anesthesia.

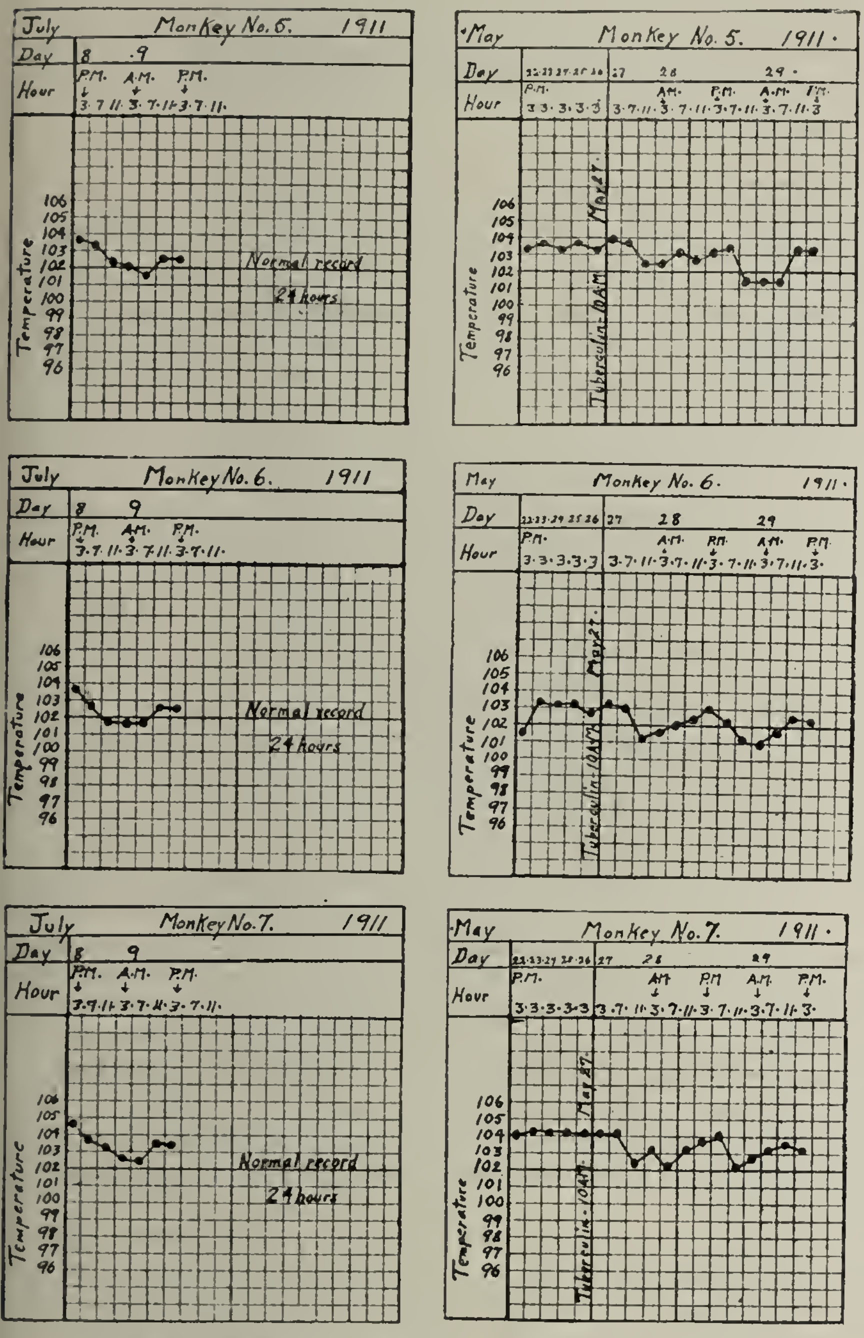

Fig. 2.—Temperature charts for Monkeys 5, 6 and 7.

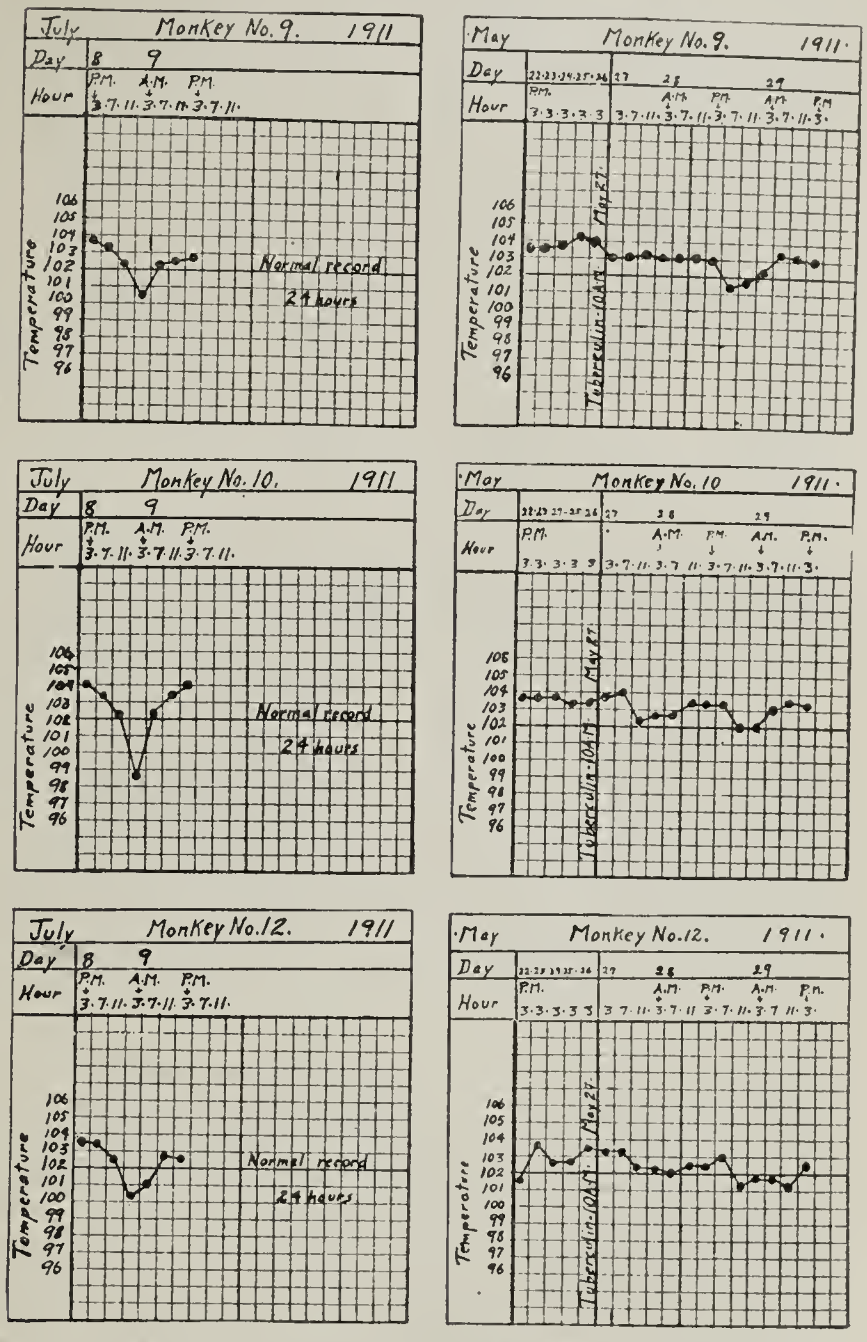

Fig. 3.—Temperature charts for Monkeys 9, 10 and 12.

The serum from Monkey 2 representing an almost normal monkey and the serum from Monkey 8 representing an animal that had received excessively large doses of tubercle bacilli, both gave negative results. The test was applied June, 1911.

Emery's[8] method for measuring quantitatively the specific antibodies in a given serum was also made use of. The test is an application of the Bordet-Gengou phenomenon. When the antibodies combine with the appropriate antigen, complement is extracted and hemolysis prevented. Emery has suggested a means of measuring the time necessary for complete absorption of complement which he terms the absorption time, and he uses it as an index of the amount of antibody present. In general the more antibody present the shorter the absorption time.

For carrying out the test we followed the technic of Emery and used (1) a sterile emulsion of tubercle bacilli in normal saline, from the same culture used in the inoculations; (2) fresh serum collected in a Wright's capsule from the ear of each monkey; (3) an emulsion of sensitized red corpuscles. This consisted of one part washed human corpuscles added to four parts of immune serum. The immune serum was obtained from a rabbit which had been repeatedly injected with well-washed human red corpuscles. The use of the red corpuscles of the monkey for injecting the rabbit would have been better. Our work thus far seems to show that monkey serum has a natural amboceptor for the red corpuscles of some people, so we may avoid the use of rabbits' immune serum in future tests.

Serums from Monkeys 1, 2, 7 and 8 were tested in the manner suggested by Emery and failed to show any complement deviation, the absorption time being prolonged in each instance. The tests were made in June, 1911, after inoculations had ceased.

As yet we have made no attempt to demonstrate other possible antibodies.

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[6] Ascoli: The Meiostagmin Reaction, München. med. Wchnschr., Jan. 11, 1910.

[7] Izar: München. med. Wchnschr., April 19, 1910.

[8] Emery: Immunity Reaction in Diagnosis, Lancet, Feb. 25, 1911.

Differential leukocyte counts were made. The total leukocytes of monkeys per c.mm. average about 15,000. The differential counts were made from blood obtained when the animals were fasting.

We have shown[9] that differential leukocyte counts are of some value in indicating the degree of tubercle infection. It will be seen from Tables 4 to 15 that no evidence of infection can be deduced.

Judged by the high percentage of lymphocytes, and also from their dentition, the monkeys were young animals.

It must be remembered that the high percentage of lymphocytes which persist may be due to the altitude.[9]

Two boys, G. R., aged 3 years, and W. R., aged 3 months, were first tested by means of the von Pirquet skin test and both were found to be negative. The father of these boys died a few weeks later of pulmonary tuberculosis and the mother gave evidence of slight tubercle activity in one lung, accompanied by irregular temperature.

The children were inoculated with bacilli from culture B.[2] as indicated by the following figures:

TABLE 18.—NUMBER OF BACILLI INJECTED

Date	No. bacilli	Date	No. bacilli	Date	No. bacilli
10/20/10......	1	11/25/10......	18	12/29/10......	100
10/27/10......	3	12/ 1/10......	25	1/ 5/11......	125
11/ 3/10......	5	12/ 8/10......	35	1/12/11......	150
11/10/10......	8	12/15/10......	50		
11/17/10......	12	12/22/10......	75		

Total number bacilli received by each child, 607.

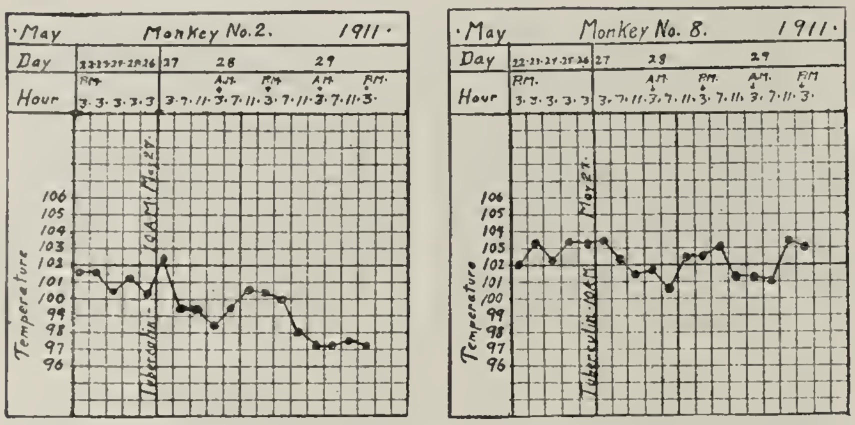

Fig. 4.—Temperature charts for Monkeys 2 and 8.

The children were now again tested by means of the von Pirquet skin test and again the reaction was negative. We realize the intradermal test might have been more thorough, but as our results suggest with this test in monkeys and, as Krause[10] reports, with this test in guinea-pigs that it would seem possibie to sensitize to tuberculoprotein, it is perhaps fortunate that we did not employ it. The children have gained weight and are thoroughly healthy to date. May 22, 1911, after four months' freedom from inoculations, the children were again tested and found again to be negative to the von Pirquet reaction.

CONCLUSIONS

1. We have not yet ascertained the exact number of tubercle bacilli of the culture employed which will infect a rhesus monkey.

2. A rhesus monkey, weighing 2,332 gm., withstood infection when injected at one dose with more than six times the dose of human tubercle bacilli which caused tuberculosis in a guinea-pig weighing 744 gm.

3. Two monkeys each received safely virulent human tubercle bacilli enough to kill at least 12,000 full-grown guinea-pigs.

4. No antibodies so far have been satisfactorily demonstrated in the sera of the vaccinated monkeys.

5. The temperature charts indicate the possible presence of such antibodies which might be interfering with the normal night drops following the subcutaneous inoculation of Old Tuberculin for diagnostic purposes.

6. It would appear that it is possible by the intradermal inoculation of Old Tuberculin to sensitize the skin of a monkey to tuberculoprotein.

7. Two children, both of whose parents were tuberculous, have been successfully vaccinated with upwards of 600 virulent human tubercle bacilli, without infection being produced to date.

Our grateful thanks are due J. E. Fuller, A.B., of Colorado College, for a large amount of valuable assistance.

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ABSTRACT OF DISCUSSION

Dr. J. F. Hultgen, Chicago: Some time ago I was able to show that tuberculosis in its three stages has three different kinds of blood-pictures. In the incipient stage of tuberculosis I have found the two curves, i. e., the polynuclears and mononuclears, close together, and even overlapping. In the second, the toxic stage, we have a definite corresponding anatomic-pathologic substratum and a definite blood-picture. In the third stage there is mixed infection, and the total white curve rises with the advance of the disease. Dr. Webb has succeeded in immunizing two persons, who have kept their immunity for months. I think this immunity may extend even further, for this reason: All diseases followed by long immunity have a negative phase lasting a long time; at least that is true in the typhoid fevers. Why those diseases which are followed by long immunity should show this blood-cell production I do not know. Andrews of London has done some work in that direction. He believes that the incubation of typhoid infections is nothing but the extended negative phase of leukopoiesis with the polynuclears screened within the lung capillaries. That, however, has not been confirmed. Dr. Webb is on the right road and immunity from tuberculosis in animals, and presumably in the human, is not only possible but likely. I think he has taken the first step toward establishing a ground on which can be based the immunity from tuberculosis, which kills so few and makes so many sick; whose mortality is so small, and whose morbidity is so great. If a patient dies *with* tuberculosis, that is not saying that he dies *of* tuberculosis. As to whether he is in possession of a tuberculous infection is for us to decide, and I think Dr. Webb has made this easy.

Dr. Roy E. Thomas, Phoenix, Ariz.: Dr. Webb says the mononuclears in his monkeys averaged about 70 per cent., and this increase he thought possibly was due to the altitude. Dr. Watkins of Phoenix has recently made some experiments which show that we have there in normal individuals a percentage of leukocytes higher than they have in Colorado Springs. I think that altitude might perhaps fail to explain the high percentage of mononuclears in monkeys at Colorado Springs. Dr. Webb did not infect any of his monkeys. May it not be possible that all of his monkeys were already immune to tuberculosis?

Dr. E. R. Le Count, Chicago: I am reminded by this report of instances in which tuberculosis apparently finds its chief soil in the bones, instances of generalized miliary tuberculosis, with fever and enlarged spleen and outbreaks of tuberculous osteomyelitis in different bones. In some such cases the patient's general health suffers but little and there is an apparent immunity on the part of tissues other than the bones. I do not make this comment to hint at the possibility of bone tuberculosis in the monkeys Dr. Webb examined, but to call attention to the habit, so to speak, that the bacillus has formed in such cases, of growing in bones. The other viewpoint I have already stated in suggesting an immunity for other parts of the body than bones.

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[9] Webb and Williams: Some Hæmatological Studies in Tuberculosis, Tr. Nat. Assn. for the Study and Prevention of Tuberc., 5th annual.

[10] Krause: Hypersusceptibility to Tuberculo-protein, Jour. Med. Research, xxiv, No. 2.

Dr. M. P. Ravenel, Madison, Wis.: I had the pleasure of seeing these monkeys and of going over the work with Drs. Webb and Wilson. I am proud of the fact that America can claim credit for the bulk of the work done in the immunization of tuberculosis. While Dr. Webb was not born in this country, he has become an American citizen and it looks as if we were going to get at the root of the matter in America. There are two things in this work which are of interest to me: one is the lack of antibodies, or at least inability to demonstrate them. If we know anything about immunity it is that it depends on the production of antibodies. That is not true always but, generally speaking, we must believe that immunity is due to the production of antibodies. The second point of interest to me is the infection of human beings. We know Behring's theory, that human beings are inoculated with bovine tuberculosis in early life; and Calmette's idea, that those of us who retain our immunity to tuberculosis are those who have had a single large dose, not sufficient to overcome the organism, or repeated small doses so spaced as to allow complete recovery between doses; that those who remain healthy have been vaccinated and have become immune. The question comes up, how much of a dose must a person take to be overcome by tuberculosis? I hope Dr. Webb will further explain the lack of the antibodies.

Dr. Gerald B. Webb, Colorado Springs, Colo.: I take it that the question of altitude would come in in regard to the increased lymphocytes found by Dr. Thomas at Phoenix, for we have found even an altitude of 800 feet gives higher lymphocyte counts than does sea level. I am grateful to Dr. Le Count for mentioning the possible bone infection. It is most important and we will pay more attention to this possibility in the monkeys. I do not believe any tuberculous lesions are present in them anywhere to date. We realize how healthy and vigorous they are when we have to catch them. Replying to Dr. Ravenel's questions concerning antibodies: We have so far failed to demonstrate them unless the interference in the night drop of some of the monkeys following the tuberculin test indicates their presence. In a patient who gets well naturally from diphtheria or even tetanus, antibodies cannot be found in the blood. Antibodies are probably a second line of defense, whereas our inoculations have probably only increased the first line, or the physiologic defense. Our monkeys are now in their second season. They have been kept in small cages in a small room but with the windows open. This room is used for boot-cleaning. Upwards of fifty tuberculous invalids have been in the room at different times and part of the time the monkeys were cared for by a man with advanced pulmonary tuberculosis. As the charts indicate, the lymphocytes of these monkeys still remain high in spite of the monkeys becoming older. This is no doubt the result of the altitude as we have shown to be the case in other animals. As the lymphocyte is considered the natural antagonist of the tubercle bacillus, our work of inoculation with live bacilli has been done under the most favorable conditions on account of the increased numbers of these cells present at this altitude.

The Subhyoid Tug.—Dr. M. L. Graves, Galveston, Texas, writes: The tracheal tugging is often a pronounced and important sign in thoracic aneurysm. It is, however, not so important in recent years, since radiography and other exact methods enable us to diagnose tumors of the chest at an earlier stage and with considerable accuracy. I have observed in a number of patients with thoracic aneurysm with short, thick necks, considerable difficulty in grasping the cricoid cartilage so as to elicit this sign. This is true also in patients with unusual prominence and sternal approach of the sternomastoid muscles, and in some fat necks. Under such circumstances it is comparatively easy to grasp the body of the hyoid bone at its outer and inferior borders and push it up a little and elicit a distinct tug. It is not so strong usually as the cricoid tugging, but is distinct sometimes when the latter is unavailable. It might be designated as the subhyoid tug.

EFFECTS OF HYPODERMIC INJECTION ON THE SECONDARY ANEMIA OF CHRONIC PULMONARY TUBERCULOSIS *

W. JARVIS BARLOW, A.B., M.D.
AND
ROBERT L. CUNNINGHAM, A.B., M.D.
LOS ANGELES

For several years iron preparations have been used hypodermatically in the treatment of secondary, and arsenic in the treatment of pernicious, anemia. In 1908 Peters[1] reported favorable results after two years' use of iron citrate hypodermatically in the treatment of secondary anemia of tuberculosis, employing a number of formulas of different combinations.

Later Morse[2] reported satisfactory results even in severe cases with citrate of iron subcutaneously in the treatment of anemia in infancy. He found the rise in the percentage of hemoglobin was more rapid than that in the number of red blood-corpuscles.

Dickinson,[3] on hypodermic treatment of anemia, says where medicinal preparations fail, when the anemia cannot be relieved, and where digestion is markedly embarrassed by medication, the hypodermic use of iron must be resorted to. Each of these authors speaks of the pain caused at the site of injection.

Of the beneficial effects of arsenic preparations hypodermatically, much has been published in recent years. It is to consider chiefly the use of organic preparations of arsenic in secondary anemia that this paper is written. Our attention was first called to this treatment one and one-half years ago by Dr. Bullock, at Silver City, who showed some results that seemed most favorable and asked one of us (Barlow) to try its effects here.

CASES

Twenty-eight patients were treated, thirteen of whom were in Stage II and fifteen in Stage III.

Many of the first twenty patients had shown little if any improvement on the regular hygienic-dietetic treatment. Some had lost in weight, some had been for a considerable time stationary in weight, and some had gained slowly, though still below their average weight in health. No early case was taken for the reason that such have, without exception, recovered under the routine treatment, or without special agents. It was desired to test the treatment on individuals for whom the routine treatment seemed insufficient. Some of the first twenty cases were looked on as hopeless (2, 8, 14 and 19), and others as capable of nothing more than improvement or arrest (1, 10, 13, 15, 16, 17, 18). In five cases, in Stage II, the prognosis was "fairly good," or "good" (3, 4, 5, 7 and 11); one, in Stage III, was a case of tuberculosis of the larynx, which had healed during tuberculin treatment and absolute rest for the voice for eight months. In this case, the weight had gone down under the higher doses of tuberculin (B.F.), although no febrile reaction was noted at any time, and the low weight was the special indication for the treatment here discussed.

In the second group of eight cases, three were in Stage III, and five were in Stage II, altogether a more favorable class of cases, although one was far advanced (25), and four (21, 24, 25, 28) were capable of nothing more than arrest or improvement of the disease. In one case, treatment was abandoned after one month because of the complaints of a neurotic patient, and because the injection was followed by such severe reaction at the site of injection, ecchymosis, swelling, tenderness, local fever, etc. This case is not included in the number under discussion.

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* One large table is omitted because of lack of space, but it is included in the Transactions and in the authors' reprints.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Peters, Leroy S.: Med. Rec., Oct. 10, 1908.

[2] Morse, John Lovett: The Journal A. M. A., July 10, 1909, p. 107.

[3] Dickinson, G. K.: Med. Rec., Sept. 3, 1910.

PREPARATIONS USED FOR INJECTIONS

Early in our experience three patients received Italian preparations, e.g., citrate of iron with strychnin, or metarsenate of iron, etc. As these individuals received the domestic preparations over a much longer period of time, we shall not complicate the report by unnecessary details but shall report on the three principal preparations used: (1) iron cacodylate, (2) sodium cacodylate, and (3) arsacetin.

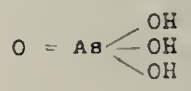
1. *Cacodylate of Iron.*—This is said to be iron in combination with cacodylic acid, $(CH_3)_2AsOOH$, and therefore an organic form of iron and arsenic. "Those organic arsenic combinations in which the metallic atom is directly attached to the carbon are only feebly poisonous, but in time seem to be changed to arsenious acid in the tissues and may then cause typical poisoning." (Cushny[4]). The combination used is put up in sterile ampules of glass, each holding 1 c.c. of the solution, which is a dose of 0.03 gm., i. e., 30 mg. The solution is of a reddish color, clear and transparent, keeps well without sedimentation or deterioration. When injected beneath the skin or into a muscle, it causes a sharp stabbing pain which passes away, usually within a few minutes, but which has been seen to persist for twelve to eighteen hours. Occasionally, discoloration of the skin, as from ecchymosis, is observed for as long as ten days, either with or without continued pain and tenderness in the part. In one case we discontinued the treatment on account of the intensity of the reaction, the patient being neurotic and reluctant to continue. In nearly all cases there is some induration at the site of injection, although it usually passes away within two days and is not commonly painful.

2. *Sodium Cacodylate.*—This contains sodium in combination with cacodylic acid. It is put up in the same sterile ampules as is the iron. It is a clear, colorless, watery solution, and the single dose is 1 c.c., which, in the strength used here, contains 0.05 gm., i. e., 50 mg. This solution also keeps well without clouding or depositing sediment. When injected beneath the skin or into a muscle it causes only slight discomfort or none at all, and we have seen no induration, ecchymosis or continued pain follow its use. When given twice a week, the same site for all injections may be employed if desired.

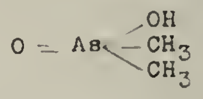
3. *Arsacetin.*—This is an acetyl derivative of atoxyl and is said to be much less toxic and much more stable than that more familiar drug. Atoxyl is $C_6H_5NHAsO_2$ and contains 37 per cent. of arsenic. Arsacetin is also put up in sterile ampules, each containing 2 c.c. of a 10 per cent. solution which is a dose of 0.2 gm., i. e., 200 mg. When sterilized in dilute solution it does not cloud and keeps better than when in more concentrated form.

Of each drug a single dose is contained in an ampule and the preparation is sterile and ready for use. A needle 1 to 1¼ inches in length and of small caliber, with a glass syringe of the required capacity (1-2 c.c.), is boiled and after the skin is cleansed with 95 per cent. alcohol, and the solution drawn into the syringe from the broken end of the ampule, the solution is injected deep into some muscle easily reached. We have most commonly used the deltoid muscle. Injections into the gluteal muscle would cause less pain, but the deltoid is very much more readily accessible and the pain is so slight that the patients prefer the more convenient location and offer little or no objection to the discomfort which accompanies it. So far, we have seen no abscess, and with even reasonable care none should occur. Occasionally, we have injected the various drugs just under the skin, but the intramuscular administration seems preferable on account of better absorption. Two injections a week have been given as routine; more frequent administration could doubtless be employed.

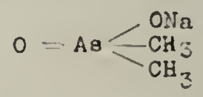
(1) Arsenic acid



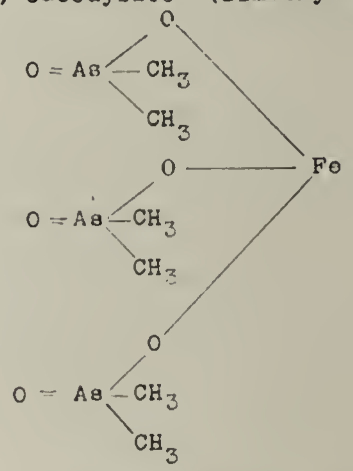
(2) Cacodylic acid (Dimethyl arsenic acid)



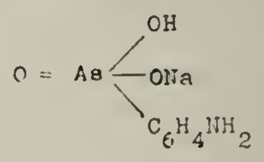
(3) Sodium cacodylate (Dimethyl sodium arsenate)



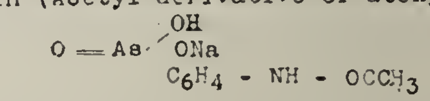
(4) Iron(ferric) cacodylate (Dimethyl ferric arsenate)



(5) Atoxyl (para-amido-phenyl-sodium arsenate)
(sodium salt of arsanilic acid



(6) Arsacetin (Acetyl derivative of atoxyl)



DEGREE OF ANEMIA BEFORE TREATMENT

In our experience, pulmonary tuberculosis does not cause a severe grade of anemia. The hemoglobin is relatively low as compared with the number of red blood-cells, thus giving a color index of less than 1. In the blood-examinations made before treatment, the lowest estimation of hemoglobin by the Sahli hemometer was 51 per cent., which was accompanied by a red-count of 3,904,000, giving a color-index of 0.69. The highest hemoglobin in this series was 94 per cent., with a red count of 5,472,000, a color index of 0.87. The average hemoglobin content for the twenty-eight cases was 81 per cent., the average red count was 4,904,428, with an average color index of 0.826. Of the twenty-eight counts, sixteen were 5,000,000 or more, while only three were below 4,500,000. The rest were between 4,500,000 and 5,000,000.

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[4] Cushny's Text-Book.

In the leukocyte counts there was nothing especially noteworthy, for all being advanced cases, clinically, a slight increase in leukocytes was the rule, ten being 10,000 or more, the highest count reaching 15,400. In six cases the leukocytes were under 7,500, in one it was as low as 5,400, this being a case with very little moisture. In general, we may say that the patients with a large amount of moisture, i. e., with copious sputum and many moist râles in the lungs, showed an increase in leukocytes, the increase affecting the neutrophilic polymorphonuclear cells particularly, while the comparatively dry cases showed a normal or low leukocyte count, with the relative proportions normal, or a slight increase in the relative number of mononuclear cells present. This conforms, in a general way, with our ideas based on a much larger number of blood-examinations than we report here. For differential counting of the leukocytes we used the Ehrlich triple stain, fixing the smears by heat and counting always five hundred cells.

EFFECTS OF THE TREATMENT ON THE BLOOD

Of the twenty-eight patients treated, there were two for whom we have no blood-count made after treatment, in one case because the patient had to be sent away as a matter of discipline, and in the other because the patient died suddenly from acute dilatation of the right heart (?). With these exceptions, we can give the record of the blood-examination after treatment.

After treatment, the highest count was 6,170,000, having gone up from 5,216,000. The highest hemoglobin was 96 per cent. (Sahli), which, being accompanied by a count of 5,664,000, gives a color index of 0.85. The average red count in the twenty-one cases which showed improvement in the blood was 5,355,857, as compared with the previous average for the entire twenty-eight of 4,904,428, which is also an average gain, for those twenty who gained, of 542,712. On the other hand, five patients lost in the number of red cells in the blood, all of the five being patients who did badly, except one, who had 5,376,000 at the start, showing an average loss of 319,000 cells per c.mm.

The hemoglobin changes were as follows: twenty-four patients gained in hemoglobin, the average gain being 8.46 per cent., with a maximum gain of 18 per cent. (cases 14 and 25). Two lost in hemoglobin, the average loss being 2.5 per cent., with a maximum loss of 3 per cent. Of the twenty-four who gained in hemoglobin, the average hemoglobin content after treatment was 88.54 per cent. With the average count of 5,355,857, we derive the color index of 0.835, as compared with the average color index of 0.826 before treatment. Thus the type of anemia, in so far as any anemia exists, is unchanged, the increase or improvement affecting the red-cell count and the hemoglobin in practically the same degree. However, we must remember that the number of patients who showed an increase in hemoglobin was twenty-four as against twenty-one who showed an increase in the red count. The improvement in hemoglobin seems, therefore, slightly more frequent in this series than does the increase in the red count.

As to the behavior of the leukocytes under treatment, in general, those counts which had been increased appear to be reduced toward the normal, and the lower counts seem to have been increased slightly. So many other factors affect the number of the leukocytes that we cannot include a full discussion of this feature at this time. Those patients who had shown considerable moisture and profuse expectoration also showed high leukocyte counts at first. As the moisture diminished and the sputum became less abundant, the leukocyte count seemed to diminish. This is not at all unlike the facts as they have appeared in patients not treated by special agents in our experience, and we cannot ascribe any significance to such changes as have appeared within this series, in so far as the leukocytes are concerned. As a matter of fact, of the twenty-six cases, in ten there was a diminution in the number of leukocytes after treatment, while in sixteen there was an increase. The greatest increase was 3,000 and the greatest decrease was 6,400 (Case 5). In differential counting there was nothing of special interest determined, as the relative proportions of the various types of leukocytes seemed still to be dependent on the presence or absence of secondary infection, bronchitis, etc.

We have not separated the cases of those patients who received iron from the cases of patients who had no iron, because there is little difference in the results in the two groups. If any distinction is made, we would say that the patients who had iron show a relatively greater increase in the hemoglobin content of the blood, while those who had no iron show a greater relative increase in the number of red cells present.

WEIGHT OF PATIENTS BEFORE TREATMENT

In all patients treated, the weight before injections were begun was below that given as the average weight in previous good health, which we take as the standard and call "normal weight" for our patients. Three patients had been under treatment by the ordinary means for fourteen months and one had been under observation but one week before injections were begun. The average residence in the sanatorium before beginning the present treatment was 18.4 weeks. One patient was within a half pound of her normal weight and several were within five pounds of normal, but others were far below, one (2) being more than thirty pounds below his normal weight.

EFFECTS OF TREATMENT ON THE WEIGHT

Each patient was weighed once a week, Tuesday morning, and the weight recorded on the special weight chart. Many of the patients had been a long time under observation before they were given special treatment, three as long as fourteen months, two for eleven months and others for shorter periods. In the first group of twenty cases, no patient had been in the sanatorium less than one month, and only three less than two months. In the second group of eight patients placed on the treatment, one man had been under observation but one week when he was given sodium cacodylate. Of all the twenty-eight, nine had lost in weight before the injections, with an average loss of 3.61 pounds, while eighteen had gained with an average of 4.36 pounds, and the weight of one had remained stationary since admission. We have tabulated the weights as they appeared at the end of each month of treatment, for the sake of brevity.

At the end of the first month, seven had lost (average loss, 1.93 pounds), and twenty had gained (average gain, 3.31 pounds). At the end of the second month, twenty-six were still under treatment, although two were not weighed, being too ill for that. Eight had lost (average loss, 1.84 pounds), and fourteen had gained (average gain, 2.50 pounds). This comparison is not with the weight on admission, it is a comparison with the weight at the end of the first month of treatment, showing the change occurring during the second month.

During the third month, twenty-one were treated; two were not weighed, four lost with an average loss of 1.18 pounds, and fourteen gained with an average gain of 2.69 pounds. In the fourth month, fifteen patients were treated; two were not weighed, five lost weight (average loss, 1.45 pounds), and eight gained (average gain, 2.06 pounds). A number were continued on treatment for a longer period, some as long as nine months, so that all are collected under one head as "at end of treatment," where a review of weight records for the twenty-six on whom we have such records show that nine lost in weight, with an average loss of 2.50 pounds, while seventeen gained in weight, with an average gain of 6.37 pounds. We emphasize that this is a good record for a class of patients all of whom are moderately or far advanced (Stage II or III—Turban). In all early cases the patients gain in weight without special treatment, a statement to which there is hardly an exception in the experience of this sanatorium.

TABLE 1.—EFFECTS OF TREATMENT ON WEIGHT *

	Number of Patients	Number Who Lost	Average Loss (lbs.)	Number Who Gained	Average Gain (lbs.)	No. Who Did Not Change	Number Not Weighed	Number Dropped
Before treatment	28	9	3.61	18	4.36	1	.	.
First month of treatment	28	7	1.93	20	3.31	.	1	.
Second month of treatment	26	8	1.84	14	2.50	2	2	2
Third month of treatment	21	4	1.18	14	2.69	1	2	7
Fourth month of treatment	15	5	1.45	8	2.06	.	2	13
End of treatment	28	9	2.50	17	6.37	.	2	.

* Maximum gain for one patient under treatment, 25 pounds (Case 20); treated eight months. Maximum loss for one patient under treatment, 5.75 pounds (Case 14); treated eight weeks.

The two patients "not weighed" were both far advanced and were confined to bed for months before death and both became extremely emaciated, although we had no means of getting exact records of weight for either patient. One (Case 2) had not only pulmonary disease but also involvement of the larynx, middle ear and small gut. The other patient was a young girl (Case 8) who had a slowly progressive caseous pneumonia and tuberculosis of the bowel (appendix and colon) who was kept in bed for more than eight months before her death.

The greatest gain in weight occurred in a patient who received the sodium cacodylate treatment (Case 20), while the greatest loss occurred in one who received the iron. The comparison is not a fair one, however, since the last patient had an enteritis of tuberculous origin.

		Iron cacodylate	Sod. cacodylate	Arsacetin
Gained in weight	17	7	5	5
Lost in weight	9	4	4	1
Treated period. Weights record	26	11	9	6

EFFECTS OF TREATMENT ON THE STRENGTH, ETC.

We have no numerical system that will adequately express the results in this matter of strength. Impressions and the personal statement of patients must be cited for what they are worth. Almost without exception, the patients treated say they "feel better" and stronger while under treatment than they did before. Several have asked to be put on injections a second time, simply because they felt stronger while taking these drugs, although the condition of their blood has not demanded a second course. In no case have we noted any effect of poisoning such as is seen in arsenical treatment at times.

We do not believe there has been any direct effect on the temperature of patients from the drug injected, at least none directly attributable to the drug. One patient (Case 10) had continued for several months to show an elevation of temperature to about 99.5 F. each evening, and had suffered from a persistent diarrhea for nearly three months before he began to get sodium cacodylate. After he had received this drug for three weeks, he began to have occasional days when the temperature did not rise as before in the afternoon, and the diarrhea left him and has not returned, though that was nine months ago. In the great majority of our cases no demonstrable change has been observed, although a slight gradual decline in the evening elevation is seen in many cases, such as ordinarily occurs in a favorable individual who has been under sanatorium treatment a few weeks. Certainly, fever is not a contra-indication to this form of therapy.

In so far as the pulse is concerned, we have seen only such changes as are to be attributed to changes in the general condition of the patient. We have seen all of the same changes occur in similar cases who have had no such injections.

The examination of the sputum of our patients has not shown us any ground to believe in the sterilizing action or bactericidal power of either arsenic or iron, or a combination of the two, in the form or dosage here employed. The number of tubercle bacilli in the sputum of our patients showed no alteration other than we could expect from our past experience with untreated cases.

In some cases the patients have claimed to have an increased appetite and improved digestion after beginning the treatment. The fact that such claims have followed the first dose or the first two doses is in favor of an influence largely or purely psychic. We can say, on the other hand, that we have seen no digestive disturbance which we could attribute to the treatment by arsenic or by iron hypodermatically. This is not true of arsenic given in the form of Fowler's solution.

Two patients were suffering from troublesome skin lesions, eczematous in nature. These promptly and thoroughly cleared up after the arsenical preparations had been used but two or three weeks. The result was but incidental to the general treatment.

SPECIAL INDICATIONS FOR ARSENIC OR IRON

In our experience of the past year, we have come to look on certain conditions as being indications for the use of these drugs hypodermatically:

1. When the body weight is below that which has been the average for the patient in previous good health.

2. When the blood shows an anemia, especially when the hemoglobin content is low. We see no reason for believing that the iron is superior to arsenic here, at least none other than the accepted theoretical grounds.

3. When the general strength is subnormal. Here we consider that the drugs act as "alteratives."

4. When, after the usual hygienic-dietetic treatment, improvement is slow or at a standstill.

5. Following a course of tuberculin, when the weight has fallen off, as it so commonly does with the increasing doses.

6. When some psychic stimulus is needed.

7. When there is reason to suspect the presence of syphilis. Here the cacodylate of sodium is to be preferred.

CHOICE OF PREPARATION AND DOSAGE

The choice of the drug to be used will depend on the object in view. We would state our preferences thus:

Iron cacodylate is to be preferred:

1. When the hemoglobin content of the blood is relatively low, i. e., when the color-index is very low, say below 0.8. The dose of 0.03 gm. may be given twice or three times a week, changing the site of injection each time. There is apparently more direct stimulating effect derived from the iron solution than from the others.

2. When the patient is not neurotic and will not object to the pain accompanying the administration of the solution.

Sodium cacodylate is to be preferred:

1. When there is any suspicion of syphilis. In such cases we would use 1 c.c. of the 13 per cent. solution (0.13 gm.) three times a week, or at least twice a week.

2. When a painless solution is particularly desired. In such cases we would use 1 c.c. of the 5 per cent. solution (0.05 gm.) twice a week, as being safer than the stronger solution.

3. When there is some degree of secondary anemia, but with a color-index fairly high, as above 0.8.

Arsacetin is to be preferred:

1. When it is to be combined with tuberculin treatment.

2. When sodium cacodylate is not well tolerated.

In all cases we would use 2 c.c. of a 10 per cent. solution (0.2 gm.) and give that amount twice or three times a week, or even daily if it is desired.

CONTRA-INDICATIONS

Although we have seen no harmful effect from the use of these drugs as described, we have avoided administration of them in certain cases:

1. During hemorrhage from the lungs. We have waited at least one week after the sputum has cleared up before resuming injections.

2. During the so-called "asthmatic" attacks of the patients with a great deal of chronic bronchitis and emphysema, fearing to irritate the mucous membranes during such seizures.

3. In all cases in which there was marked albuminuria and cylindruria.

4. Where there has been marked interference with the circulation.

COMPARISON WITH PATIENTS NOT SO TREATED

The question arises: Have we done for these patients more than we could reasonably hope to accomplish for them by the use of the unassisted form of hygienic-dietetic treatment? If we have made the recovery of the later patients (Stages II and III) more probable, more rapid and more comfortable, then the special therapy has been useful. In order to get some light on this question, we have chosen from our records an equal number of similar patients (Stage II, 13, and Stage III, 15), and have studied the condition of their blood and of their weight in the same way as that followed for the others, though reported in briefer form.

The maximum weight gained by one individual, who was not given either iron or arsenic, was 45.75 pounds in a period of twelve months' residence in the sanatorium. The maximum loss of weight in the untreated group was 16 pounds in a period of eighteen months' residence. Both loss and gain, therefore, are in the excess of the loss and gain seen in patients under treatment by injections. Those patients who are treated seem less liable to go far beyond their previous average weight in health, and less liable to lose rapidly and extensively during the course of their illness. More detailed comparison of the separate items will be found in the following tabulated weights:

TABLE 2.—WEIGHT IN TWENTY-EIGHT PATIENTS WHO WERE NOT GIVEN IRON OR ARSENIC

	Number of Patients	Number Who Lost*	Average Loss (lbs.)	Number Who Gained†	Average Gain (lbs.)	Number Not Changed	Number Not Weighed	Number Dropped
First month	28	9	4.	19	4.18	.	.	.
Second month	28	5	1.60	22	2.96	1	.	.
Third month	28	3	0.50	22	2.27	3	.	.
Fourth month	27	8	1.65	16	2.69	2	1	1
End of residence	28	10	7.62	18	12.87	.	.	.

* Average residence 10.95 months.
† Average residence 14.47 months.

THE BLOOD IN TWENTY-EIGHT PATIENTS TREATED WITHOUT IRON OR ARSENIC

For the purpose of this discussion we shall take only the first blood-examination made after admission and the last before discharge. The entire twenty-eight cases are included. The general statements as to the type of anemia are true in all essential particulars when applied to this group, as well as when applied to the group treated. Being the same class of patients, i. e., in the same clinical condition, naturally the blood is about the same. On admission the lowest count (Case 24) was 3,190,000, with a reading of hemoglobin at 60 per cent., which gives a color-index of 0.96, a little higher than usual. The highest count on admission was 5,860,000, in which blood the hemoglobin was estimated at 75 per cent., a color-index of 0.64. The average count of the red cells for these patients on admission was 4,753,000, with an average hemoglobin content of 76.43 per cent., giving an average color-index of 0.81. On discharge the average red count was 4,641,071, with an average hemoglobin content of 79.5 per cent., giving a color-index of

TABLE 3.—TWO GROUPS COMPARED AS TO WEIGHT

	Gained				Lost				No. Not Weighed		No. Dropped		Weighed Same	
	No. Treated	Average (lbs.)	Number Not Treated	Average (lbs.)	No. Treated	Average (lbs.)	Number Not Treated	Average (lbs.)	Treated	Not Treated	Treated	Not Treated	Treated	Not Treated
First month	20	3.31	19	4.18	7	1.93	9	4.0	1	.	.	.	.	.
Second month	14	2.50	22	2.96	8	1.84	5	1.60	2	.	2	.	2	1
Third month	14	2.69	22	2.27	4	1.18	3	0.50	3	.	4	.	1	3
Fourth month	8	2.06	16	2.69	5	1.45	8	1.65	2	1	13	1	.	2
End of residence	17	6.37	18	12.87	9	2.50	10	7.62	2	.	.	.	.	.

0.85. Of the twenty-eight cases, fifteen showed an increase in the number of red cells, the average increase for the fifteen being 445,466; thirteen showed a decrease in red cells, the average decrease being 494,615. Comparing the counts on admission with those on discharge, for the twenty-eight we find that in spite of the fact that the number which gained is greater than the number which lost, there is a general average loss of 111,929. This is due to the fact that the individual losses were greater than the individual gains, for the maximum loss was 1.760.000, while the maximum gain was but 970,000 cells.

TABLE 4.—COMPARATIVE VIEW OF HEMOGLOBIN AND RED CELLS

	Average of Red Cells		Average Hemoglobin (per cent.)	
On admission—				
Treated	4,904,428		81	
Not treated	4,753,000		76.43	
On discharge—				
Treated	5,346,000		88.54	
Not treated	4,641,071		79.5	
Average gain—				
Treated	542,712	(20)	8.46	(24)
Not treated	445,466	(16)	11.66	(12)
Average loss—				
Treated	319,000	(5)	2.5	(2)
Not treated	494,615	(13)	7.14	(7)

TABLE 5.—COMPARATIVE VIEW OF CLINICAL RESULTS

	Treated 28		Untreated 28		Seventh Report 65		Sixth Report 66	
	No.	%	No.	%	No.	%	No.	%
Apparently cured	6	21.4	1	3.57	7	10.77	2	3
Disease arrested	10	35.7	5	17.85	5	7.69	8	12.1
Improved	6	21.4	11	39.28	26	40	28	42.4
Progressed	2	7.1	6	21.43	10	15.38	16	24.2
Died	4	14.3	5	17.85	5	7.69	5	7.6
Not treated (ann. rep.)	.	....	..	.....	12	18.46	7	10.3

With the hemoglobin the result is somewhat different. On admission the average hemoglobin was 76.43 per cent., and on discharge, 79.5 per cent., showing an average gain for the twenty-eight of 3.07 per cent. hemoglobin. There were twelve cases showing gains, averaging 11.66 per cent., and seven cases showing a loss of hemoglobin averaging 7.14 per cent., and nine cases in which the hemoglobin content remained unchanged.

In the leukocytes the lowest count was 5,400, and the highest count was 19,900. The counts here correspond exactly with the statements made elsewhere regarding the significance of leukocytosis, and in respect to the type of cells which are actually and relatively increased in number.

On reviewing the results of these control cases, the clinical evidence in favor of the treatment is stronger and more certain than the detailed evidence obtained by the actual weights and blood-examinations. It will be noted that the number of apparent cures has been just as large as that obtained during the seventh year of the sanatorium, although that group contained 17.01 of Stage I, while the group here reported is made up entirely of Stages II and III, the number in whom the disease was arrested was also twice that (in percentage) of those found in the sixty-five cases of the seventh year. This is more than a coincidence, and is more satisfying than the voluminous details, since the future usefulness of the patient and the time of his discharge from the institution, together with almost every other practical consideration, is determined by the clinical condition rather than by any laboratory tests. Dr. Trudeau has well stated this important fact—that careful clinical observation is after all the safest guide we have in the treatment of our tuberculous patients. Dr. Knothe reports from the Hospital of Odessa, April of this year, on cases of tuberculosis treated with atoxyl, saying:

> The value of the arsenic has been ascribed in such treatment to the healing action of the arsenic on the improved blood condition and the nutrition of the organism. To me it appears that the arsenic has, besides this, an actual bactericidal action against the tubercle bacilli within the body. . . . The conclusions from the cases reported may be drawn as follows: Atoxyl exerts a curative action on the disease in question, an activity which, in isolated cases where there is a possibility of comparison, surpasses the activity of the ordinary cacodylate as well as tuberculin, and which not infrequently succeeds without influencing the nutrition of the body, and at times even where weight is lost. I hold to my assertion that the positive results of treatment are to be ascribed to specific bactericidal activity on the tubercle bacilli within the organism.

Our results do not confirm Dr. Knothe's views.

Dr. Peters' paper read at Denver this month concludes that hypodermic injections of iron are practically specific in the secondary anemia of tuberculosis. He considers the iron citrate the best suited in marked anemia, the metarsenate of sodium the best as a general tonic, arsenic and strychnin together to promote metabolism, and finally says that hypodermic injections of iron should always have a place in the treatment of tuberculosis.

CONCLUSIONS

The following conclusions seem to us justifiable, at least in so far as our experience has taught us anything:

1. The subcutaneous or intramuscular injection of sterile solutions of arsenic or iron, or of the two in organic combination, is entirely practicable in the treatment of the tuberculous in sanatoriums.

2. The effects of such medication are seen chiefly in the changes in the blood and in the body weight.

3. The preparations of iron seem to affect the hemoglobin content more profoundly than it does the number of red blood-cells.

4. The preparations of sodium cacodylate and of atoxyl (arsacetin) seem to affect the number of red cells more markedly than the hemoglobin.

5. These solutions are in no sense specifics against the tubercle bacillus, but seem to exert a general tonic or alterative action within the organism.

6. The use of these preparations is entirely safe and is not attended with danger to the patient, even when continued over a period of many months.

7. Relatively larger doses are borne when given thus than are tolerated when given by the mouth.

8. The dosage is capable of exact control and the amount of the drug absorbed is known definitely.

9. The body weight is more rapidly and more certainly raised when these preparations are employed than when the unassisted hygienic-dietetic form of treatment is maintained.

10. There is no demonstrable increased liability to pulmonary hemorrhage accompanying the use of these preparations in pulmonary tuberculosis, even with advanced cases and in the presence of progressive destruction of the lung.

2329 South Figueroa Street.

ABSTRACT OF DISCUSSION

Dr. Samuel D. Swope, Deming, N. Mex.: We find in our part of the country that there is a very marked effect following the hypodermic use of these preparations of iron and arsenic. Many of the people who come to us are in a very low physical state and it is especially noteworthy that we get, as the result of this treatment, a very quick increase in their desire for food, and also in their ability to assimilate the principles thereof. So far as I know in my limited experience no temperature reaction has followed the hypodermic injections of these preparations. There is the suggestion, however, that some of these effects might be due to the hypodermic injections. I find quite a few persons, especially those from the far east, who are very timid, not wishing the injections to be given in the gluteal region; for this reason the injections are often refused. I think that the nervous disturbances may have some effect on the febrile reaction. Dr. Bullock of Silver City, N. Mex., has had quite an extensive experience with this treatment. He reports very satisfactory results and his conclusions are very convincing.

Dr. W. Jarvis Barlow, Los Angeles: Toxic effects from the use of these preparations I have not seen. The reason is, I think, that I have not pushed the arsenic at all and I have kept the patients under treatment for a long period of time. I give these injections of arsenic twice a week; the arsenic is not pushed at all in the class of patients under discussion. I do not see the need of it. I get no rise in the temperature; any rise in the temperature can be attributed to other reasons. Dr. Swope spoke of the patients objecting to the injections being made in the gluteal region. I use the deltoid region and I have yet to find a patient who objected to the injections there. I see no objections to giving the injections in the gluteal region, except that more pain is produced there than in the deltoid region. Dr. Fulton has spoken of the use of these preparations in cases other than pulmonary tuberculosis. I repeatedly see cases that have been carefully watched and which could be compared with tuberculous cases in a similar condition. The results on the blood are not different from what can be obtained by the regular methods. The tonic effects following the injections of arsenic is considerable and are not obtained by me with the employment of other methods.

INTESTINAL APPROXIMATION

A PRELIMINARY REPORT ON A NEW MECHANICAL DEVICE AND A NEW METHOD

JOSEPH B. BACON, M.D.
Surgeon to the St. Francis Hospital
MACOMB, ILL.

About six years ago I announced[1] a new mechanical device for intestinal approximation, called the dumb-bell, from its shape. I have been assured by many of the best American surgeons that the method was a good one, but they stated that the caliber of the dumb-bell used was too small for safety. Accepting this criticism as just, I have made a new instrument which incorporates all of the essential features of the dumb-bell, while I am enabled to increase its caliber by using thinner material. The perfect result of an operation, performed two months ago on a 30-pound pig, convinces me that I am justified in making a preliminary report.

This new device is a simple grooved ring, $3/8$ inch wide, $3/4$ inch in diameter, made from thin sheet silver, with a forged groove $1/8$ inch deep to hold the compressed tissue under a ligature.

The new method of operating and the new device here explained is the result of six years' work. I began with the idea that, in an end-to-end approximation of an intestine, all of the connective tissues must be incorporated in the fixation method in order to safeguard against leakage, and also to get a firm safe union, because it is a well-known fact that the sheath of fibrous submucous tissue is normally both air-tight and water-tight. After experimenting with one device after another, I finally succeeded in making a simple grooved ring (Fig. 1) to accomplish the desired result. It simply acts as a hollow cylinder for the passage of liquids and gas, and at the same time gives a base on which we can tie all the connective tissue in one firm grasp by means of a rubber and silk suture of coarse fiber, and thus have a firm union for three or four days while the serosa and muscularis are becoming united by an organized lymph. In from three to four days the organized tissue is a safe barrier against leakage. The ligature necroses through the connective tissue by this time and frees the device.

The ring is made of thin silver and is very light. There are three different sizes, one for children, one for adults and one for the colon in adults. The same method may be used with a grooved ring moulded from rubber or from any digestible material, but I prefer one of silver, as it can be made small, is light, has a definite strength so that one can do a definite work and know what to expect during a definite time.

We desire the connective tissue to hold at least for three days and prefer it to hold for five days. My experiments on pigs prove that the dumb-bell was freed after from four to six days. The silk ligature should be firmly wrapped around the tissues and the ring twice, then securely tied with several knots; over this should be applied a very light rubber band. The knots and ligatures are left within the canal and the quantity of ligature can make no difference. The ligature material should be coarse, so that it will necrose through slowly, hence heavy braided silk should be used.

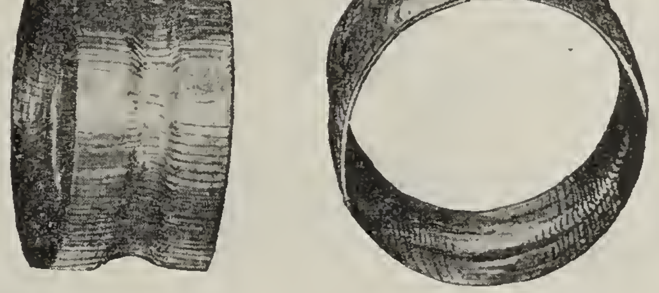

Fig. 1.—Ring used for intestinal approximation.

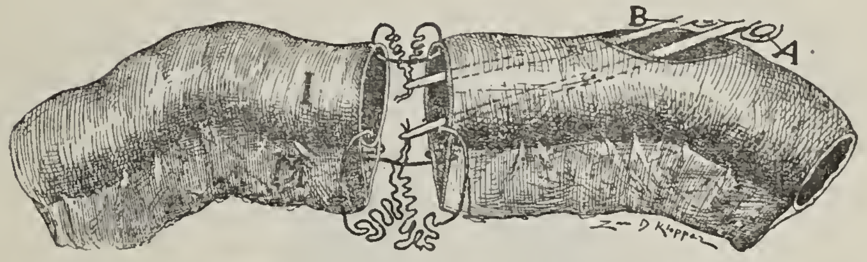

Fig. 2.—Traction sutures grasped by forceps A and B.

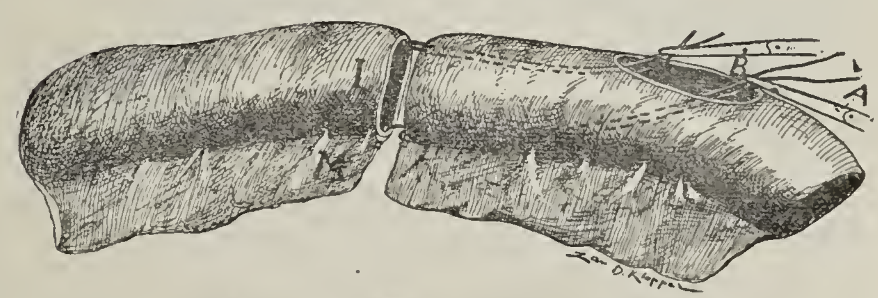

Fig. 3.—The traction sutures in place.

OPERATION FROM END-TO-END APPROXIMATION

The ends of the bowel are secured by a suture at the mesenteric border, care being taken to include in this suture V-shaped mesenteric triangles. Directly opposite the mesentery, on the periphery of the intestine, another suture is placed. Each of these sutures is tied loosely, as they are used only for the purpose of invaginating the two ends of the bowels. Four inches from the proximal end of the intestine, along its peripheral border, an incision is made through the intestinal wail, one inch in length. A pair of forceps is now passed through this incision and into the end of the intestine and the tension sutures secured and drawn through the incision. Now steadying the mesenteric border of the intestine between thumb and finger and drawing the sutures, invaginates the two ends of the intestine into each other and through the incision. The ring is now placed into the ends of the invaginated intestine, being held by special forceps, and the ligature applied at a distance of one-half inch from the ends of severed intestine, encircling it and fitting into the groove of the ring. The operator disinvaginates by gentle traction and pressure on forceps, reunites the peripheral incision with a Cushing suture, then completes the operation by suturing the mesenteric opening. The three sizes of the ring can by the ligature method be made to fulfil any requirement in any operation for intestinal approximation.

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[1] Bacon, Joseph B.: The Journal A. M. A., Jan. 6, 1906, p. 21.

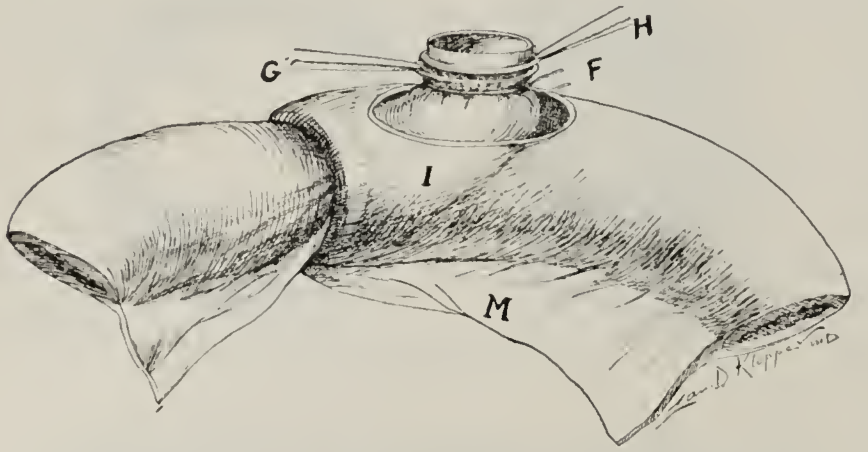


Fig. 4.—Invagination of the two ends of the intestines. G and H indicate the ends of the invaginated intestines; F, rubber ligature.

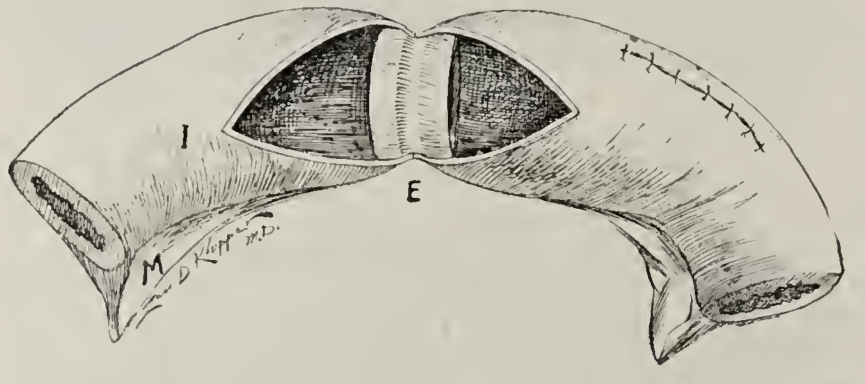


Fig. 5.—Diagramatic representation of ring (E) in place after the ends of the intestine have been disinvaginated.

The advantages of this method of operating are:

1. Simplicity of the construction of the ring; therefore, always ready.

2. Simplicity of the operation.

3. The absolute safeguard against leakage, as the ligature secures all of the connective tissue.

4. The short time in which the operation can be performed.

5. The fact that the ring cannot remain in the site of the operation more than four or six days, as the connective tissue will all have been uniformly necrosed by that time.

6. The fact that the extremely light weight of the ring, its size and shape insure against the possibility of its lodging at any part of the alimentary tract and its large caliber permits the free passage of feces.

7. The fact that no reinforced sutures are necessary.

8. The minimum amount of cicatricial tissue that ultimately remains.

UNIVERSAL GRAVITY OUTFIT

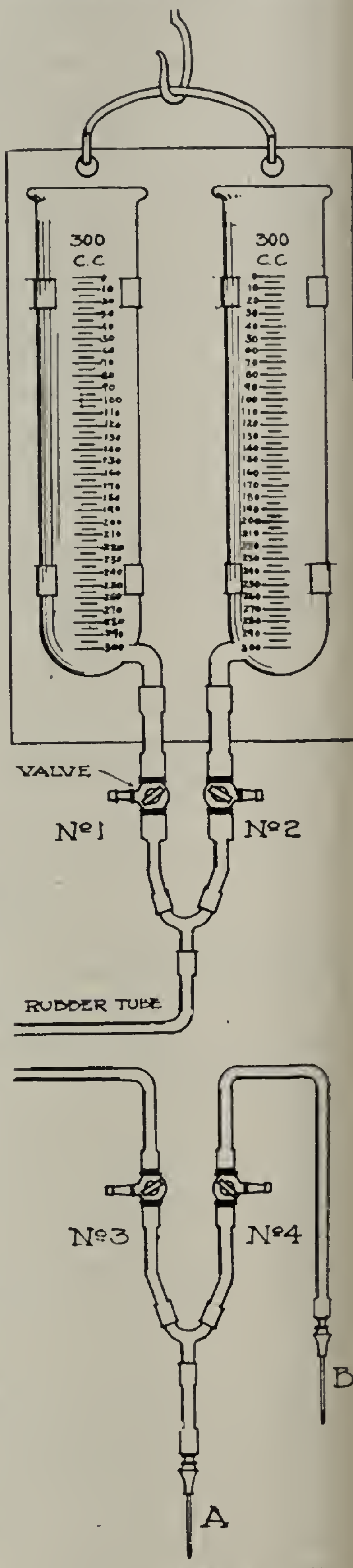
W. T. MEFFORD, M.D.
CHICAGO

I have found the outfit here described useful for so many conditions that I wish to bring it to the attention of the profession. It can be used for the following purposes:

The treatment of abscesses by the closed method, as recommended by Sir A. E. Wright; the treatment of hydrocele; irrigation of the bladder; proctoclysis; the intravenous administration of salt solution, defibrinated blood, salvarsan, and other medicines; the subcutaneous administration of salt solution, and for direct intravenous transfusion.

The technic for treating an abscess by the closed method is as follows:

All stop-cocks are closed and the containers filled, one with an irrigating fluid, and the other with the medicated solution to be used. Stop-cocks 1 and 3 are then turned on and the rubber tubing from the container holding the irrigating solution is allowed to fill. Stop-cock 3 is then turned off. The skin where the needle is to enter should now be cleansed, the needle passed through an alcohol flame and the abscess punctured. Turn on the off-flow (Stop-cock 3); Stop-cock 4 is then turned on, the abscess drained, and Stop-cock 4 is again turned off. Stop-cock 3 is now turned on and the cavity filled with the irrigating fluid. When the cavity is sufficiently filled, Stop-cock 3 should be turned off, and Stop-cock 4 turned on, allowing the irrigating fluid to drain away. This procedure may be repeated as frequently as conditions require. After cleansing with the irrigating solution one can, if so desired, turn on any special medicated solution by turning off Stop-cocks 1 and 4, and turning on Stop-cocks 2 and 3, supplying the solution from the container holding such medicine. After filling the cavity with the medicated solution, any part of this solution may be drained away by turning off Stop-cock 3, and turning on Stop-cock 4.



Universal gravity outfit.

The same directions apply to the treatment of hydrocele, and to the irrigation of the bladder, except that the catheter should be used instead of the needle; and for protoclysis, using the rectal tube instead of the needle.

The technic for the intravenous administration of salt solution, defibrinated blood, salvarsan, etc., is as follows:

First sterilize the outfit and all materials to be used, filtering all solutions through sterile filter paper into the containers. Observe the containers carefully and see that there are no small particles floating in the fluid; if so, again filter the solution. Have solutions at a temperature of 100 F. Remove Stop-cock 3 and connect the needle which is to be inserted into the vein directly with the rubber tubing from the containers. Tie a constrictor around the patient's arm to distend the vein at the elbow. If the vein is not sufficiently distended, a few backward and forward motions of the forearm will distend it more. Cleanse the skin over the vein at the elbow with alcohol. Have the needle thoroughly clean, and just before inserting pass it through an alcohol flame. Turn on Stop-cock 1, filling the rubber tubing from the container holding the physiologic salt solution; turn off Stop-cock 1 and insert the needle into the vein. Untie the constrictor, and turn on Stop-cock 1 from the salt solution. When a sufficient amount of salt solution has entered the vein, Stop-cock 1 is again turned off, the needle withdrawn while pressure is made over the vein where the needle enters the skin.

The same technic will apply to the administration of salvarsan and other medicines, except that when the needle is first introduced into the vein the physiologic salt solution should be turned on to see that the needle is in the vein. The needle being properly in the vein, turn off Stop-cock 1, and turn on Stop-cock 2 from the vessel containing the medicine. After the desired amount of the remedy has been introduced, Stop-cock 2 should be turned off and Stop-cock 1 from the salt solution turned on, in order to wash away traces of the remedy that may be left at the point where the vein was punctured. When the vein is sufficiently cleansed by the physiologic salt solution, Stop-cock 1 is turned off and the needle withdrawn as directed above.

For the direct transfusion of blood, the arm of the patient who is to receive the blood, as well as that of the donor, is prepared as directed above for salt transfusion and a constrictor placed above the elbow of each individual. The needles should be thoroughly cleaned by passing them through an alcohol flame just before inserting into the veins. Stop-cocks 1, 3 and 4 are opened, filling the rubber tubing with physiologic salt solution at 38 C. (100 F.). Stop-cocks 3 and 4 are turned off, sterilized needle A inserted into the vein of the individual who is to receive the blood and the rubber constrictor untied. Stop-cock 3 from the salt solution container is turned on to see that the needle is properly in the vein. This having been ascertained, the salt solution is permitted to flow slowly while puncturing the vein of the donor with Needle B. As Needle B enters the vein, Stop-cock 4 is turned on, and Stop-cock 3 is turned off. The constrictor above the elbow of the donor should not be untied until the desired amount of blood has been transfused. After having taken the required amount of blood, the constrictor on the arm of the donor is untied, the needle is withdrawn first from the arm of the recipient in the manner described above, and then the needle is removed from the donor in the same way.

To avoid a hematoma, pressure should be made for a short time over the point where the needle entered the vein. The punctures should be covered with a small collodion dressing.

2139 West Madison Street.

Ancient Surgery.—Surgery is as old as the needs of mankind and its written record extends into the dim past, long before the Alexandrian conquest. It is a disputed theme which one of the two Aryan branches first employed it, but there is evidence that the Hindus possessed a high degree of medical and surgical knowledge, that they performed many plastic operations, among which was rhinoplasty. They also practiced lithotomy quite extensively. Their surgeons removed tumors, did amputations, understood and treated the different varieties of hernias, especially the omental hernia, which was removed by operation on the scrotum. They performed laparotomies, opening the abdomen for intestinal concretions and obstructions. In these cases the incision was made a little toward the left middle line; Cesarean section was also performed, as well as cephalotripsy. Ophthalmology was well advanced and cataract operations were done.—A. M. Crispin in *New York Medical Journal.*

THE INSTITUTIONAL CARE OF YOUNG INFANTS *

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A recent writer on "The Proper Management of Foundlings and Neglected Infants,"[1] has gone so far as to indicate his belief that the institutional method must give way entirely to the system of placing out in families. He says:

> The first step would be entirely away from institutional care, as the improved feeding-methods and personal hygiene have not had the favorable results expected while the infants are collected and retained in large numbers in one domicile. These old and futile efforts have been long and faithfully tried, and it is time that some other plans be instituted, if the mortality among this class of infants is to be materially reduced.

That the older methods in institutions for foundlings and young infants were productive of a shocking mortality among those under one year of age, has been acknowledged the world over. Nevertheless, reasons existed and still exist for the retention of the institution in some modified form. While some institutions to-day continue to pursue fatalistically the older methods, it must be admitted that others have made marked strides and are presenting very enviable results. But my conviction is that only a beginning has been made, and that far better results can be obtained. The purpose of this paper is, therefore, to call attention to the opportunities and obligations of institutions which receive and care for infants.

FACTORS IN INSTITUTIONAL MORTALITY

The factors which enter into the large mortality in foundling asylums and institutions are as follows:

1. Delay in transmission of the infants to the institution, with resulting disturbance of vital functions and of digestion.
2. Questionable initial care on entering the institution.
3. No wet-nurses, or too few wet-nurses, for premature and delicate babies.
4. Bottle-feeding from birth, or sudden weaning on reception in the institution.
5. Inadequate facilities (milk laboratories or diet kitchens) for preparing bottle-feedings.
6. Routine artificial feeding, with but slight individualization.
7. Insufficient nursing force, which precludes the normal personal attention to each infant.
8. Large wards with ready extension of infectious and contagious principles.
9. Overcrowding, with lack of air-space and of proper ventilation.
10. Insufficient provision for outdoor airings.
11. Inadequate facilities for the application of quarantine, in its broadest sense, to all sources of infection in infancy.

It may be remarked that I have given no prominent place to the requirement of clean milk and of methods intended both to keep it sweet and to limit bacterial growth. This is necessarily included in the proper preparation of artificial feedings, and its importance has been unduly exaggerated and attention thereby diverted from other measures of equal if not greater urgency.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Chapin, Henry Dwight: Med. Rec., New York, Feb. 18, 1911.

Such degree of success as has been attained by the institutions which now show the more enviable records has come to them in proportion to their recognition of the adverse factors which I have enumerated.

To put this reorganization of institutions for infants on a logical basis, we must not be content with the correction of isolated errors; we must go far enough back to discover the fundamental reasons for their abnormal mortalities. In this search, we may start from the premise that as a rule the lowest mortality obtains where infants receive not only the mother's breast-milk, but also her personal care in the home. It matters little how primitive the home, if there be competent breast-milk and individual care, the prospects of survival for an infant, healthy at birth, are excellent. Remove one of these factors, and the risk is greatly increased. We have daily cause to recognize this added risk when artificial feeding must be resorted to, even in a home where there is maternal care. Deprive the infant both of breast-feeding and of home care, and at once the outlook becomes an exceedingly serious one.

While institutional environment undoubtedly contributes its own special dangers, it is generally recognized that when breast-fed or bottle-fed infants in an institution are accompanied by their mothers, they do relatively better than infants correspondingly fed who have no maternal attention. Such success as the placing-out system has obtained is dependent in very considerable part on restoring to the infant individualized care in the substitute home. Therefore, since breast-milk and motherly care in the home are the foremost factors in preventing early mortality, and experience has shown us that possibly either one of the two, but never both, can be dispensed with without incurring the greatest risk, it follows that just in proportion to the ability of the modern institution to furnish these to infants will be its success in preventing their deaths and rearing them as normal well-nourished children.

Nevertheless, it is just these two factors which are most lacking in the majority of institutions, and until they are supplied more adequately, it cannot be claimed that the limits of success in the institutional care of infants have been reached.

We may now return to the consideration of the special factors which call for readjustment.

Transfer to the Institution.—The institutional life of an infant is usually preceded by some period of stress in the home from which it comes. This may be due to the illegitimate birth of the infant, the death of the mother, her serious illness, or merely to the mental anxiety associated with increasing poverty or the breaking up of the home. These instances will suffice to indicate that the infant, whether breast-fed or bottle-fed, has usually suffered more than ordinary deprivation and neglect. Then follows the transportation of the infant, often unsuitably clothed, to the institution. Possibly the first application is made with the infant at the police station, the office of some charitable organization or some general hospital. This may involve long waits or another journey. If the baby is taken in at some temporary receiving station, misguided sympathy gives the infant some unsuitable milk mixture to still its cries. Eventually it reaches the institution, suffering from unwonted exposure to heat or cold, fatigued, and probably with a disturbed digestion. In short, infants on reaching the institution are so rarely in normal condition that I recall one institution in which it was the routine practice to enter the condition of all such infants as "hopeless," in order to avoid criticism in the event of their later demise. The partial solution of this problem should lie in better arrangements at all charitable centers and receiving stations for prompt attention to such infants, and for immediate transfer to their proper destination.

Reception and Attention at the Institution.—When the child is received into the ward, the probable previous experiences should be borne in mind. If it has been exposed to cold, it should be given a warm bath to restore the circulation, enveloped in warm clothing and placed in a warm bed. Every institution receiving such infants should be equipped with suitable appliances for maintaining the temperature of feeble and exhausted infants when this is below normal. Premature infants are especially vulnerable. The incubator has gone out of fashion. It easily got out of order, and fresh air was rarely supplied in sufficient quantity. Its place has been taken by enveloping suits of cotton-wool and cheesecloth, and by padded baskets in which the body heat is maintained by hot-water bottles, or—much better—by electric heating pads. A "warm room," in which abundant fresh air is heated uniformly to 80 F. or thereabouts, will in time come to be a necessity in every well-appointed institution for infants.

Nourishment.—The nourishment of the infant following its reception is a matter of great importance. Bearing in mind its previous experiences, this is a moment for caution. If the child has been previously breast-fed, this is a particularly inauspicious time for beginning total artificial feeding. If the infant has been fed artificially, in an ignorant or haphazard fashion, the digestion is probably more than ordinarily disturbed. Rest and fluid in the form of boiled water are more advisable than food, unless this be very simple—barley water or whey. Exact information as to the infant's previous food is rarely obtainable. A mild laxative to clear the digestive tract of the injudicious offerings of solicitous friends or strangers is a wise preliminary to the beginning of a cautious line of feeding.

Temporary Wet-Nursing.—For many of these infants, temporary wet-nursing should be provided. No other measure offers an equal chance of restoring digestive balance. While the sudden weaning which takes place on the transfer of an infant to the hospital is so often the beginning of a more or less prolonged period of malnutrition ending in death, wet-nursing for a few days will permit the gradual introduction of bottle feeding, and is not only more rational, but more frequently attended with success. Whatever may be said of the ethics of wet-nursing in private practice whereby the life of the wet-nurse's child is often sacrificed in order to save that of the foster-child, wet-nursing in the institution has neither this drawback nor is it impracticable. It is simply a question of dollars and cents.

Breast-milk is purchasable. Institutions which undertake to confine and shelter prospective mothers without pay should very properly exact an agreement that the women will nurse another baby besides their own, as a partial return for what they themselves receive. Homeless mothers can be found who are glad to accept the shelter of the hospital while earning something for the future, through the sale of part of their breast-milk. Circumstances should determine the manner of payment. Exceptionally willing nurses may be paid a lump sum per month. For others, the transaction should be on the strictly commercial basis of so much per ounce for the breast-milk furnished. This plan, followed at the Säuglingsheim at Dresden and elsewhere, at once assures the cooperation of the wet-nurse. She is more ready to confine herself to a proper milk-making diet, since the larger flow of milk is to her advantage. The quantity taken from the breast is easily determined by weighing the baby before and after nursing. It is stipulated at the start that she is to nurse any baby assigned to her. To ensure this being done, milk, when drawn from the breast and fed from the bottle, is paid for at a somewhat lower rate.

By furnishing temporary wet-nursing, it is possible for the institution to compensate its infant inmates at crucial junctures for the serious loss of maternal nursing.

Artificial Feeding.—Even with a reasonable provision for wet-nursing, the majority of infants in any institution must be fed artificially. This is far from being a simple matter. It is generally admitted by all who have had any experience in this direction that it is much easier to feed artificially a group of infants who are cared for in their homes, even though the homes be poor ones, than to feed successfully a similar group in an institution ward. Furthermore, if institution infants are fed on condensed milk, simple dilutions of cow's milk with sugar and water, or even with a few inelastic percentage formulas of what is commonly called "modified milk," a considerable proportion of the results will be unsatisfactory, and the deaths, especially among very young infants, numerous. Every institution should possess a supply of clean cow's milk, and a milk laboratory or kitchen thoroughly equipped and sufficiently elastic to permit of individualization of the infants in their feeding, and the employment, as required, of every modern scientific aid. Only with such aids, backed by experience in their application, can the mortality of artificially fed infants in institution or hospital wards be reduced to a reasonable minimum. Such a milk laboratory and its maintenance cost money, but it is well expended for the results are to be measured in human lives.

Even with these facilities conscientiously applied, however, there are certain infants who, from failure to absorb their carefully adjusted food, or frequently also as the result of intercurrent disease, lose steadily in weight. Under such circumstances, in private practice the resort is to a wet-nurse with a reasonable prospect of staying the decline and reestablishing normal digestion and absorption. The institution or hospital infant has a right to similar treatment before it is deemed hopeless and condemned to die on a regimen which has already proved inefficacious. Wet-nurses employed by the institution have here another important field of usefulness. It is not necessary that such wet-nursing should be continued indefinitely. When, with gain in weight and restored digestive functions, the infant has been lifted out of the danger zone, artificial feeding may be resumed. This is at first partial, enabling the wet-nurse o give more of her milk to other needy infants, and in time it is made total. A few nursings a day often enable an infant to assimilate more successfully the bottle-feedings which furnish the most of its nourishment.

We have now pointed out the lines along which the nstitution may progress in compensating infants for the oss of maternal nursing, and may turn to the ways in which the loss of individual care and protection in the ome may be more properly compensated.

Large Wards.—Unquestionably, the building of the arge wards which prevail almost universally in hospitals nd institutions had its origin in the desire to care for the largest possible number of patients, with the aid of the smallest possible number of nurses or attendants. While the evils of this policy can, where adults are concerned, be largely overcome by increase of the nursing staff, the noxious influences of the large ward on children are too numerous and too insidious to be met solely by such measures. The late Mark Twain said that in the home "one baby was a riot, twins an insurrection, and triplets a full-blown revolution." The average mother or nurse in the home would be considered in danger of overwork in giving proper care to three infants. Many institution wards, however, are constructed to house from sixteen to twenty-four infants, while during the day three attendants, of varying degrees of experience, and one at night, would be considered a liberal provision, even when the ward contained a number of sick infants. Such disproportion, even if it allows for the more necessary services, certainly precludes any of the refinements of motherly solicitude, which, in some indefinable way, aid in keeping a baby in good condition.

Overcrowding.—Aside from the lessened attention given each infant, the overcrowding of wards has unquestionably a deleterious effect on young infants. Because infants are small and their cribs small, they are often allowed less air-space than the adult. Just the reverse of this should obtain. Oxidation is much greater during the normal rapid growth of infancy. Free ventilation is therefore imperative. This calls for properly screened windows open at all seasons both day and night. Fresh and not overheated air, now demanded in the treatment of disease, has no less place in the welfare of infants (not premature) who are nominally well. Even with careful attention to ventilation, it is a common experience to find that when a certain number in each ward is overstepped, all the bottle-fed infants begin to do less well.

Probably the greatest menace to the infant in the large ward is infection. The element of added risk, when the infant leaves the comparative seclusion of its own home and enters the populous ward, is scarcely computable. Suffice it to say that the chance of infection is multiplied by the number of other inmates in the ward, since, with a few exceptions, the infections to which it is liable come most commonly from other children, and not from adults.

In speaking of infections and contagions, it is natural that we think first of those popularly associated with infancy and childhood. Scarlet fever and mumps play less part among the very young. Diphtheria is somewhat better controlled than formerly, through antitoxin immunization, but repeatedly breaks out in unexpected places through the agency, probably, of unrecognized bacillus carriers. The exclusion of specific vaginitis calls for constant vigilance. Whooping-cough and measles spread easily, defy ordinary formal quarantine, and cause, both directly and indirectly, many deaths. Illnesses which are regarded lightly in the home assume a more serious import when they occur in a ward of bottle-fed infants who are with difficulty maintaining their weights or even making moderately satisfactory gains. Chicken-pox stops gains and claims some victims among the feeble. Thrush ("sprue") is a serious and often fatal disease in such a group, costing marasmic infants a pound or more of weight, a loss which many cannot survive.

This by no means completes the list of dangerous infections. I am inclined to the belief that two other groups of infections actually cost more lives in institutions having large wards. I refer to the communicable infections of the gastro-intestinal tract which predominate in the summer months, and the communicable diseases of the respiratory tract, which occur chiefly, but not exclusively, in the winter months. Whatever improvement there may have been in other directions, little attention has thus far been paid to isolation, quarantine and other preventive measures for these conditions. There is growing evidence that ward epidemics of intestinal disturbance of varying degrees of severity travel from patient to patient, or arise from common causes not traceable to the milk. Ward epidemics of nasopharyngeal disease are easily recognizable, carrying in their train otitis media, pneumonia and cervical abscess. Isolation in its broader application is not only not practiced, but cases of pneumonia, frankly infectious, are rarely removed from the general wards in which they appear, unless it be for treatment by cold air or in special medical wards. It may be claimed that it is practically impossible to isolate all cases of potential infection in our institutions. If, however, it be really impossible to take measures for the limitation of avoidable illness, the main fault lies with the construction and arrangement of the building. If infections of all kinds are to be limited at the outset, the large ward with many inmates must go.

The construction of new institutions and hospitals for infants must therefore include, primarily, smaller wards, preferably containing four, but not more than six beds. Each ward should have its own toilet and bathing-room, and a smaller room opening out of it, in which any patient showing doubtful symptoms may be placed by the nurse. Each ward should also have a section of veranda on which the infants may be placed in lined and padded baskets on all favorable days. The influence of such outdoor airings on the health, color, digestion and growth of infants has been demonstrated. Each ward should have its own semipermanent nurse or nurses. A more intimate relation will thus be established between the nurse and her charges, a more definite responsibility felt for their welfare, and an honorable pride and rivalry in their progress will be stimulated. With such arrangements, the composite element of "hospitalism" should be largely eliminated. If infants and young children of different ages are assigned to each small ward, conditions will more nearly approximate the home and more personal attention will be secured for the infants. Where training-schools for nursery-maids exist, the training acquired will fit them more suitably than at present to meet their responsibilities when they enter private service.

I am no opponent of the placing-out system, but until we recognize the fundamental defects of the older types of institutions, and cutting loose from tradition and error, rectify them, calling nothing impossible or impracticable until it has been tested under favorable conditions, we certainly are not justified in saying that the institutional care of infants is a failure. The future institution, built and organized to avoid present-day mistakes, should, in view of the showing made by the best of the old-type institutions, attain a proportionately greater measure of success. Then, as now, the most favorable results will be secured, not by the abandonment of either, but from organized cooperation of both systems.

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ABSTRACT OF DISCUSSION

Dr. Gustavus Eliot, New Haven, Conn.: The most wonderful cures I have known of in children ill with digestive and diarrheal troubles in summer have followed the carrying of children from the city to the country. This leads me to emphasize the point that such institutions for the care of children should be removed from the city and erected in the country. The buildings should not be the elegant three- or four-story buildings such as are often seen in the cities, but they should be low buildings so constructed that after a few years' use they may be destroyed and clean new buildings take their place. The location of such an institution in the country also gives an opportunity for improvement in the treatment of these children in regard to their food. They are fed to a great extent on cows' milk, and if in the country, they can receive milk that is absolutely fresh and clean. In the feeding of these children, fresh milk twice a day should be used instead of the milk that is now used, which is twenty-four to forty-eight hours old when it reaches the consumer. These two things, country air and fresh, clean milk, are most important factors in the treatment of infants deprived of a mother's care.

Dr. J. W. Cokenower, Des Moines, Iowa: In twenty years' work in the Iowa Children's Home, in the admission of babies, much trouble has been caused us because we could not get a complete history. We have found that in nearly all such institutions nine times out of ten the infections and contagious diseases have arisen from receiving diseased patients. This we have partially overcome. One must look after the excretions and secretions and deal with them in any way that will bring the best results. After that is done, no routine method will fill the bill. Individual cases require individual feeding. We use barley water, and sometimes have employed prepared foods and malted milk, but it is the exception and not the rule when we have been able to use them advantageously. But cows' milk has been our chief dependence and we try to keep that absolutely clean, and have much better results. Often we have children brought to us in such a condition that we are unable to do good work. The stomach absolutely refuses to retain anything, either food or medicine, and there is such a generally relaxed condition that we cannot give it by the rectum; then as a last resort we have used quinin and olive oil, making an inunction and wrapping them in cotton and oiled silk. In that way we feed and medicate them until we have given the digestive organs a rest and can feed them otherwise, and in this way have saved several children that I believe we would otherwise have lost.

Dr. Langley Porter, San Francisco: I think no one could have presented a more forcible argument against institutions than Dr. Southworth in the paper he has just read. I believe that twenty years from to-day no one in this Section of the American Medical Association will make a plea for the retention of the institution. In San Francisco we have persuaded the Children's Agency of the Associated Charities to do away with their foundling asylum and to board out the children, with the result that the death-rate has been reduced from 40 to less than 2 per cent. But the care of the babies in the institutions is really a very small part of the question. The real problem is to educate the public in caring for children. When a baby is boarded out, the result is that the older children in the family are being trained to the proper care of children, and that is the first and greatest advantage in the boarding-out system. A second advantage is the decrease in the death-rate that always follows. The boarding-out system is of economic value, also, for the reason that in the fixed charges of such an institution, as Dr. Southworth has described, we tie up a large amount of money and also pay out much money to people for the care of these children. If you were to divide this money among the many needy families, allowing them to care for these children, you would get better value for the money than if it were tied up in capital. I believe that before many years have passed Dr. Southworth will be as ready to condemn institutions as any of us.

Dr. I. A. Abt, Chicago: I agree for the most part with the last speaker, though I think it will be many years before we can abolish infant hospitals and asylums. Some place must be provided where we can send babies that are destitute and require immediate care. I think the infants' asylum or hospital is valuable just in proportion to what is put into it. It is of value just in proportion to the amount of soul and brains put into it. If you want results you must have a technic that provides for asepsis and cleanliness, good food and good care. This must be carried out with determination, and in the end you will save a goodly proportion of your children. In boarding-out cases, the result depends very largely on the character of the women who receive the patients. I have seen both ways tried. In the boarding-out system very often it is a mercenary matter with the women who take the babies. So far, as wet-nurses are concerned, it has been said that an infants' hospital has no more right to exist without the wet-nurse than the adults' hospital without an operating room. I think that is true. If you desire to reduce the infant mortality, wet-nurses are absolutely necessary, especially in the summer when the mortality is high. In our own hospital in Chicago we have as many wet-nurses as we need. We found we could train these women to produce large quantities of milk. They milk the breasts and produce several quarts per day. As to the prevention of infection I think very often our technic needs to be perfected. It seems to me we are not careful enough about our hands, and sometimes the nurses infect a child. It all comes to this, that we must educate the educators, particularly physicians and nurses. Mothers and nurses should be taught how easy it is to carry infection from one child to another: not only vulvovaginitis, but a host of other diseases. Each baby ought to have its own individual property, its own toilet articles, its own powder box, even its own thermometer. Another important thing is the feeding of children when they first come to the hospital. I think we have gone too far in the matter of starvation of babies. I think that when a baby is brought in pinched, blue and cold and is given barley water for a prolonged period his weight-curve goes down and if he does not actually starve, at least he falls a ready victim to infection. I believe that starvation is an important element not only in causing the immediate death of the infant but indirectly predisposes to death from infection. Another matter of importance is the question of cathartics. I am convinced that many of these babies are physicked sick. If they have had a cathartic on admission and the intestinal tract is clean, what is the sense in giving them continued arthartics? I think the matter of starvation and the matter of over-catharsis should be emphasized, because at present they are often applied in a routine way without due reference to the condition of the patient.

Dr. T. C. McCleave, Berkeley, Cal.: Dr. Porter omitted to mention a very important feature of the work in San Fran- isco. This work was undertaken about two years ago. The mortality under the old system was about 40 per cent. and during the first year under the boarding-out system it dropped o 20 per cent. Then, an organization in the city making it ossible for these children to be given certified milk, the mor- ality dropped in the second year to what it now is, about 2 er cent. Dr. Southworth spoke of clean milk. I think the meaning of that word "clean" is not always clear. In the eding of infants and also of adults sick with various dis- ses, we know the wonderful change that results from put- ng the individual on certified milk. Therefore I want to rge on you particularly that you turn more and more to the se of certified milk. We have in California a strong organ- ation of milk commissions, and we have a constantly increas- g demand for certified milk. We are engaged in a vigorous opaganda among the laity for certified milk, as well as nong the profession, but it is unfortunately true that it is ten easier to get a response from the layman than from the ysician.

Dr. Jessie McGavin, Portland, Ore.: I do think that one the most important things is to see that the nurse carries t the physician's orders. It means a constant looking after e nurses until they are thoroughly trained, and when the rse once understands that you are a crank, and that your lers must be carried out, you will save more of your babies. I t one baby by neglect on the part of the nurse in the mat- of feeding. In regard to contagious cases, in one instance I found a contagious hospital and a general hospital adjoining and the place simply swarming with flies. We need to educate the hospitals in these conditions. As to pure milk, in Portland we have had one epidemic with a very high mortality as a result of dirty milk. All physicians were losing cases. We have had a fight for pure milk and as a result our mortality is lessened.

Dr. T. S. Southworth, New York: Perhaps in some sections of the country the boarding-out system can be employed exclusively, but as I see conditions in the East it will be impossible for a long time to come. The sectarian organizations will be loth to give up their institutions. We still have a considerable field for improvement in our institutions and what I have said applies also largely to babies' hospitals. I recently saw a statement to the effect that being a baby should be classed as an extra hazardous occupation, and it is very true. I did not refer to the glass partitions, for such partitions are valuable just so far as you can depend on your nurses. The glass partition is merely a danger sign board. Speaking of food, we have certainly need of milk which is clean. However, we must not only have suitable milk, but it must be used in the right way. There has been too much talk in this country about the saving of life by pasteurization alone. As to the limitation of infections, reference has been made to the danger of the patient's bringing in infectious diseases on admission. I admit this is a serious matter, but a great deal of infection is introduced into the institution by the visits of parents or relatives. The outbreaks of the ordinary infectious diseases in the wards are directly proportionate to the number of friends allowed to come to see the children. Often a parent will come directly from the bed-side of a child sick with scarlet fever or other infectious disease.

INFLUENCE OF SUMMER HEAT ON DIARRHEAL DISEASES *

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A first glance at infant-mortality tables demonstrates the fact that the greatest death-rate occurs from the gastro-intestinal diseases during summer. Dr. W. D. Booker, in the presidential address before the American Pediatric Society in 1901, reviewed the early literature on this subject. Dr. Booker says that the records show that in about the middle of the eighteenth century there occurred along the Atlantic coast of North America a serious disease characterized especially by vomiting and diarrhea and was confined almost exclusively to children in the first two years of life. Its incidence was limited almost to the summer months and it appeared each year in an epidemic form, with such regularity that it was looked for as an annual visitor. In 1777, Benjamin Rush read a paper entitled "An Inquiry Into the Cause and Care of Cholera Infantum." He gave a description of the stools, etiology and treatment of the disease. He denied the etiologic importance of dentition, worms and summer fruits, and he thought that the disease was similar to cholera and remitting fever in adults. He did not attempt to explain any relation of the disease to atmospheric heat, but contented himself by saying that the disease seldom occurred in Philadelphia until the middle of June and generally continued until the middle of September, and that its intensity and duration were always proportionate to the heat of the weather. The first indication for treatment, he thought, was to evacuate the stomach by emetics, followed by an abundance of water or tea, or an infusion of blueberries. He also suggested enemas, plasters to the abdomen, and

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internally he recommended port wine or white wine. The best results were obtained when a little water was mixed with the wine. He considered baths very important, and he said his principal dependence had been placed for many years on country air. As prophylactic treatment he recommended, (1) a daily cold bath, (2) clothing which was appropriate to the conditions of the weather, (3) removal of the children from the city to the country. Rush says: "I have never known but one instance of a child being affected with this disease, who has been carried into the country in order to avoid it."

It was thought at this time that the disease was peculiar to America as, apparently, the condition had not been described in other countries. It was thought to be due to the character of our climate, to the severity, frequency and suddenness of the change of temperature and to the sudden transition from winter to summer without the intervention of a gradually opening spring.

The mode of action of atmospheric heat in causing cholera infantum was the subject of controversy and various theories were advanced in explanation of it. These were for the most part based on the prevailing conception of the existence of a cutaneo-hepatic sympathy. By some, the heat of summer was supposed to exhaust the tone of the skin or to disturb its healthy action and thus determine an undue quantity of blood into the abdominal viscera, causing a congestion of these organs. Booker goes on to say that others thought that the effect of protracted heat led to a disturbance of the digestive organs because of some deranged condition of the exterior surface of the body. In this way the tone and energy of the stomach became impaired and consequently the system became more accessible to impressions exercised by external agents and its resistance to them became diminished.

So far as the geographical distribution of the disease is concerned, it is noted that in the extreme north or south, the sick-rate and the death-rate are low. In North America, the middle and western states contribute the largest numbers in the mortality figures. As one approaches Canada, the numbers diminish; in the South and Southwest, we are told, the disease is less common. It is rare in the tropics, as has been observed in Brazil and in the tropical and subtropical regions of Asia and Africa. The same points in vital statistics apply to European countries. The summer diarrheal diseases occur most frequently in the large centers of population, particularly the industrial centers and in those regions where artificial feeding is commonly employed, and where the climatic conditions are such that the summers are relatively hot and the winters cold and severe.

The older American physicians, particularly Rush, thought that the hot weather was the most important factor in the etiology. He advised taking the child from the city to the country. In the course of time, other writers thought that the hot weather alone was an insufficient cause. Some said that the summer diarrhea of infants was a species of Asiatic cholera; others, that it was a form of malaria. In America, some writers considered it akin to yellow fever and others thought it was due to an indefinite miasm. Virchow thought that the condition stood in some relation to the water-supply and drainage, or to the surface water, adopting the view Pettenkofer applied to typhoid fever. In short, the older views as to the etiology of summer cholera considered that the disease was due to exogenous agents, the action of which was favored by the external heat, the latter acting either directly or through the food.

When the bacteriologic era began the attempt was made to find specific microorganisms. Escherich differentiated an exogenous infection of the intestines, the so-called streptococcus enteritis, and an endogenous infection, a process which ran its course as an auto-infection, or an infection of the chyme. Escherich thought that the disease might be produced by infected cow's milk, microorganisms gaining access to the milk shortly after milking, or that endogenous decomposition occurred as the result of already sick or enfeebled children receiving such milk. In the intestinal canal, irritating organic acids were believed to be produced, or alkaloidal products, ptomains, which produced diarrhea and nervous symptoms. No specific microorganism was found, but various forms, he thought, were capable of producing such a reaction. Other authors described epidemics of summer diarrhea, particularly in hospitals and asylums, and naturally thought that the epidemics were bacterial in origin. Baginsky, who failed to find a specific microorganism, came to the conclusion that the saprophytic bacteria in the milk were capable of producing poisonous peptones from the proteids. He thought that indol, phenol and ammonia gained access to the lymph and blood and produced toxemia. It is a well-known fact that bacteria multiply rapidly in milk during hot weather and it was thought that this was the sole cause. This led to sterilization and pasteurization of milk. Flugge and all the other authors who have described the poisonous effects of milk in producing summer cholera have compared this condition to meat-poisoning. But this comparison does not hold in all details. Meat-poisoning and sausage-poisoning affect all persons, whether they be children or adults, who have partaken of this food. It might be said that children are more susceptible than adults, though as a rule not all children who partake of supposedly infected milk fall ill. On the other hand, Vaughn has described epidemics of poisoning by ice-cream and cheese, affecting every person who partook of the food. They fell severely ill with vomiting, diarrhea, pain, weak, irregular pulse and great pallor or cyanosis. He isolated a poisonous substance which he called tyrotoxicon. No further argument need be advanced that the summer complaint is not similar to tyrotoxicon poisoning.

Czerny and Kellar believe that summer diarrheas are for the most part the result of exogenous fat-decomposition due to the presence of bacteria; they think that this condition is related to the heat of the summer only in so far as the increased number of microorganisms are rendered more active. But there are numerous objections to this theory. If it is true that bacterially acidified milk is toxic, why is buttermilk devoid of toxicity and why so acceptable, even to the sick infant?

In brief, it may be said:

1. The bacterial toxicity of milk is not proved.
2. On the other hand, a bacteria-laden milk is more likely to produce diarrhea than milk poor in bacteria.
3. In those cases in which a toxic product has been isolated from milk or meat, nearly all persons who took such food were rendered severely ill. An analogy of this condition with summer diarrhea is not tenable.
4. It is very probable that bacteria play a part in summer diarrhea, but they do not act on the milk before it is taken into the body (exogenous), but more likely cause fermentation after the food has been received in the gastro-intestinal tract (endogenous).

The bacterial explanation for the summer diarrhea is not sufficient. Why the excessively high mortality only during the hot weather? How may we explain the fact that the hotter the summer, the greater is the sick-rate and the death-rate among infants?

If during a hot day one examines the conditions under which the infants live in homes of the poor, one will be impressed by the fact that the temperature indoors exceeds the temperature outdoors; that at night, if the temperature outdoors has fallen considerably, the temperature indoors is considerably higher. The babies are frequently put to bed overclothed and sometimes excessively covered with bedding. If the infant's temperature be taken even before diarrhea has set in, he is frequently found to have 100 to 101 F. Many writers have looked on this condition as one of insolation or heat-stroke.

The interesting fact has been brought out that seven times as many artificially fed children, as breast-fed, die in summer. The bottle-baby is at greater peril in summer than at any other period of the year. No matter what theory may be advanced, the fact that breast-fed children show greater resistance and immunity than bottle-fed children cannot be denied. Those infants who have previously suffered from gastro-intestinal derangement, or even those who are convalescing from some alimentary disorder, are likely to show a hyperthermia on the advent of hot weather. This is undoubtedly due to the fact that the heat-regulating mechanism is much more unstable in children suffering from digestive disorders, and we may say that such children are predisposed to heat-stroke.

It is not possible to say in what manner the heat affects the body of the child, but it seems that the infant's resistance is lowered and that injuries by food are readily produced. It is not known whether the heat produces changes in the enzymes of the digestive tube, or whether the bacteria make toxic products or irritating acids in the gastro-intestinal tract. It is possible that the epithelium of the gastro-intestinal tract is itself damaged. It would be unscientific to say that bacterially decomposed milk has no causal part in producing summer diarrhea; but on the other hand, proof is insufficient to permit us to say that bacteria play the single rôle. It would seem that the increased heat, particularly of the home, is an important etiologic factor. Whether this be due directly to heat-stroke or whether it be, in the sense of Finkelstein, a diminished tolerance for food and the possibility of injury by food, must remain for the present an open question.

Perhaps this latter point will explain the difference in death-rate between breast-fed and hand-fed infants. The tolerance for breast-milk is always greater than the tolerance for cow's milk, and similarly, immunity and resistance is greater in breast-fed than hand-fed children. A word should be said against the practice of keeping sick infants warmly dressed and excessively covered during the hot weather. A cool bath and the out-of-doors temperature are important indications in treatment.

The occurrence of high sick-rate and death-rate during the summer cannot be explained by a single cause. We believe that the condition is due to a combination of causes. Infected milk has a deleterious influence, but it must be considered along with the direct influence of heat, especially the excessive warmth of the home. It would be unwise to deprecate the advantage of sanitary milk, but the problems of hygienic housing, the avoidance of overclothing, the importance of taking the child out of doors and of frequent bathing are important points which cannot be overestimated in consideration of the summer diarrheal diseases of infants.

Finkelstein, after discussing the bacterial theory of summer diarrhea, thinks that infection occurs in those cases in which the gastro-intestinal cells have been previously damaged. He is willing to admit that delicate children who ingest bacteria-laden milk are liable to have gastro-intestinal infection or that damage may be produced by preformed acids and peptones in the milk. The two arguments in favor of infected or decomposed milk as cause of gastro-intestinal disorders were: the increased morbidity and mortality during the summer, and the fact that the greatest proportion of those that sickened and died were bottle-fed infants, while breast-fed children were for the most part immune. But Finkelstein thinks this insufficient. He thinks that the majority of infants who sicken or die during summer time are injured by the heat. The cases begin acutely, show symptoms of hyperpyrexia and the trouble may be cured or even prevented by reduction of the patient's temperature or by providing cool, sanitary living conditions. The heat lowers the individual tolerance of the infant and predisposes him to gastro-intestinal disorders which are likely to assume great severity.

If it is asked why breast-fed children enjoy immunity against the injuries produced by excessive heat, it may be answered that the child suffering from digestive disturbances has less resistance to heat than a normal child, since most breast-fed children are well, and a goodly number of hand-fed children are more or less ill, the conclusion is obvious.

4326 Vincennes Avenue.

ABSTRACT OF DISCUSSION

Dr. John W. Foss, Phoenix, Ariz.: In Phoenix we have probably the highest dry-bulb temperature and the lowest wet-bulb temperature during the summer, of any place in the world. We have no acute dysentery in children in the summer. We consider the summer the healthiest season for children. In fact, we have very little sickness of any kind among children at that time. So I think this question of heat is practically eliminated as the cause of this class of diseases in children, judging from the experience we have had in our climate. There are few places which have less physical discomfort from heat during the summer than Phoenix. As an illustration of this fact, 15 per cent. of humidity with the thermometer at 106 F. at Phoenix is as comfortable as 70 is at Chicago ordinarily, or the dry-bulb thermometer would have to register 133 at Phoenix to cause as much discomfort as 90 per cent. of humidity with the thermometer registering 98 F. at Chicago. It is probably this remarkable climatic condition which is so conducive to the health of children. Our experience would seem to prove that the mere question of heat has nothing to do with these diseases, especially at Phoenix. The wet-bulb rarely goes above 72 F. in Phoenix in the summer time, while the dry-bulb will sometimes run as high as 110. Evaporation and radiation are very rapid here on account of the pure dry air, moderate wind velocity and varying atmospheric pressure.

Dr. M. A. Weems, Columbia, Tex.: I think this question can be explained by the humidity. In Arizona at the time the air is so dry the evaporation from the body of the child is so rapid that it keeps the body temperature low even in extremely hot weather.

Dr. W. V. C. Francis, Los Angeles: I think one factor in the etiology of summer diarrheas is very obvious, in that the condition occurs in large cities. In Los Angeles we have none of the really poor and none of the overcrowding that you have who live in large cities. I believe a large factor in the diarrheas of children is the lack of fresh air. If you remove the slum districts and the overcrowding, you will do away with a lot of the summer diarrheas and deaths.

Dr. Frank P. Gengenbach, Denver: Undoubtedly there are many factors to be considered in the cause of summer diarrheas in children, but I am inclined to believe with Dr. Abt that heat does have something to do with it. Recently we had an early and sudden hot spell for Denver, and in my own private practice I saw distinct disturbances among the babies. This is an instance in which the ideas of Dr. Francis do not apply, for these babies were in well-to-do families, well provided for, well cared for, and had plenty of fresh air. I think that some depressive factor in connection with this hot spell certainly did disturb the babies. Probably in hot weather the babies cannot stand as rich a food, as high in fat, and it disagrees with them. Often it is not necessary to take them off the food, but if I take off the cream and give skim-milk mixtures they rapidly improve.

Dr. Frances M. Allen, San Diego, Cal.: In my experience of six years in Illinois in a children's institution, the children were cared for by mothers who boarded the children for $2.50 or $3.00 a week each, and our results showed that we could keep our mortality low, except during the hot spells. During five years we had a high mortality only during August, during the sixth year, in July.

Dr. L. T. Royster, Norfolk, Va.: To me this is one of the most interesting and difficult phases of the diarrhea question. I come from the Atlantic coast, where the humidity is high, and where a temperature of 88 F. is very uncomfortable, while a temperature of 100 F. out here I have not found at all uncomfortable. In April the temperature rises considerably; then during the first two weeks of May we have a considerably cooler spell, and then the temperature shoots up and the minute the temperature goes up the trouble begins. I can almost predict the number of my calls by the reports of the weather bureau. In June we have a high death-rate. In July and August we have a decreased mortality, so I believe the humidity must have something to do with it. Another interesting fact is this: I have practically no consultations in summer diarrheas from the country. Yet there the temperature is just as great and the humidity is just as great; but I practically never see a child from two miles out with a summer diarrhea. Again, I practically never see a case among breast-fed infants. If a sick child is brought to me in the morning and it is taken for a boat ride for the day, it will come back in the evening 95 per cent. better. In fact, we have tried to train the mothers to take the children to the sanitarium when they first become sick, without waiting to see a physician, even, and it is really surprising how rapidly they improve, even though the institution is located but 50 yards from the shore. Another thing is the character of the discharges. These vary from year to year. One year there will be a watery discharge with the same prostration and again the next year we may have a remarkable number of dysenteric discharges, so that from year to year the discharges are markedly different.

Dr. I. A. Abt, Chicago: I think the fact has been brought out by investigators, even as far back as the time of Benjamin Rush, that summer diarrheas are more prevalent in the temperate regions, while further south and even in the tropics, the disease is scarcely known. In my own part of the country there is a striking relationship, I am sure, between the condition of the weather and the summer diarrhea. I think anybody who has lived east of the Mississippi River will not doubt that. Why New Orleans should have a low death-rate with an increase of temperature I confess that at this moment I am unable to see. I am not sure that the heat is the only factor, but it does seem that all over the world where cases are being studied and where men are trying to solve this problem, during July and August there is the highest death-rate. It is true the condition is more common in the cities than in the country, but the condition is not confined to the cities by any means. I brought up this question because it seems to me we ought to study the cause of these summer diarrheas. The war that is being waged all over the world to save babies needs some help from the educator. We urge that every effort be made to save babies and I think it is very important that we attempt to arrive at some definite conclusion as to the cause of trouble. I would suggest that a committee be appointed from the various communities and that this committee be asked to keep a record of their observations and that they submit a report based on such records.

TWIN PREGNANCY IN UTERUS BICORNIS

PHELPS G. HURFORD, M.D.
ST. LOUIS

In view of the rarity of pregnancy in the uterus bicornis, with viable fetus, I think the following case of sufficient interest to report. The patient was referred to me by Dr. George M. Tuttle.

History.—Mrs. E. B. C., a cultivated American woman, aged 34, was seen by me in March, 1911. She was then about four months pregnant and very uncomfortable, having pain much of the time from what appeared to be uterine contractions, also much pain due to attacks of acute indigestion. The bladder was very irritable and for about three months she had had to get up three or four times at night to urinate.

The patient had one child living, a girl 5 years old, in perfect health; this child was born prematurely at eight months and had thriven from birth. One other baby had been born prematurely at about seven and a half months and had lived seventeen months, dying of some intestinal infection. With each former pregnancy, Mrs. C. had had similar pain and discomfort, and all efforts to prevent premature labor failed.

Examination.—The patient was apparently in good general condition but somewhat nervous over the prospect in store for her. She was about four months pregnant. The fetal movements could not be felt; the heart-beat could not be heard. There was unquestionably a notch in the upper middle portion of the uterus, but no importance was attached to this finding. A mass could be made out on either side. It was now learned that, whereas in previous pregnancies there had been movements and contraction pains only on the right side, they were now present on both. The urine was examined repeatedly and was at all times normal.

With careful dietary and some medication the patient went along more or less uncomfortably (mostly more) for two months. She was up for a time every day but went out very little. Later examinations convinced me that there was something radically out of the way in this case. Movements and heart-beat could be readily made out on the right side but never on the left; the separate masses could be easily distinguished. June 3, the threatened miscarriage became imminent; sedatives had no effect. True labor pains began and on my second visit dilatation was well advanced. After the patient had progressed favorably through the night, the pains unaccountably stopped early in the morning. Dilatation was then complete and the membranes were ruptured. It was now found that the umbilical cord was through the pelvic inlet and the head beside and above it was not engaged. The cord was pulsating and the child and the mother were in good condition; as yet it could not be certainly demonstrated that twins were present. Dr. Tuttle saw the patient at this time and thought twins a strong probability. Although it was probable that interference would be necessary it was decided to wait a while longer.

Delivery.—That evening artificial delivery was performed under chloroform anesthesia. Dr. H. J. Storrs was called in consultation and agreed to the necessity. He suggested the possibility of a twin pregnancy in a bicornuate uterus. Version was performed and one living and one dead child delivered. A septum divided the uterus to a point well below the umbilicus and a fetus occupied each side; both were vertex presentations. The placenta of the dead child showed the site of the hemorrhage that had provoked the miscarriage. The uterus contracted promptly and then showed two separate fundi, each larger than the fist, and separated by a notch so deep that the clenched fist easily rested in it—a typical uterus bicornis. There was no appreciable difference in the size of the two horns.

Recovery.—Convalescence was uneventful, the patient sitting up on the eighth day. Involution proceeded normally, and after two months a vaginal examination showed clearly the two cornua, each about the size of the normal fundus and separated from each other enough to allow the two examining fingers between them. The notch extended nearly to the supravaginal portion of the cervix.

346 North Boyle.

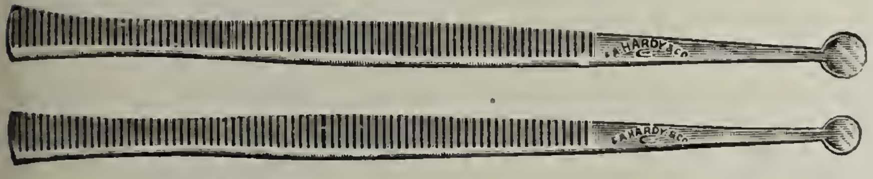
CIRCULAR BLADE, HOLLOW AND GUARDED CHISELS

ADVANTAGES OF THEIR USE IN MAKING BONE-FLAPS

D. MILTON GREENE, M.D.
DETROIT

When performing operations on the skull and antrums, I have for years been impressed with the fact that when a bone-flap is to be formed and replaced, with the expectation of its preservation and ultimate reuniting, as in the "Beck frontal antrum operation," it is highly important that its periosteum be not detached, because the bone, as is well known, derives its nutrition largely from it. This is especially true in operations in presence of pus or infection, for the bone-flap must under such circumstances have more and better nourishment, and more perfect coaptation than would be necessary under aseptic conditions, in order to preserve its vitality, and insure its integrity and ultimate reunion.

Should the periosteum become detached from the bone-flap in performing the Beck operation, necrosis would follow, necessitating removal of the bone, which would cause scarring and depression deformity, and would be a great calamity to both the patient and the surgeon; this is true of any operation for the formation of a bone-flap, where its preservation is essential. Detachment of the periosteum is usually caused by splintering the bone in cutting it with chisels. The splinters and fractures which occur in bone-flaps, made by chisels, are always due to the wedge shape of the chisels used. When a wedge-shaped chisel is driven into bone, the "chip" or part so cut has to rise or be displaced to make room for the bit or blade of the chisel, and is thereby split or fractured at the junction of the incision and the uncut bone, just in proportion to the thickness of the chisel at that point. Every time the chisel is driven into the bone, it splits or fractures it in the manner above stated, so that when the bone-flap is completed, there will be a series of splits or fractures around its edge, with consequent separation of a portion of its periosteum, with a liability of complete separation of the bone-flap from its periosteal covering.

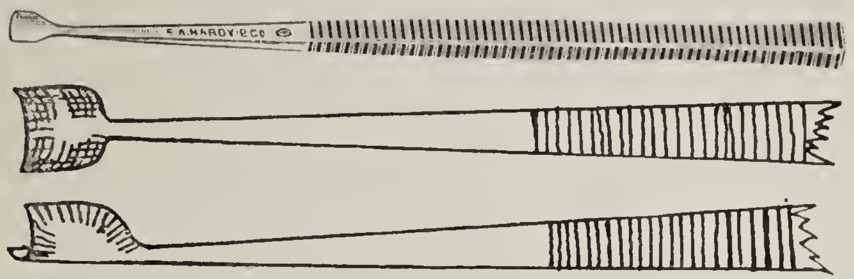


Figs. 1 and 2.—Two circular blade chisels.

I have devised a set of chisels which overcome in a large degree the difficulties mentioned, and which are useful in many operations on the skull and antrums, especially in forming bone-flaps and in operations within the nose. They are so constructed that they may be driven into the bone without producing any fracture. These chisels are new in design and original in the philosophy of their use and effect. There are five chisels in the set: two circular blade chisels (Figs. 1 and 2) one hollow chisel not unlike a "square shovel" (Figs. 3, 4 and 5), one guarded chisel with straight bit, and one guarded chisel curved on the flat.

They may be described as follows: They are six inches in length, with formed, milled handles; two are made with circular blades, beveled on both sides or surfaces, so that they will cut in every direction, except where the handles join the blades; one is made with a blade 7 mm. and the other 8 mm. in diameter, and about 1 mm. thick at the junction of the handles with the blades. They are so constructed that when driven into bone, the only place the incised bone has to yield is at the center of the blade, and there only 1 mm., while at the circumference (at the edges of the incision), where the incision joins the uncut bone there is no displacement, and, therefore, no splintering or fracture takes place.

The third chisel of the set is called a "hollow square blade chisel," and is not unlike a square shovel in form (Figs. 3, 4 and 5). The blade has a curve of about one-fourth of a circle, is sharp in every direction, and has the same cutting effect the circle blades have. This chisel is used in cutting a circular flap in any operation, and may be used in removing turbinates, septal shelves, spurs, and in opening into the antrum of Highmore.



Figs. 3, 4 and 5.—Hollow chisel not unlike a square shovel, beveled from center to all edges, leaving the thickest part at handle and in the center. Side view and front view.

The other chisels of the set are called guarded chisels: they are made with handles the same as the others, ending with flat blades, 7 mm. wide, 1 mm. thick and 3 cm. long. The cutting edge is beveled from both sides in the center, making edge 4 mm. wide, and concave, with a guard at each corner, which is 1 mm. square, 2 mm. long and rounded (blunt) at the end. These act as guides as well as guards. One has a straight blade (Fig. 6), while the other is curved on the flat (Fig. 7); the latter is designed especially to be inserted beneath the bone-flap in the Beck frontal antrum operation, to cut the partition or bony septum of the antrum. The guards guide the chisel, and cause it to follow the bony septum, no matter how crooked it may run. These chisels may also be used in removing turbinates and septal shelves, and for various operations where guards or guides are needed.

There is one precaution necessary in using these chisels: The force necessary to drive them through bone is much less than that required in using ordinary chisels, because the resistance is reduced to a minimum, therefore, great care should be used that they are not driven beyond the point desired.

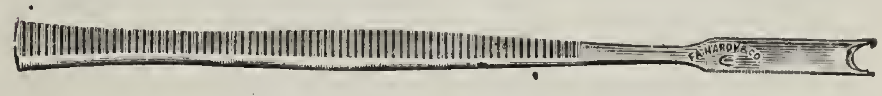


Fig. 6.—Straight guarded chisel.

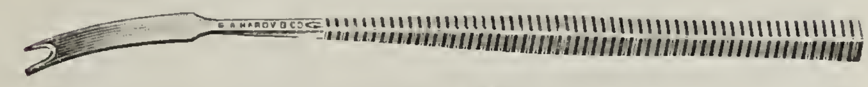


Fig. 7.—Curved guarded chisel.

712 Jefferson Avenue.

Economic Importance of Health.—If the citizen is diseased, his usefulness is curtailed; if as a result of disease he is maimed, crippled or blinded, he often becomes a burden to the community; if his life is thereby cut short, his services are ended. Has anyone ever calculated the economic loss to the country that might be materially reduced by giving the same attention to the preservation of the human species as is given to animals?—White in *Journal of the South Carolina Medical Association.*

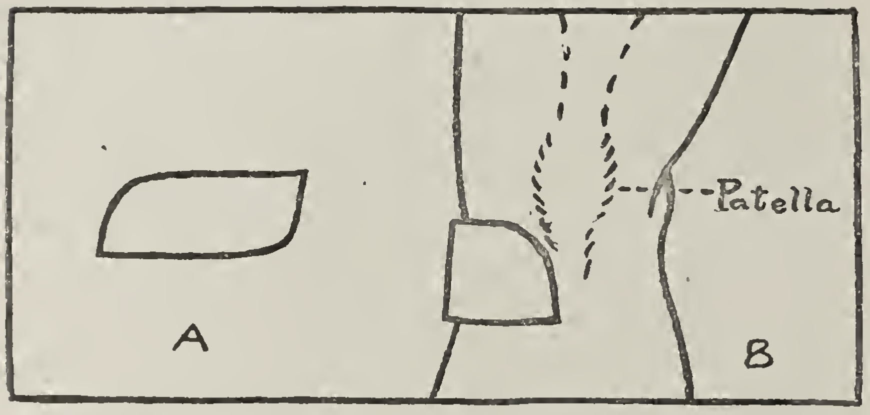
TREATMENT FOR SLIP-MENISCUS

GEORGE CHANDLER, M.D.
KINGSTON, N. Y.

Slip-meniscus, or dislocation of the internal semilunar cartilage of the knee-joint, I have found to be of very frequent occurrence, and more often in females than in males. Standing on one foot solidly, as when on a step-ladder or chair, and making a quick move or inward rotation is the most common cause of loosening the cartilage. The internal condyle of the femur pressing against the cartilage, by this quick motion, displaces it inward, moving it on the upper surface of the tibia and thereby rupturing the coronary ligaments. It rarely comes from a fall or from slipping. The quick rotation would not displace the cartilage if the foot were not placed solidly on the ground and the weight of the body all on that leg. The symptoms are pain in the joint, quite severe, made more so by the complete extension of the leg, comparative ease when the leg is in semiflexed position and marked tenderness on pressure over the cartilage itself. There is usually very little swelling, though it may occur.

The following treatment I have been using for the past ten years with very marked success, and I have described it to other physicians, who tell me that their results are also very satisfactory.

For these cases I always have in my office several pieces of sole leather, cut, approximately, to the shape shown in the illustration at A, about 4 inches long by 1¾ inches wide. I fit this leather to the inner aspect of the knee-joint as indicated at B. By first putting the leather in water, soaking it thoroughly and whittling the edges so that it is smooth, it may be molded into shape. I then strap this piece in position over the cartilage by adhesive straps, two up and down, one horizontally and one oblique, making four in all; then a firm, though not too tight, bandage of the coat-of-mail type is applied over the knee. If the bandage is voluminous, it need not be put on tightly, as it will give splendid support without shutting off the blood-supply.



Treatment of slip-meniscus; A, sole leather cut for application; B, leather applied to the knee.

I allow the patients to walk the same as usual, though they complain of some pain or rather soreness, which wears away in three or four days. I have them report in ten days when I reapply the same leather under a fresh bandage. After about three such treatments, the patients are well and only a bandage needs to be applied. I think the irritation of the leather which supports the cartilage in its natural position causes an aseptic adhesive inflammation to take place between the cartilage and bone; this takes the place of the ruptured coronary ligaments.

The advantages of this treatment are, its simplicity, its efficacy and the fact that patients can continue at their occupations while undergoing it. In fact, it removes all the attendant inconveniences of this painful condition and places it, to my mind, in the same category with a sprained ankle, when the latter is treated by the modern method of adhesive straps and walking.

11 East Chestnut Street.

SUCCESSFUL USE OF THE STAPHYLOCOCCUS SPRAY ON DIPHTHERIA CARRIERS

S. R. CATLIN, M.D., L. O. SCOTT, M.D.,
AND D. W. DAY, S.M., M.D.
ROCKFORD, ILL.

Early in January, 1911, an epidemic of diphtheria broke out in Rockford Hospital. With the appearance of the first case, all ordinary precautions of isolation, giving of antitoxin, etc., were employed.

The appearance of a second case made it evident that infection might be general throughout the institution, and we were appointed a committee in charge with power to institute any measures necessary to prevent an epidemic. Antitoxin was administered to all known contacts, and daily routine cultures from the throats of all inmates were made and examined. A quarantine for clinical cases was established in a separate building, and an isolation ward for carriers in another.

While no patients at any time developed the disease, within about two weeks from the appearance of our first case, a total of twelve clinical cases had developed among the nurses. Of these twelve, eight had received, from four to ten days previously, immunizing doses of from 1,000 to 2,000 units of Illinois State Board of Health antitoxin.

Five hundred cultures were taken during the epidemic from a total of seventy individuals. As a result of these routine cultures, twenty-two persons were found to have the diphtheria organisms in their throats without manifesting clinical evidence of the disease. In other words, out of a population of seventy people, 17 per cent. developed diphtheria, and 31 per cent. became carriers. As stated above, these carriers were isolated in a separate building. Release from isolation or quarantine was only granted after at least three negative cultures.

During the early stage of the epidemic, the ordinary methods of throat antisepsis were used, such as spraying with liquor antisepticus and 50 per cent. alcohol. In spite of all methods, certain individuals remained carriers for days. Two clinical cases that had been released from quarantine after three consecutive negative cultures were again found to harbor the diphtheria bacillus. Two persons were released and reisolated three and four times, respectively. Our most persistent carriers, however, were nurses who at no time gave clinical symptoms. In some instances it was found that nose cultures were positive when throat cultures were negative.

At about the height of the epidemic, Prof. Norman MacLeod Harris, of the University of Chicago, was invited to go over the situation with the committee. He verified without exception all culture findings that had been made. He recommended the use of a spray of broth culture of *Staphylococcus pyogenes aureus* as a means of ridding the throats of the diphtheria organism: a method first introduced by the Danish physician.

Schiotz,[1] and later successfully tested by Page[2] of Manila.

There was opportunity to test this method in eight cases, all carriers. A twenty-four-hour old bouillon culture was sprayed into the nose and throat two or three times daily, all other treatment being stopped. In no instance did any harmful condition develop as a result of the introduction of the staphylococci.[3]

Two nurses, previously persistent carriers for days in spite of all antiseptic measures, failed to give one positive diphtheria culture after the first application of the staphylococcus spray. Three nurses, each having had one positive culture previous to the use of the spray, were constantly negative thereafter. One nurse had one positive culture after using the spray, and one other had three positive cultures after employment of the spray, and then became negative. The eighth nurse was persistently positive in spite of, as supposed, the daily use of the spray; but it was later discovered that she had evaded using it as directed; more careful control of her use of the spray immediately cleared her throat of all diphtheria organisms.

CONCLUSIONS

1. The ordinary immunizing dose of diphtheria antitoxin does not always protect an exposed individual against the disease.
2. Only by regular and constant taking of cultures can institutional epidemics of diphtheria be controlled.
3. The usual methods of throat antisepsis are of little value in ridding the throat of diphtheria bacilli.
4. Treatment of the nose is as important as treatment of the throat.
5. In institutional epidemics, more than one series of three negative cultures is necessary for release.
6. Results with *Staphylococcus aureus* spray were such as to warrant recommending its further use.
7. Apparently no harm results from the application of the spray.

THE TRANSFUSION OF BLOOD

FURTHER NOTES ON A NEW METHOD [*]

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In a previous paper[4] was presented a detailed preliminary report on a new method for the transfusion of blood. At that time we expressed the opinion that the accepted methods of transfusion then in vogue were not adapted to general use and were not highly satisfactory even in the hands of those skilled in surgical technic and experienced in blood-vessel surgery. Evidence that others shared this opinion is afforded by a survey of recent literature, which contains numerous descriptions of ingenious devices contrived for the purpose of making this important operation one which can be performed by any competent surgeon. Especially deserving of mention, in addition to the well-known cannula of Crile, are the devices of Brewer and Leggett,[5] of Janeway[6] and of Sorese,[7] all of whom have given valuable reports of their studies in this field.

A more extended experience with our method of transfusion has resulted in the introduction of certain modifications in the technic, without radical alteration of the original procedure as previously described. The apparatus (see illustration) consists of a large glass bulb with two cannula tips, and a rubber tube with a glass syringe attached. The glass bulb is sterilized by the dry method and the inner surface coated with paraffin. The paraffin coat is best applied by pouring hot paraffin into the open end and then rotating the bulb to secure a uniform coat. The two cannula tips are then heated and each in turn dipped into melted paraffin and shaken to make a thorough coating so as to keep the excess from occluding the lumen. The syringe and rubber tube are prepared by boiling.

With the apparatus now ready for use a one-half-inch incision is made over the most prominent vein of the elbow region in both donor and recipient. The donor's vein is then clamped at the distal end of the incision, stripped, ligated proximally, cut below the ligature and washed out with 1 per cent. solution of sodium citrate. The recipient's vein is ligated distally, stripped toward the heart, clamped at the upper end of the incision, cut above the ligature and also washed out. The cannula tips are moistened by introducing a few drops of liquid petrolatum through the bulb end, then inserted into the respective veins of donor and recipient and are ligated in position. Aided by the use of a shoulder-constrictor blood rapidly enters the bulb when the donor's vein is released. As the blood rises in the tube a covering cap of liquid petrolatum is added to relieve surface tension. The rubber tube is now fitted over the top of the glass bulb, and the tube and syringe are used to produce positive and negative pressure as desired. (The bulb usually fills without resorting to suction.) The donor's vein is then held by the fingers, the recipient's vein released and the blood introduced into the latter at any desired rate of flow. When the bulb is nearly empty the recipient's vein is held and that of the donor released, thus allowing the bulb to again become filled with blood, after which the process continues as before. Bulbs of various sizes ranging in capacity from 100 c.c. to 400 c.c. have been used. Experience indicates that the largest size are, as a rule, the most satisfactory.

In experiments extending over a period of nearly a year transfusion has been performed according to this technic, on an average, from one to two times weekly. A considerable number of the animals have been killed and autopsy performed at the close of the experiment. Others have been examined after being kept for periods varying from one day to five weeks. From a study of the animals under observation following transfusion, we are convinced that the blood received by them functionates in a normal physiologic manner. In no instance have the clinical manifestations or autopsy findings revealed evidences of ill effects.

We have performed four transfusions in human patients according to this modified new method. In these operations were found two obstacles not encountered in experimental work. The first difficulty met was lack of blood in the donating vein, as a result of which only 300 c.c. were obtained. Since the time of this operation (Transfusion 1) we have used a constrictor around the arm of the donor and no longer want for blood. The second difficulty arose in one instance and was due to the unusually small size of the basilic vein of the recipient, who was a delicate woman with cubital veins little larger than those ordinarily found at the wrist. After transfusing this patient with

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[1] Schiotz, A.: Ugesk. f. Læger, lxxi, No. 50, 1373; abstr. in THE JOURNAL A. M. A., 1910, liv, 422.

[2] Page, H.: Arch. Int. Med., 1911, vii, 16.

[3] The culture employed was one isolated a year previously from a facial carbuncle and continuously grown on agar in the bacteriologic laboratory of the University of Chicago.

[*] From the Memorial Institute for Infectious Diseases.

[4] THE JOURNAL A. M. A., Jan. 7, 1911, p. 35.

[5] Brewer and Leggett: Surg., Gynec. and Obst., 1909, ix, 293.

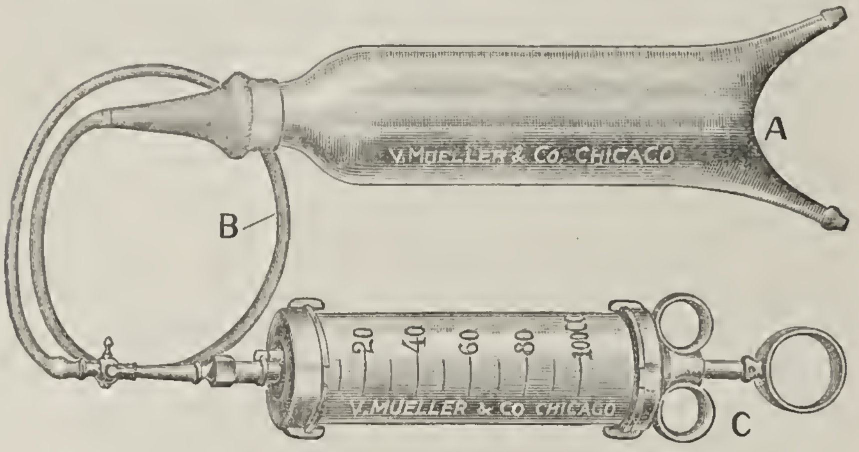
[6] Janeway: Ann. Surg., 1911, liii, 720

[7] Sorese: New York Med. Jour., 1911, xciii, 623.

250 c.c. of blood it was decided to change transfusion tubes because of delay incident to readjusting the arms of the donor and the recipient. The remaining portion of the recipient's vein was unfortunately found to be too small to admit the cannula and in preference to operating on the other arm further work was postponed. Previous experience in performing transfusions with the Crile cannula leads us to think that veins of annoyingly small caliber as were found in this patient would be rarely encountered. As a safeguard, however, bulbs with small-sized cannula tips should be held in reserve.

Clinical improvement, as manifested by the general condition as well as by increase in the percentage of hemoglobin and in the number of red blood-corpuscles, was obtained in all patients. In the two least satisfactory cases, discussed above, in which were given respectively 300 c.c. and 250 c.c. of blood, the patients showed as much improvement as those successfully transfused by the usual artery-to-vein anastomosis. In fact, despite general opinion, 250 c.c. of blood probably equals the amount ordinarily obtained by most methods.

The other two transfusions were performed without difficulty or complication. Blood in abundance was available in both instances. The most striking result was obtained in a patient in Presbyterian Hospital, under the care of Dr. James B. Herrick and Dr. N. Sproat Heaney. The clinical findings were those of a sepsis of unknown origin complicated by uterine hemorrhages. For several days preceding transfusion the temperature, which was 103.2 F. at the time of operation, ranged from 102.5 to 105 F. Respirations before transfusion were from 40 to 44 per minute; the pulse, 140 per minute, thready, and of small volume. Blood examination showed 4,400 leukocytes, 2,800,000 red blood-cells and 45 per cent. hemoglobin. The patient was aroused with difficulty from a semicomatose condition; 1,050 c.c. of blood were transfused. Improvement in the general, physical and mental condition of the patient was immediate and remarkable. The respirations fell at once to 24 per minute. After four hours the pulse was 134, in eight hours 120, in sixteen hours 112, and in twenty-four hours 108 per minute. The temperature at the end of four hours was 100 F., in twenty-four hours, 100.6 F. During the week following, it ranged from 99 to 101 F. Examination of the blood after twenty-four hours showed 3,750,000 red blood-cells, with hemoglobin 55 per cent. "at least" (Dare). For three days the blood findings remained essentially the same, then gradually improved until the patient was discharged at the end of eight weeks with a red count of 4,600,000 and hemoglobin of 75 per cent. The leukocyte count varied from 4,400 to 6,100. Repeated daily examinations of blood-smears were negative. There were no nucleated red cells, no evidence of unusual variation in their size and no phagocytosis or other evidence of their disintegration or destruction.



Device for transfusion of blood. A, glass bulb with cannula tips; B, rubber tube fitted over bulb and connected with C; C, syringe used for exerting positive and negative pressure as desired.

Thanks are due Drs. Graham, Herrick, Irons and Heaney for clinical material furnished and interest manifested in this work.

31 North State Street.

A SIMPLE METHOD FOR THE MECHANICAL TREATMENT OF GLENARD'S DISEASE

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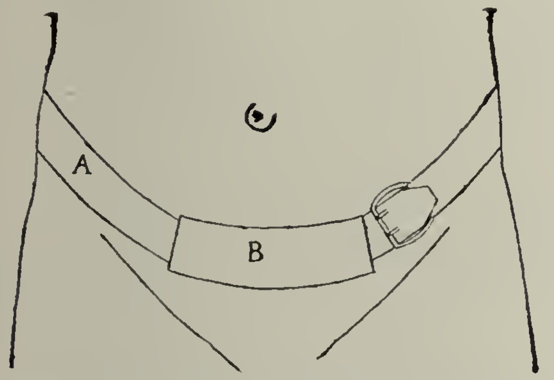
The treatment of splanchnoptosis is one of the most difficult problems confronting the practitioner, and especially is this true of the rather extreme type of cases which fall into the hands of the internist. We need all the help we can get from every possible angle, mechanical, medicinal, etc. The pathology is many-sided and its successful therapeutics must be equally so. While attending to other features of treatment, in many cases mechanical support of some sort is absolutely essential.

For many years I have been trying a great variety of mechanical supports as adjuvants in the treatment of this condition, including corsets, bandages of various sorts, with various modifications of the adhesive plaster support suggested by Dr. Rose. These adhesive strips, variously modified, have given me better results than anything else. Considerable difficulty, however, has been encountered on account of the extensive application of the plaster to the skin, the tendency being to roll up, produce cutaneous irritation and thus interfere with its continuous use. The mere application, without wrinkling, causes dermatitis in many cases. In order to accomplish permanent results, it must be kept up for a long period of time. Recently, in order to escape some of these difficulties and at the same time retain the advantages of adhesive plaster, a combination of the latter with the bandage has been used. The primary object is to get the point of support as low on the abdomen as possible. The support should be easily removed, its tension readily adjusted at any time and the area of plaster applied to the skin reduced to the minimum, in order to limit the extent of the skin irritation, when, as often happens, this results from the contact of the plaster.

A strip of zinc oxid adhesive plaster 2 or 2½ inches wide and about 5 or 6 inches long, the length varying with the size of the patient, is placed transversely across the extreme lower abdomen as nearly as possible to the pubes, the hair having been shaved clean for this purpose. To each end of this strip of adhesive plaster is attached a bandage of about the same width, long enough to reach around the body above the iliac crest, and be tied or otherwise fastened behind, or better, one end long enough to reach around and fasten at opposite end of plaster. If the ends of the plaster have a tendency to become loosened and pull up by traction of the bandage, this can be prevented by a narrow vertical strip across each end of the adhesive strap and applied to the skin above and below. The bandage itself is well padded with cotton, either folded within it or applied to the body immediately beneath it. This prevents any irritation of the skin from the bandage and permits of its being drawn as tightly as necessary in order to furnish the necessary support from below. If it is a little too tight, it can be easily adjusted and can be entirely relaxed at night if thought advisable, although I believe it is better to keep some support during the night as well as during the day. The great difficulty with the adhesive straps carried entirely around the body, is that if applied somewhat too firmly they cause irritation, and the difficulty of removal complicates their management very much. By means of this fixed point of support in the lowest zone of the anterior abdomen, the pressure is applied exactly where it should be and does the greatest possible good. Altogether, it has given me better results with less annoyance and is more easily managed than any mechanical appliance I have ever used.

Of course, a certain amount of irritation will be produced beneath the plaster in the beginning of treatment, its severity depending on the delicacy of the skin, but the occasional removal of the plaster, cleansing the skin, and using a dusting powder for twenty-four or forty-eight hours will entirely overcome it, and finally it can be used continuously. This can, of course, be done with the plasters applied according to the method of Dr. Rose. I have had incurable patients return after an interval of a year telling me that they were still unable to dispense with their adhesive straps and wore them very nearly continuously, leaving them off for a day or two at occasional intervals.



A device for the mechanical treatment of Glenard's disease. A indicates double-padded bandage; B, zinc oxid strip.

It cannot be too strongly emphasized that mechanical support is only an auxiliary in the treatment of splanchnoptosis. The fundamental defects in the musculature and other structures of the abdominal wall, the lack of tone in visceral supports, imperfect circulation and innervation, together with the neurasthenic state so often, I had almost said so constantly, associated, must all be taken into account and therapeutically met. The most brilliant results that I have obtained have followed about one month's treatment in the hospital, with massage, electricity, and such treatment of the digestive tract as the particular case requires, combined with and followed by a prolonged continuance of mechanical support, with correct living, suitable diet, etc. Many of these patients can be substantially cured in this way, even the kidney, which is, of course, usually greatly prolapsed, permanently occupying a much higher position, although it is very rare in my experience for the kidney to go back to its normal position.

In some few of these cases surgical treatment will be required, but it is surprising how many of them, even of the severer type, will yield to prolonged systematic treatment along the lines already indicated; and the very simple mechanical support above described, having the obvious advantage of costing but a few cents, thus making it applicable to all classes of patients, has proved of great assistance to me.

407 West Main Street.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

PANKREON.—Tannin-pancreatin-compound.—A mixture containing the active tryptic, diastatic and steatolytic ferments of the pancreas and about 8 per cent. of tannin.

It is obtained by the action of tannin on pancreatic substance.

Pankreon is a dry, grayish, odorless powder of a slightly acidulous taste. It is soluble in alkaline liquids and practically insoluble in water and acid liquids.

1 Gm. of pankreon digests in thirty minutes at least 50 per cent. of 100 Gm. of sodium caseinate dissolved in 4,000 Cc. of water.

Actions and Uses.—Pankreon has a tryptolytic, amylolytic, emulsifying and mildly astringent action. This action it is claimed is developed in the alkaline intestinal fluids, although a portion of the ferments is likely to be destroyed by the gastric juice during its passage through the stomach.

Pankreon is said to be useful in conditions of disturbed metabolism or anomalies of digestion due to functional inefficiency of the pancreas; in diarrhea, dysentery, dyspepsia, marasmus, etc.

Dosage.—For adults 0.25 to 1.0 Gm. (4 to 15 grains) and for children 0.06 to 0.25 Gm. (1 to 4 grains), three times per day.

Manufactured by the Chemische Fabrik Rhenania of Aachen, Germany. U. S. patents Nos. 685,543 and 695,254; U. S. trademark No. 36,268.

Therapeutics

TREATMENT OF POISONING

As the symptoms and treatment of poisoning are many times so similar, it seems best to divide poisons into classes, and then to describe the treatment of each class, rather than to multiply individual descriptions.

The following classification is of types of drugs. The individual drugs with references to the class to which they belong, and therefore to the treatment advisable, will be found in a table on another page.

Class 1.—Irritants of the Gastro-Intestinal Canal.
- Acids.
- Alkalies.
- Irritant metallic salts.

Class 2.—Irritants of the Central Nervous System.
- Atropin-containing drugs.
- Caffein-containing drugs.
- Cocain.
- Scopolamin (hyoscin).
- Strychnin.
- Volatile oils.

Class 3.—Depressants of the Nervous and Circulatory Systems.
- All cardiac drugs in large doses.
- Coal-tar products.
- Cyanids.
- Hypnotics.
- Narcotic drugs.
- Nicotin.
- Most phenol-containing drugs.

CLASS I.—IRRITANTS OF THE GASTRO-INTESTINAL CANAL

Most irritants in weak dilutions are astringent, while most astringents in strong solutions are irritant. The action of astringents and irritants on mucous membranes is, therefore, largely one of degree. Some astringents act chemically to form albuminates with the protein substance found on moist mucous membranes, thus coating and preventing the further irritation of the membrane. At the same time the blood-vessels of the membrane are contracted, the membrane is dried, and the secretion diminished. This is typical metallic astringent action. If this albuminate is insoluble or very slowly soluble in the media surrounding it the action just described is the only action due to the astringent, viz., there may be more or less pronounced irritation at first, but the after-effect is sedative. If, however, this albuminate tends to dissolve at its junction with the mucous membrane, the action of astringency is then continued and may become so irritating as to cause severe inflammation or with some metallic salts or acids cause ulceration and corrosion. Such drugs or preparations are called "gastro-intestinal irritants," and in poisonous doses will all produce the same immediate symptoms. Later individual symptoms or conditions develop due to the character of the substance absorbed, to its chemical nature and to the amount of local corrosion that it can cause.

Different metals have different powers of astringency and irritant action; also different salts of the same metal vary in the irritation which they will produce. The acid formed after the dissociation of the metallic ion decides the amount of irritation that the salt will cause. Also the greater the ease with which the metallic ion is dissociated from its acid ion the greater the corrosion; therefore, the soluble nitrates and chlorids are much more corrosive than the acetates, citrates and tartrates. The sulphates are between these groups in their irritant effect.

The most astringent metals in the order of their astringency are lead, iron, alum, copper, zinc and silver. The most astringent salt is lead acetate, while the most irritant salts are mercuric nitrate, mercuric chlorid and zinc chlorid. The sulphates and acetates of copper and zinc and the nitrates of sulphur and lead, if applied in weak solutions, are astringent, but are irritant if in large quantities or in strong solutions. Insoluble preparations of mercury may irritate and corrode, but insoluble salts of other metals are generally only astringent. Double salts of the metals are less likely to irritate, because they ordinarily do not precipitate albumin. A styptic strongly coagulates albumin, and hence causes a clot which stops hemorrhage.

Symptoms

The symptoms common to all gastro-intestinal irritants are irritation or corrosion of the mouth, throat and esophagus, depending on the concentration of the poison swallowed. Other symptoms are: more or less gastric pain; nausea; vomiting, first of the contents of the stomach, then of mucus, then often of blood; later diarrhea, first of the contents of the bowels, then mucus and, perhaps, blood are passed. There are more or less symptoms of shock due to the reflex action on the heart from irritation of the gastric branches of the pneumogastric nerve. The symptoms of collapse are a rapid, weak heart, dyspnea, cold surface of the body, clammy, cold perspiration, tendency to syncope, and a gradual failure of the pulse.

The symptoms of poisoning by gastro-intestinal irritants are:

Immediate Symptoms:

- Pain.
- Nausea.
- Vomiting.
- Colic.
- Diarrhea.
- Collapse.

Frequent After-Symptoms:

- Inflammation and ulceration of the mouth, throat and esophagus.
- Gastritis.
- Duodenitis (jaundice).
- Enteritis.
- Albuminuria.
- Nephritis.
- Ulceration, perforation, peritonitis.

Possible Remote Symptoms:

- Fatty degeneration of the liver, kidneys and heart.
- Strictures from the healing of the corrosions and ulcerations.

Treatment of Corrosive Poisoning

Immediate Treatment: Warm water drinks containing the antidote, if there is one (an emetic or a stomach-tube is rarely needed, and, if necessary, should be used with great caution and gentleness); albuminous and mucilaginous drinks, as milk, egg albumin, flaxseed infusions, slippery elm infusions, etc.; hypodermatic injections of morphin sufficient to stop pain and continued vomiting.

Treatment of Collapse: Rest, quiet; dry heat, especially to the region of the heart; atropin sulphate, 1/100 of a grain hypodermatically; strychnin sulphate or nitrate, 1/30 of a grain hypodermatically; repeated in three hours, if needed (large doses of strychnin are not advisable, as it cannot stimulate the heart or raise the blood-pressure as so long believed); camphor, a syringeful hypodermatically of a saturated solution in sterile olive oil (or a ready-prepared ampoule), every half hour for several doses; caffein as strong coffee, by rectal injection if there is no diarrhea.

After-Treatment: Give a saline purge, if deemed necessary. For acute gastritis give morphin sufficient to stop the pain, mucilaginous drinks, rectal alimentation. Give cardiac stimulants, if needed. Later give bismuth subcarbonate in large doses (2 grams or 30 grains) twice a day; later, a milk diet. Treat duodenitis and nephritis, if they occur. Order absolute rest in bed for one or two weeks, if the irritation or corrosion was severe, lest perforation from ulceration be precipitated. Treat ulcer of the stomach and strictures, if they occur.

CLASS II.—IRRITANTS OF THE CENTRAL NERVOUS SYSTEM

The principal symptoms of poisoning by drugs of this class are those of irritation of the central nervous system. There is restlessness and nervous excitement; there may be, later, delirium and convulsions, and, perhaps, still later, coma. The pulse is full, bounding, and generally rapid; there may even be delirium cordis or tachycardia. Respirations are increased in rapidity, the face is flushed and the skin of the body feels hot and dry, and there often is increased temperature. There may be vomiting; there often is diarrhea; there is vesical irritability, and often strangury, depending

TABLE OF SPECIAL SYMPTOMS AND SPECIAL TREATMENT OF VARIOUS POISONS

Name	Poison Class	Special Symptoms	Special Treatment	Remarks
Acetanilid......	Class III......	Cyanosis; lowered temperature.	Oxygen inhalations; artificial respiration; sodium bicarbonate.	Chronic poisoning causes anemia.
Alcohol (ethyl).	Class III......	....	....	There may be acute delirium, in which case treat more as Class II.
Alcohol (methyl)	Class III......	Often late unless dose is large..	Pilocarpin hydrochlorid in one-eighth gr. dose is recommended; other treatment like Class III.	More or less loss of vision by the third or fourth day.
Ammonia	Class I.......	May be swelling and inflammation of the bronchial tubes, hence dyspnea.	Diluted vinegar; lemon juice; olive oil; castor oil.	Stomach-tube contra-indicated.
Amyl nitrite....	Class III......	Respiratory and cardiac failure.	Artificial respiration; Trendelenburg position.	Treatment of poisoning by other nitrites similar.
Anilin	Class III......	....	....	See treatment for acetanilid.
Antimony	Class I.......	Diarrhea soon occurs; late symptoms are those of Class III: circulatory depression.	Tannic acid, one-half teaspoonful, in water; later magnesium carbonate.	If much of the poison has been absorbed, fatty degeneration of the organs may develop.
Antipyrin	Class III......	Profuse sweating; lowered temperature.	Sodium bicarbonate...........	See acetanilid.
Arsenic	Class I.......	Frontal headache; constriction of the throat; colicky pains; eruptions on the skin.	Official antidote, ferri hydroxidum cum magnesii oxido, 3 oz.; later castor oil.	Renal inflammation is a frequent sequence.
Atropin	Class II.......	Flushed face; dilated pupils; dry throat; rapid heart.	Tannic acid; morphin in not too large doses as a partial physiologic antidote.	Catheterize the bladder.
Belladonna	Class II.......	....	....	See atropin.
Bromids	Class III......	....	....	Treatment similar to chloral.
Caffein	Class II.......	....	Dry heat to the body.........	....
Camphor	Class II.......	....	....	....
Cannabis indica.	Class II.......	....	....	....
Cantharides	Class I.......	Kidney and bladder irritation; strangury; abortion.	....	....
Castor oil beans.	Class I.......	Collapse.	....	....
Carbolic acid...	Class III......	....	....	See phenol.
Chloral	Class III......	Pupils dilated; coma..........	....	Inhalations of oxygen; artificial respiration; dry heat; Trendelenburg position.
Cocain	Class II.......	Pupils dilated; often rapid heart; often cyanosis.	Tannic acid if the drug has entered the stomach.	If collapse, Trendelenburg position; if respiratory failure, oxygen and artificial respiration.
Codein	Class III......	....	....	See morphin.
Creosote	Class III......	....	....	See phenol.
Chromic acid...	Class I.......	Often cramps in the legs......	Chalk; lime water; magnesia...	Correct name, chromium trioxid.
Cyanids........	Class I and III.	May act like hydrocyanic acid; may cause stomach symptoms.	....	See hydrocyanic acid.
Digitalis	Class III......	The cerebrum not much affected.	Tannic acid; nitroglycerin hypodermatically.	....
Ergot	Class III......	Pupils dilated; cold surface of the body; circulatory depression.	Alcohol; nitroglycerin.........	....
Formaldehyd solution.	Class I.......	....	If swallowed, very weak solutions of ammonia; diluted aromatic spirits of ammonia.	If inhaled or taken in strong solution, danger of edema of the glottis.
Gelsemium	Class III......	....	....	....
Hydrochloric acid.	Class I.......	Lips and mouth show white eschar.	Lime water; magnesia........	Emetics and stomach-tube should not be used. Chalk and alkaline carbonates should not be given.
Hydrocyanic acid.	Class III......	Odor of almonds; respiration and heart fail immediately.	Patient on back with feet raised; artificial respiration; ammonia inhalations; camphor and atropin injections; wash stomach with stomach tube.	....
Hyoscyamus.....	Class II.......	....	....	See atropin.
odoform	Class II and III.	May be symptoms of nervous excitation, with fever; later, prostration.	....	....

TABLE OF SPECIAL SYMPTOMS AND SPECIAL TREATMENT OF VARIOUS POISONS—*(Continued)*

Name	Poison Class	Special Symptoms	Special Treatment	Remarks
Lead acetate....	Class I........	Colic; muscle cramps; convulsions; stupor; coma.	Dilute hydrochloric, a teaspoonful well diluted; magnesium or sodium sulphate 30 grams (1 ounce).	Later, multiple neuritis.
Lobelia	Class III......			
Matches	Class I.......			See phosphorus.
Mercuric chlorid (corrosive sublimate).	Class I.......	Convulsions; coma; collapse...	Raw eggs and albumin water..	Late symptoms are salivation; nephritis; multiple neuritis.
Morphin	Class III......			See opium.
Muriatic acid...	Class I.......			See hydrochloric acid.
Nicotin	Class III......			See tobacco.
Nitric acid.....	Class III......	Mouth and lips may be stained yellow.		See remarks under hydrochloric acid.
Nitroglycerin ..	Class III......			See amyl nitrite.
Opium	Class III......	Pupils contracted; respiration slowed.	Tannic acid; atropin; wash stomach with potassium permanganate solution 1 part to 1,000.	Catheterize the bladder and wash out stomach frequently; artificial respiration as long as heart continues to beat.
Oxalic acid.....	Class I.......	Depressed circulation; cyanosis.	Magnesia; chalk; later, magnesium sulphate as cathartic.	Alkalies and alkaline carbonates are contra-indicated.
Paraldehyd	Class III......			
Phenacetin	Class III......	Lowered temperature.........	Sodium bicarbonate...........	See acetanilid.
Phenol	Class III......	If solution is strong, white eschar on lips and mouth; collapse; coma; urine black after standing.	Dilute alcohol 1 part to 4, or clear whisky or brandy; sodium sulphate in solution.	Avoid all oils and fats.
Physostigma....	Class III......	Pupils contracted; may cause vomiting and purging.		
Physostigmin (eserin).	Class III......		Tannic acid. Strychnin is a physiologic antidote.	See physostigma.
Phosphorus	Class I.......	Breath smells garlicky. Most serious symptoms sometimes slow in developing.	Use copper sulphate as emetic; wash stomach with 1-1,000 potassium permanganate solution. Later, magnesium sulphate.	Avoid all oils. If much absorption, likely to cause serious liver and kidney inflammation.
Pilocarpin	Class III......		Tannic acid; atropin hypodermatically.	
Potassium chlorate.	Class I.......			Nephritis a frequent sequela.
Potassium hydrate.	Class I......			See ammonia.
Prussic acid....	Class III......			See hydrocyanic acid.
Ratsbane	Class I.......			See phosphorus.
Resorcin	Class III......			See phenol.
Rough-on-rats...	Class I.......			See arsenic.
Salicylic acid...	Class II.......			If taken in concentrated form, treat stomach as in Class I.
Salol	Class III......			See phenol.
Santonin	Class III......			May be delirium and convulsions.
Scopolamin (hyoscin).	Class II and III.	May act like atropin, but may cause serious circulatory depression.		See atropin.
Silver nitrate...	Class I.......		Sodium chlorid (table salt solution).	
Sodium hydrate.	Class I.......			See ammonia.
Stramonium ...	Class II.......			See atropin.
Strophanthus ..	Class III......		Nitroglycerin..............	
Sulphonal	Class III......	May cause ptosis, suppression of the urine, and papular skin eruptions.	Sodium bicarbonate; later, magnesium sulphate.	Treatment quite similar to acetanilid.
Sulphuric acid..	Class III......	Lips and mouth may show black eschar.		See remarks under hydrochloric acid.
Tobacco	Class III......	Prostration	Tannic acid if tobacco or nicotin has been swallowed.	Trendelenburg position.
Trional	Class III......			See sulphonal.
Veratrum	Class III.....			See aconite.
Veronal	Class III......			See sulphonal.

on the drug. Some drugs of the atropin series may cause vesical paresis. There are muscular twitchings: there may be cramps; and, as above stated, convulsions may occur. The pupils are of course dilated if the poisoning is by any member of the atropin series or by cocain, and they often become dilated during cerebral excitement from other members of this group.

The symptoms of poisoning by irritants of the central nervous system are:

Immediate Symptoms:

Gastro-intestinal burning and pain, perhaps nausea and vomiting, if the poison contains an aromatic or volatile oil.
Cerebral excitement.
Rapid heart.
Rapid respiration.
Erythemas and flushing of the face and surface of the body.

Frequent After-Symptoms:

Purging.
Frequent urination.
Muscular twitchings.
Delirium.
Convulsions.
Coma.
Failure of the circulation.

Possible Remote Symptoms:

Abortion in pregnant women.
Albuminuria and nephritis if the poison is a renal irritant as are many of the volatile oils.
Prolonged sleeplessness and nervous irritability.

Treatment of Poisoning by Irritants of the Central Nervous System

Administer warm water with the antidote, if there is such.

Give an emetic. The emetics in the order of their strength are: mustard (a tablespoonful in a glass of warm water); ipecac (2 gm. [30 grains] of powdered ipecac, or a tablespoonful of the syrup); zinc sulphate (2 gm. [30 grains] dissolved in water); copper sulphate (0.50 gram [7½ grains] dissolved in water); apomorphin (1/10 of a grain given hypodermatically). Any of these emetics may be repeated in fifteen minutes if there is no satisfactory result. It should be remembered that apomorphin is depressant to the circulation.

Wash out the stomach by means of a stomach-tube if there is no satisfactory emesis. If the vomiting is satisfactory, continue to administer warm water until the stomach washes clean.

Administer one or more nerve sedatives. The best are bromids and chloral, and the dose depends on the character of the poison. They are best administered by the rectum, at least provided nausea and vomiting is continued after the stomach has been cleared of the poison. If there is much circulatory depression, the best sedative to administer is morphin, hypodermatically, perhaps combined with scopolamin (hyoscin). An adjunct to the action of the morphin as a central nervous sedative and as a strengthener of the circulation is ergot, given intramuscularly. If there are convulsions, inhalations of chloroform are required.

Apply dry heat to the body, if the surface is cool or there is a tendency to collapse.

If heart failure occurs later in the poisoning, from shock or from the depression caused by nausea, such circulatory stimulants should be given as camphor (a saturated solution in olive oil); strophanthin (given hypodermatically or intravenously in a dose of 1/500 of a grain); epinephrin (adnephrin, adrenalin, adrin, supracapsulin, suprarenalin) in aseptic ampoule or 1 c.c., 15 minims, of a 1 part to 10,000 solution; or intramuscular injection of some aseptic ergot preparation (1 ampoule) and repeat in an hour, if needed.

Give plenty of water with a demulcent, if there has been irritation of the stomach either from a volatile oil poisoning or from the emetic used.

CLASS III.—DEPRESSANTS OF THE NERVOUS AND CIRCULATORY SYSTEM

The symptoms of poisoning by drugs of this class are, as their name implies, those of circulatory and nervous depression. The pulse is either slow or rapid, but generally weak; the surface of the body generally becomes cold; respirations are slowed; pupils are generally dilated unless the poison is morphin or nicotin; often the patient becomes faint; drowsiness soon develops, and if a narcotic has been taken stupor soon develops; perhaps convulsions will occur; later paralysis and coma.

Immediate Symptoms (if the poison is a depressant of the nervous system):

Depression.
Drowsiness.
Slow, weak pulse.
Slowed respiration.
Paralysis.
Coma.

Later Symptoms:

Muscular weakness.
Circulatory weakness.

Immediate Symptoms (if the poison is a circulatory depressant):

Rapid or slow, weak pulse.
Cardiac anxiety.
Cold, clammy perspiration.
Face pale.
Perhaps convulsions.
Syncope.

Treatment

Wash out the stomach (emetics or stomach-tube, as see above).

Administer not only the chemical, but a physiologic antidote, if there is such.

Apply dry heat to the body.

If the poison was a narcotic, give cerebral and nervous stimulation, as caffein (coffee), camphor, atropin, strychnin.

If the poison was a circulatory depressant, give atropin, ergot, epinephrin or strophanthin, as above described.

Compel prolonged mental, circulatory and physical rest.

The accompanying table is arranged alphabetically. The second column gives the class to which the poison belongs, and the treatment for this class has been given under the headings of the general treatment for each class. Therefore the number of the class to which the poison belongs refers to the treatment there outlined.

Column 3 ("special symptoms") suggests symptoms of poisoning which are characteristic of the drug, such symptoms being in addition to those which are characteristic of the class of poisons to which the drug belongs.

In the fourth column ("special treatment") is indicated any chemical or physiologic antidote that is valuable in treating poisoning by the drug, and is in addition to the general rules discussed above.

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SATURDAY, OCTOBER 28, 1911

HUGHLINGS JACKSON AND NEUROLOGY

He who stimulates others to work, who unfolds a new idea, discusses a new relation between facts, or brings together a mass of hitherto uncorrelated observations, and puts them in usable form for the multitude—he is a great man. Modern commerce and applied science have been the direct result of the work of such men, but in no field are there required mental qualities of such high order as in medicine.

To wrest from the future secrets that will serve mankind requires a constructive imagination that visualizes, as though through a telescope, the hitherto unseen, combined with attention to microscopic detail and acuteness in analysis. These qualities, though rarely found combined in one mind, were realized in one of England's greatest physicians, whose death is recorded by our London correspondent.[1]

The name of John Hughlings Jackson, known all over the world through the term "Jacksonian epilepsy," stood for infinitely more than nomenclature. He has been the founder, the creator, the inspiration of English neurology for at least forty years. As far back as 1877, he had established the fact that "the cerebellum is the center for continuous movements, and the cerebrum for changing movements," and on the doctrine of the tonic nature of cerebellar activity thus established, he worked till his death. Four decades ago he defined apraxia. He gave us our knowledge of temporosphenoidal disease, of double hemiplegia, and of many of the more important manifestations of epilepsy.

He began the study of the nervous system and its diseases at a time when all knowledge concerning the subject was fragmentary and empirical. Bringing to bear on this scattered disconnected material a mind, which, as one of his contemporaries said, "combined singular acuteness in analysis with a remarkable power of philosophic thought, and wide generalization," he slowly and surely worked out the true principle of localization of function in the nervous system. To us the idea of brain localization is as familiar as that of the circulation of the blood; it is hard for us to realize that even in the latter half of the last century the only idea of cerebral localization was that which the phrenologists had distortingly adopted from the teachings of Gall and Spurzheim.

When Jackson began to study cases of nervous diseases, the French physiologic school was brilliantly to the fore. Yet as a young man he wrote: "I should be misunderstood if I were supposed to underrate the physiological study of disease of the nervous system. Indeed, I think its neglect shows want of education, but to neglect the clinical shows want of experience and sagacity. Never forget that we may run the risk of being overeducated, but undercultivated."

Jackson was the greatest scientific clinician in neurology of the nineteenth century in England. The whole of the material from which he drew his conclusions was found in the wards of a hospital. He never performed an experiment, yet he has influenced the course of neurologic medicine more profoundly than has any other one observer. Each patient was to him an example of some disturbed process, and helped to elucidate the law of normal and morbid functions. The field of his great work was the National Hospital for the Paralyzed and Epileptic, Queen's Square, where he was actively at work for forty-four years, and the London Hospital, where he served for thirty years.

The titles of the papers he published, which in 1895 filled five quarto pages, in double column, in the *London Hospital Gazette*, form in themselves a history of the growth of neurology under his compelling genius. Much of his writing that sounded obscure when published has borne fruit in the work of later neurologists; for he divined, or perceived prophetically, from his rich experience, much that has required years of patient experiment to prove. The full anatomic demonstrations of Dr. Jackson's theories and discoveries have been published only in the last four or five years; but bit by bit, from all parts of the world, have come corroborations of his outlines, and fruits ripened under another's care from the seed he so generously gave. Perhaps it is because of his extreme modesty and retiring nature, as well as the abstract nature of his studies, that even in his own country the public has not known him as one of its greatest men; but he belongs to that brilliant group which included Darwin, Huxley, Tyndall, Galton and Spencer, the latter being his warm personal friend.

He inherited his energy, courage and caution from his father, and his tender, affectionate and constant nature from his mother; but his mental stimulus, he was wont to say, came from the lectures of Sir James Paget, who was in his zenith as a teacher in Dr. Jackson's student days.

Although he was childless, his love of children was great. His quiet humor used to charm his students. He would at the end of one of his illuminating lectures caution them not to take him too seriously, as he was only a "Bedlamite theorist." It was he who after an operation in trephining expressed his regret that the

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1. Page 1467

opportunity of putting a joke into a Scotsman's head had been let slip.

Jackson's friends compared his genius to that of Samuel Johnson, but the great neurologist was gentle and polished, whereas the great lexicographer was rude and bearlike. Jackson's resemblance to his prototype was displayed, however, in his power of brushing aside all subterfuges, and going to the very essence of the matter. His was an exceptionally well-rounded character; it is a rare personality that we are resigning to the past.

HYGIENE AND RACE STAMINA

The larger effect of hygienic measures is a question which presents many moot points. From a humanitarian standpoint no one questions the duty of safeguarding by every means within the power of science the lives of the population and especially the infant population. From the standpoint of physical race betterment, however, many regard hygiene and sanitation as of doubtful or negative value, since these measures allow the weak to live and perpetuate their kind. Assuming that in a considerable proportion children who succumb to bad hygiene and defective food are inherently weak—a theory by no means universally admitted—it would be conceded that if they were aided in reaching a maturity which must be more or less defective they would transmit their weaknesses to their descendants and thus contribute measurably to the deterioration of the race as a whole. An attempt to show how this works out under actual existing conditions as between the Chinese and the western white population has been made by Prof. E. A. Ross.[1]

Ross says that, on account of lack of good hygienic conditions in China, out of ten children born, the three weakest will die in infancy and five others will probably fail to grow up, while in our own country, out of the same number of children born, only three will fail to reach maturity. This would seem to favor better hygienic conditions for the betterment of the race, yet Ross feels that there may be some doubt on this point. For, of the seven surviving, the five corresponding to the ive additional Chinese who die, will, according to hypohesis, be weaker in constitution and will transmit their weaker qualities to the offspring; while the two surviving Chinese are the hardiest of the lot and will transmit their hardy qualities to their offspring, thus in the nd increasing the general stamina of the race.

In order to test this idea, Ross closely questioned hirty-three physicians practicing in various parts of China, chiefly in missionary hospitals. Twenty-nine were positive that the Chinese physique evinces superiity in some respects over that of the white people of he western world. It has been found that surgical hock is rare among the Chinese, that they endure surgical operations well and recover from them, from most serious injuries and from septic conditions in an astonishing manner. They also stand higher degrees of fever, are more resistant to pus-producing germs and are very tolerant of pain, while fewer Chinese women die from puerperal fever. This applies particularly to the lower classes, who live among the most unhygienic surroundings. The percentage of recoveries in the poorly-equipped hospitals from the gravest injuries and operations equals or exceeds that under the ideal conditions of the best-equipped hospitals of Berlin or Vienna. This indicates a strong and abiding race vitality and it may reasonably be assumed that it is a direct result of the survival of the strongest, or at least most enduring, members of the race. In other words, the selective process imposed by unfavorable surroundings, has established in the Chinese a higher degree of immunity to conditions inimical to survival.

The deduction would seem to be that the way to produce a strong race well endowed with vital qualities would be for that race to multiply to excess, and then to undergo murderous reduction by exposure to disease and unhygienic conditions. A second consideration shows that this process has its drawbacks. While under poor or bad conditions the Chinese will outdo the white man, under good conditions the latter rises to a higher level of efficiency. The Chinese, who can underlive, cannot outwork the white man under the white man's conditions. In short, the low-caste Chinese seems to illustrate very well an often misapprehended fact, namely, that the survival of the fittest is not necessarily the survival of the best, the most efficient, or even the strongest; it is simply the survival of those best fitted to survive in that particular environment—and not necessarily well fitted for any other environment. Those who are fittest for a white man's environment are less fit for that of the Chinese, and vice versa. The fitness of the low-caste Chinese is fitness to endure existence on the lowest terms. On the evidence so far presented, we may dismiss the case against hygiene as an agency in the deterioration of the race with a Scotch verdict—not proven.

THE DEFENSE OF THE ORGANISM AGAINST TUBERCULOSIS

The investigations of Calmette and Guérin[1] on experimental tuberculosis have yielded certain interesting and novel results. Their investigations began with the study of the modifications of the tubercle bacillus during its passage through the digestive tract. This led to the study of a series of cultures of tubercle bacilli on potato in 5 parts beef-bile to 100 parts glycerin. A single passage on this medium increased the virulence of the bacillus very much for the guinea-pig, but, on the other hand, successive cultures led to progressive attenuation of virulence. The bacilli cultivated in the manner indicated possessed the same variations in virulence for cattle as for guinea-pigs; in cattle intravenous injection produced a febrile disease which rarely terminated fatally and in the course of which no tubercles were formed in any of the organs. A number of animals were vaccinated with increasing doses of bile bacilli, some receiving as much as 200 mg. of bacilli intravenously; of these animals, some became very cachectic, but when they were slaughtered not the faintest trace of any tuberculous lesions could be found.

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[1] Ross, E. A.: The Race Fiber of the Chinese, Pop. Sc. onthly, October, 1911, p. 403.

[1] Calmette and Guérin: Ann. de l'Inst. Pasteur, 1911, xxv, 625.

The serum of animals which had been treated in this way was examined as to its effects on tuberculous infection in guinea-pigs and cattle. This serum was strongly agglutinating for tubercle bacilli and caused an abundant precipitate with tuberculin. In the guinea-pig the serum did not exercise any preventive or curative action. On the other hand, it seemed to hasten the development of the lesions. In cattle the results were somewhat different. While the serum did not seem to possess any immunizing or bactericidal power, even in large doses, it caused, when injected together with bile bacilli, more rapid elimination of the bacilli by the liver and intestines than usually takes place.

It was also found that the immunized animals eliminated not only the attenuated bile bacilli, but also virulent bacilli, the latter also passing through the organism without causing any tuberculous lesions. It has been noticed before that tuberculous cattle eliminate bacilli with greater rapidity than do normal animals. The general conclusion is reached that the more or less well-marked resistance to tuberculosis produced in cattle by means of diverse methods of vaccination depends on the power acquired by the organism to eliminate tubercle bacilli by way of the liver and the intestines. So long as this condition exists the tubercle bacilli do not behave as active parasites, but more like simple, inoffensive, foreign bodies.

One may regard these phenomena as another expression of the fact that the tuberculous organism possesses considerable resistance to reinfection, but the exact mechanism involved is not yet clear and presents problems for further investigation.

TYPHOID FEVER AND THE WATER OF THE GREAT LAKES

The rapid growth of cities on the Great Lakes in the United States and Canada has raised many problems for the sanitarian. It is natural that these cities should seek to obtain their water-supply from the great bodies of fresh water close at hand. It seems to have been equally natural that they should attempt to dispose of their sewage by discharging it into the lake, thus effectually preventing a nuisance by simply diluting the sewage with a large volume of oxygen-containing water. So far as the avoidance of offense to the senses is concerned this method of sewage disposal appears in most cases to have been eminently satisfactory. Not so much can be said on the sanitary side. There is evidence that even in the case of small towns and cities this practice has been accompanied by an excessive amount of typhoid fever, while in the larger cities like Chicago, Cleveland, Milwaukee and Toronto it is a familiar fact that water-borne typhoid fever has been at times a veritable scourge.

Many of the cities so situated have attempted to avoid contamination of the drinking-water with sewage by extending the water intakes far out into the lake. For a time such an expedient usually proves efficacious and a reduction in water-borne disease is noted. After a longer or shorter period, however, the increasing volume of sewage due to increase in population again makes itself felt by an alarming contamination of the water at the intakes, and eventually typhoid fever again reaches a high point. Some few cities are so placed topographically that they can take advantage of favorably situated bays or points of land to divert the flow of sewage away from the water intakes and so, it is hoped, lessen pollution of the water-supply. In some cases also there has been a misplaced reliance on prevailing winds or currents for keeping the sewage away from the drinking-water source. Exact observations with floats and bacterial tests have now shown that neither winds nor currents, nor yet local topography, can be altogether depended on to prevent occasional contamination.

The experience of practically all the large cities on the Great Lakes has followed the lines indicated above. Detroit, to be sure, has suffered less than many others because of its ability to discharge its sewage into the Detroit River at a point below its water intakes. There is, however, danger of contamination from the considerable population draining into Lake St. Clair above the intakes, and at least one serious epidemic of typhoid fever in Detroit has been attributed by high authority to water infection. Other cities have fared even worse. The city of Erie, where for years the typhoid death-rate has been very high, experienced only last winter an extremely severe explosive outbreak of water-borne typhoid fever, over 750 cases being reported in January and February, 1911. Very recently in Cleveland, Buffalo and Milwaukee, concern has been expressed over the gravity of the local situation and in some cases disinfection of the water-supply with hypochlorites has been carried out.

In view of the well-recognized danger which hangs over some of the most flourishing of our American cities the studies set on foot by the Public Health and Marine-Hospital Service on the sewage pollution of interstate and international waters are to be warmly welcomed. The first section dealing with Lake Erie and the Niagara River has lately been published.[1] Ample illustration of the conditions we have cited will be found in its pages and the publicity there given to facts long known to students of public health, should do much to stimulate action. Even if in some cases the writer's conclusions are too hasty, as appears in the case of Toledo, the mass of data contained in this report will be of great value in inducing expert study of local conditions. The conditions under which water-borne typhoid fever occurs in the cities on the Great Lakes appeal to the imagination of the average citizen, and we cannot believe that the "endless chain" of typhoid bacilli passing into the sewers and back again through the water-pipes will be allowed to continue unbroken.

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[1] McLaughlin, A. J.: Bull. 77 Hyg. Lab.

Current Comment

ACTIVE IMMUNIZATION IN DIPHTHERIA AND OTHER DISEASES

While the discovery of diphtheria antitoxin by Behring has served to revolutionize our attitude toward this much-dreaded disease, the use of antidiphtheric serum for protective purposes is not altogether satisfactory. It is possibly owing to deficiency of antibacterial powers in antidiphtheric serum that its prophylactic administration is not of more prolonged effect and sometimes even without any effect. Blumenau[1] reports the occurrence of nineteen cases of diphtheria in 348 persons who had been given the usual prophylactic treatment, the infection in several cases following two, and in one instance three, preventive doses of serum. In view of this large proportion of failures, he was led to investigate a method of active immunization against diphtheria originally proposed by Dzerjgowsky, and his results are sufficiently striking to deserve attention. It had been previously shown that the repeated subcutaneous injection of very minute doses of toxin could produce a relatively high antitoxic power in the human being, and Dzerjgowsky found that equally good results followed the application of toxin to the nasal mucosa by tampons. Blumenau used this method with seven children, and with sufficiently numerous applications he was able to raise the antitoxin content in one case to ten units per cubic centimeter, or to 1,000 times its former value. The rise in other cases was not so marked, but in all it compared favorably with, and in several instances surpassed. the antitoxic power of several individuals who apparently possessed a high degree of natural immunity. As to the permanency of the protection so acquired, data are lacking for the human being, but from results n lower animals it should be of considerable duration as compared with the very transient passive immunity onferred by the use of antitoxic serum. If Blumenau's esults are supported by further work, however, the method may be found to have, as he points out, great pplicability in the wholesale prophylaxis in institutions n which large numbers of children are habitually aggreated. At all events an effective, simple method of ctive immunization for prophylactic purposes is desirble in order to limit as much as possible the spread f diphtheria. The success of protective inoculations gainst typhoid is established. Now that we definitely now that the cause of measles is present in the blood in the early stages of the disease, a convenient source of the virus, whatever its nature, being available, it does not appear impossible that a method of protective inoculation against this disease may be devised. And as to scarlet fever, the demonstration by Koessler[2] that the lymph-nodes harbor a specific antigen or virus of unknown nature, furnishes a basis for the hope that new methods of protection against even this disease soon will be proposed and tried.

ELIMINATE THE TERM "ALLOPATH"

Elsewhere in this issue[3] we reproduce some correspondence between a committee representing the Fulton County (Ga.) Medical Society and the publishers of a city directory. The committee protests against the classifying of non-sectarian physicians as "allopaths." We commend the action of this Georgia society to societies all over the country, and especially to practitioners who permit themselves to be called, or who call themselves "allopaths."

SUCCESS OF COLD STORAGE IS NO GUARANTEE OF THE QUALITY OF COLD-STORAGE FOOD

In Chicago recently a banquet was given for which the menu was prepared from food which had been in cold storage for many months. The object of the banquet was to prove that food, even though stored for a long time, is both healthful and palatable. It only proved that some food may be palatable and harmless after such storage. The extensive publicity given to this banquet and its object by the energetic press bureau of the cold-storage people was therefore a very amusing feature. We are not aware that anyone has ever denied that, when properly handled and surrounded by the necessary conditions, food can be kept in cold storage in a fairly acceptable condition for comparatively long periods of time. If this banquet committee could not find, and if the public did not find, some acceptable food from among the millions of dollars' worth of ancient materials in the various warehouses, the cold storage of food products as a business would have been terminated long ago on account of financial failure. Cold storage is a good thing. It has been used, in a crude way, in country cellars and spring houses for generations. Its modern development has added immensely to the possibilities of our tables. but like many other good things, it is frightfully abused. In order to get good results, one must have good material to store, and must be able to prevent harmful changes during storage. The condemnation by governmental authorities of millions of pounds of cold-storage food shows the defects of the actual system in at least one respect. It is only by the constant vigilance of health officials that greater and more dangerous abuses are prevented. The employment of cold storage as a means of wresting unrighteous profits from the public, by buying large quantities of food products when cheap and plentiful and retailing them at higher prices when scarce, is another serious abuse, which, however, affects the pocket-book rather than the health of the people.

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[1] Blumenau: Jahrb. f. Kinderh., 1911, lxxiv, 141; abstr. in he Journal, October 14, p. 1328.

[2] Koessler: Jour. Infect. Dis., 1911, ix.

[3] Page 1473.

The fact that the banqueters found the food palatable and survived seems to us to be beside the point. If a banquet such as this had been made an adjunct to a campaign for preventing the abuse of cold-storage methods, for limiting them to their legitimate field and for perfecting the methods of handling food products, more would have been accomplished by the cold-storage people in overcoming the prejudice of the public and in popularizing cold-storage goods.

LIABILITY FOR OBLIGATIONS OF OTHERS MUST BE IN WRITING

In the Medicolegal Department of this issue,[1] appears an abstract of the decision of the Supreme Court of Oklahoma which is of practical interest to physicians. The testimony showed that the defendant asked the plaintiff, a physician, to go to see the wife of his tenant and added "I will see that you are paid." The court says that "the question was whether . . . the credit was given solely to the defendant or to the husband of the woman . . . with the understanding that if the husband did not pay the charge then the defendant would. If the former, that is, if the defendant's liability was primary, such verbal contract was valid and the defendant was liable. But if the intention was that the husband should be primarily liable and that the defendant's liability should be only collateral . . . then the contract was void as within the statute of frauds which requires promises to answer for the debts of others to be in writing." To put the language of the court in every-day terms: If A says to a physician, "Go and take care of B and I will see that you are paid," this constitutes a direct contract between the physician and A, and an oral agreement to this effect is valid and will be sustained by the courts. But if A says to the physician, "Go and take care of B and, if he does not pay you, I will," such a statement is the assumption by A of an obligation primarily incurred by B, and is not legally binding on A, unless made in writing, as the oral assumption of the obligation of another is not binding. The practical application of this important distinction is obvious. When professional services are rendered at the request of a third party from whom the physician expects to secure his compensation, either such agreements should be in writing or it should be plainly understood that the third party assumes the direct primary liability for the services rendered.

Medical News

DELAWARE

State Society Meeting.—The 122nd annual meeting of the Delaware Medical Society was held in Lewes, October 9-10, and the following officers were elected: president, Dr. Frank L. Springer, Newport; vice-presidents, Drs. Roland G. Paynter, Georgetown, and James L. Crossmore, Wyoming; secretary, Dr. George W. K. Forrest, Wilmington (reelected); treasurer, Dr. Samuel C. Rumford, Wilmington; councilor, Dr. James Beebe, Lewes; trustee of the *Delaware State Medical Journal*, Dr. George Frank Jones, Georgetown; editor, Dr. Albert Robin, Wilmington; delegate to the American Medical Association, Dr. Hiram R. Burton, Lewes, and alternate, Dr. Luther S. Conwell, Camden. Wilmington is the next meeting-place.

IDAHO

State Medical Association Meeting.—The Idaho State Medical Association held its ninth annual meeting in Boise, October 11-13, under the presidency of Dr. John W. Givens, Orofino, and elected the following officers: president, Dr. William F. Howard, Pocatello, and secretary-treasurer, Dr. Edward E. Maxey, Boise (reelected). The association pledged itself to work for the establishment of a state sanatorium for the treatment of tuberculosis, and for medical inspection in the public schools. The next meeting of the association will be held at Portland, where it will meet with the state associations of Oregon and Washington, under the head of the Northwest Tri-Medical Association.

ILLINOIS

Personal.—Dr. Nathaniel T. Stevens has been appointed local surgeon of the Illinois Central System at Clifton.——Dr. Frank R. Pitner, Clay City, said to the the oldest practitioner of Illinois, celebrated his 99th birthday anniversary, October 16.

Chicago

Tag Day.—The annual "Tag Day" for children, October 16, resulted in contributions of $60,000, which is to be divided among the various hospitals and institutions for children of the city.

Personal.—Dr. Max Thorek has been appointed a member of the consulting staff of Cook County Hospital.——Dr. Mary B. White has been appointed a member of the Board of Visitors of County Institutions.

Surgical Society Election.—At the annual meeting of the Chicago Surgical Society, October 20, Dr. Frederick A. Besley was elected president; Dr. Samuel C. Plummer, vice-president; Dr. Allan B. Kanavel, secretary, and Dr. Dean D. Lewis, treasurer.

Favors Sanitarium Plans.—Informal approval of the plans for the municipal tuberculosis sanitarium was voted by the city council committee on finance, October 13. The cost of the proposed group, including lighting and sewerage, is estimated at $818,000. This will provide for 350 patients and administrative facilities. The intention is evidently to accommodate 500 patients. A site has already been purchased by the city at a cost of $158,000.

IOWA

Southeastern Physicians to Meet.—The thirty-sixth annual meeting of the Southeastern Iowa Medical Society will be held in Washington, November 16, under the presidency of Dr. Clyde A. Boice, Washington.

Drake Alumni Clinic.—The Drake Medical Alumni Association, by a special committee, is arranging for a special two-day clinic to be held at the university in Des Moines next spring. The committee consists of Drs. Charles F. Smith, Wilbur S. Conkling, Robert P. Parriot, Elmer B. Mountain, Des Moines, and Dr. George F. Jenkins, Keokuk. Invitations are to be sent to all the alumni, and the aim is to make it a brief, practical course in surgery, medicine and laboratory work.

Personal.—Dr. Charles E. Ruth, who recently returned from Ponce, Porto Rico, has located in Des Moines.——Dr. Albert A. Anderson, Des Moines, is reported to be seriously ill with septicemia due to a wound of the right hand.——Dr. John V. Littig has been appointed medical inspector of the public schools of Davenport.——Dr. Charles H. French, Cedar Rapids, is reported to be seriously ill with septicemia in St. Luke's Hospital.——Dr. Robert H. Sutton, Shenandoah, was recently presented with a gold-headed cane by the Page County Medical Association, on the occasion of the fiftieth anniversary of his entrance into medical practice.

MARYLAND

Baltimore

Medical Faculty Meeting.—The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland was held at Baltimore, October 20. The principal address was delivered by Dr. Harvey W. Wiley. There were clinics and luncheons at the various hospitals and demonstrations at the Pasteur Institute. Dr. William H. Welch announced that Dr. Oliven of Germany was in Baltimore making arrangements for a large delegation of German physicians, who are coming to America to attend the International Congress of Hygiene and Demography in Washington, September, 1912. They are to be entertained in Baltimore before going to Washington. A report was submitted, favoring the establishment of a state colony to which alcoholic patients may be committed directly, without the necessity of criminal proceedings.

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[1] Page 1478

Typhoid Vaccination at Johns Hopkins Hospital.—Johns Hopkins Hospital is offering to its doctors, nurses, students and employees, the privilege of being vaccinated against typhoid fever, and many are availing themselves of the opportunity.

Personal.—Dr. William H. Welch has consented to open the bazar for the Home of Orphans and Widows of Physicians, November 1.——Dr. Edward C. Bubert is reported to be ill at his home.——Dr. Rupert Norton has been elected president of Johns Hopkins Hospital Medical Society.——Dr. James A. Fechtig is convalescent after an operation for appendicitis.

MASSACHUSETTS

Decision Against Health Board.—Judge Brown of the Superior Criminal Court at Salem is said to have rendered a decision October 18 that a city board of health has no power to make and enforce a rule that fruit exposed for sale shall be covered from the dust.

Ask Walcott's Reappointment.—More than 2,000 signatures of physicians were on the petition which Dr. Frederick C. Shattuck, Boston, presented to Governor Foss, October 13, asking for the reappointment of Dr. Henry P. Walcott, Cambridge, on the Metropolitan Water and Sewerage Commission. Dr. Walcott, whose term expired on March 20 last, has been a member of the commission since its establishment in 1895, and chairman of the State Board of Health since 1886.

Ether Day.—Ether day was observed October 16 at the Massachusetts General Hospital in Boston by the usual clinics and luncheon. In the afternoon Dr. Simon Flexner gave an address on "The Biologic Basis of Specific Therapy." The alumni met for a banquet in the evening and were addressed by Drs. Simon Flexner, New York City; Charles F. Stokes, Surgeon-General U. S. Army, and Harvey Cushing, Baltimore, who is to be in charge of the surgical side of the new Peter Bent Brigham Hospital, now in process of construction.

Medical Library Meetings.—The Medical Library Meetings, which are under the joint supervision of the officers of the Suffolk District Medical Society, those of the Medical Section and those of the Surgical Section of the same society, and of a committee of the Boston Medical Library, were resumed October 28. The subject for discussion at the first meeting is "The Recent Epidemic of Septic Sore-Throat." It will be discussed by Prof. C. E. A. Winslow, of New York; Drs. Mark W. Richardson, Samuel H. Durgin, Joseph L. Goodale and Richard M. Smith, Boston; Dr. Eugene A. Darling, Cambridge, and Dr. H. Lincoln Chase, Brookline. Hereafter these meetings will be held on the first and third Wednesday evenings of each month, beginning November 15. The topic for that date is "Pathology and Medical Treatment of Exophthalmic Goiter," by Dr. Charles F. Hoover of Cleveland, O., with discussion by Dr. Charles H. Mayo and others.

MICHIGAN

Maternity Hospital Licensed.—The board of health of Grand Rapids has voted to grant a license to the United Brothers Association Hospital, to operate a maternity hospital in conformity with the new state law.

Antituberculosis Society Issues Circular.—The Hastings Antituberculosis Society has issued an attractive circular giving valuable information concerning the care of persons suffering from tuberculosis, the means of preventing the spread of the disease and its cure.

New Wing of Hospital Open.—The new wing of Grace Hospital, Detroit, was open for inspection, October 2. The new building is fireproof and is equipped with most modern appliances. Dr. Harold Wilson has established a private surgical clinic at the hospital, for the operative treatment of diseases of the eye, ear, nose and throat.

Additional Medical Officers Commissioned.—The state military board is taking action to reorganize the medical department of the National Guard to conform to the federal regulations. The board recommended the following officers for commissions as first lieutenants in the medical corps: Howard A. Grube, Grand Rapids; George H. Townsend, Jackson; Floyd A. Roberts, Flint; Alfred E. Lemon, Sault Ste. Marie, and Lewis S. Ramsdell, Manistee.

Whooping-Cough Dangerous to Children.—Calhoun County Medical Society, at its recent meeting at Marshall, adopted resolutions setting forth that pertussis is one of the most fatal of the contagious diseases of childhood, and expressing the desire that through the efforts of the board of health and health officers, the public may be better instructed as to the dangers of this disease, that it may be reported, and that stringent quarantine regulations may be enforced.

Personal.—A banquet was given by the Manistee County Medical Society, October 6, in honor of Dr. Jens A. Christensen, who was about to leave Manistee to practice in Chicago.——Dr. William A. Spitzley, Detroit, has returned from Europe.——Dr. John E. Clark, Detroit, chemist of Wayne County, was thrown from his motor car in a collision with another automobile, and sustained a severe scalp wound.——Dr. and Mrs. Harry A. Haze, Lansing, have returned from Europe.——Dr. Zell L. Baldwin, Niles, has taken charge of the antituberculosis hospital at Kalamazoo.

NEBRASKA

Personal.—Dr. Susan La Flesche-Picotte, Walthill, is reported to be seriously ill as the result of overwork.——Dr. James W. Miller has been appointed surgeon of the Union Pacific system at Gibbon.——Dr. Albon E. Bartoo has disposed of his interests in Arcadia and will move to Brazil, South America.——Dr. John B. Fulton, Beatrice, sustained serious injuries in a fall down a stairway at his home, October 5.——Dr. Anders P. Overgaard, Fremont, was seriously injured by a fall on a cement floor, October 4.——Dr. Henry G. Leisenring, Wayne, has sold his practice and will move to San Diego, Cal.——Dr. Gustav W. Dishong, assistant superintendent of the Norfolk Insane Hospital, has been appointed superintendent of the Lincoln Insane Hospital, vice Dr. John T. Hay, deceased.

NEW JERSEY

Personal.—Dr. William Edgar Darnall, Atlantic City, has been appointed consulting surgeon to the North American Children's Sanitarium for the Treatment of Surgical Tuberculosis, Atlantic City.

Society Meeting.—The New Jersey State Pediatric Society at its meeting, October 28, held in Lakewood, N. J., held a symposium on "The Welfare of Young Children from the Educational Standpoint," at which Henry E. Jenkins, New York City, district superintendent of schools, discussed "The School and the Doctor;" Prof. Howard C. Warren, Princeton University, "The Home Schools for Infants at Rome;" E. R. Johnstone, superintendent of the New Jersey Training School for Feeble-Minded Girls and Boys, Vineland, "The Care and Training of Feeble-Minded Children;" and Dr. David F. Weeks, superintendent New Jersey State Village for Epileptics, Skillman, "What New Jersey is Doing for the Epileptic."

NEW YORK

Personal.—Dr. Alonzo B. Foster, Fonda, has been appointed coroner of Montgomery County, vice Dr. Cornelius W. De Baun, deceased.——Dr. William Charles Willis, Patchogue, is said to have been committed to the State Hospital for the Insane, Central Islip, October 15.

To Warn Children Against Accidents.—The trolley men of the state are perfecting plans to educate children as to the danger of accidents. With the cooperation of teachers and parents, personal talk, pamphlets of warning information and danger signs calculated to impress boys and girls are to be presented in school room, home and playground throughout the state. On blotters and other attractive souvenirs have been printed such maxims as "Don't hitch to a car, touch loose wires, play on tracks, jump off until the car stops, cross tracks till you look, or send your little brother or sister alone." Recent reports of the public service commission show that accident damages have cost the street railways of the state almost $5,000,000 in one year. Superintendent Maxwell of New York City has sent circulars to the public schools requesting that instructions be given the pupils in regard to the serious evil of jumping on the tail end of street cars, wagons and other vehicles. The principals were also asked to instruct children how to get on and off street cars safely and how to cross the street where vehicular traffic is heavy. In twenty-one months there have been 239 children killed in street accidents in Greater New York.

District Society Meetings.—At the fifth annual meeting of the First District Branch of the Medical Society of the State of New York, held in Yonkers, October 12, Dr. Daniel Bailey

Hardenbergh, Middletown, was elected president; Dr. John Calhoun Otis, Poughkeepsie, vice-president; Dr. Charles Ellery Denison, New York City, secretary, and Dr. George Swan Mooney, Yonkers, treasurer.——The Fifth District Branch of the Medical Society of the State of New York held its annual meeting in Utica, October 5, and elected the following officers: president, Dr. James K. Stockwell, Oswego; vice-president, Dr. Amos P. Dodge, Oneida; secretary, Dr. Frederick Flaherty, Syracuse, and treasurer, Dr. Henry A. Hoyt, Watertown.——The annual meeting of the Sixth District Branch of the Medical Society of the State of New York was held in Elmira, October 17. Dr. Frederick M. Miller, Binghamton, was elected president; Dr. Herbert W. Fudge, Elmira, vice-president, and Dr. Luzerne Coville, Ithaca, secretary and treasurer. It was decided to hold the 1912 meeting in Binghamton.——The fifth annual meeting of the Fourth District Branch of the Medical Society of the State of New York was held in Ogdensburg. Dr. Frederick G. Fielding, Glens Falls, was elected president; Dr. Silas J. Banker, Fort Edwards, vice-president; Dr. Frederick K. Ressegnie, Saratoga Springs, secretary, and Dr. George H. Oliver, Malone, treasurer. Glens Falls was selected as the next place of meeting.

New York City

Harvey Lecture.—Professor Max Verworn, University of Bonn, delivers the third of the present course of lectures at the New York Academy of Medicine on Saturday evening, October 28, at 8:30, on "Narcosis."

Inoculate Militiamen Against Typhoid.—Preparations are being made to inoculate every man in the Seventy-First Infantry, N. G., N. Y., in order to prevent typhoid fever at the encampment next summer. This is the first volunteer regiment to submit to inoculation against typhoid fever.

Personal.—Dr. Stephen Smith has been elected president of the New York State Conference of Charities and Corrections.——Dr. William L. Gahagan, medical director of the United States Casualty Company, has resigned to accept the superintendency of the personal accident and health insurance department of the Globe Indemnity Company.

Deaths of the Quarter.—During the three months ended September 30 there were 18,048 deaths reported, equivalent to a death-rate of 14.38 per 1,000, a decrease of 1.15 as compared with the corresponding quarter of last year. The chief decrease was shown in diarrheal diseases of children under 5 years of age, nephritis, pneumonia, congenital debility and tuberculosis of the lungs.

Hospital Addition Opened.—The annual meeting of the Society of St. Luke's Hospital on October 18 was preceded by the formal opening of the Travers Pavilion, the erection of which was made possible by the will of Mrs. Mary Travers Heckscher which gave $250,000 for this purpose. This addition is a ten-story building, the two upper stories of which have arrangements for open-air treatment of patients.

Anesthetists Meet.—The meeting of the anesthetists of New York City and vicinity, held at 40 East Forty-First Street, Manhattan, October 28, consisted of a dinner at 6 p. m., a business session of the Long Island Society of Anesthetists for reorganization, addresses on "The Anesthetic Situation in New York," by Dr. Alfred M. Hellman and on "Personal Reminiscences and Experiences of Ten Years of Anesthetic Work," by Dr. Freeman Allen, of the Massachusetts General Hospital, at the conclusion of which the society adjourned to attend the Harvey Society lecture on "Narcosis."

Call to Fight Rabies.—The large number of persons bitten by dogs and the increase in frequency of rabies has called forth a bulletin from the department of health setting forth the urgent need of taking measures to combat present conditions. According to figures compiled by the department of health, 2,462 persons were bitten by dogs in this city from January 1 to September 1 this year, and of these, 1,743 were children. Examination of the animals killed showed six rabid cats and 192 rabid dogs. The net result was seven fatal cases of human rabies. The department of health calls for the immediate passage and the rigid enforcement of an ordinance requiring that dogs at large be either muzzled or leashed. The department also advises a campaign of educational measures in regard to the care and observation of dogs by their owners. It is thought that an adequate system of licensing by the municipal authorities might have a beneficial effect and the city of New York seems to be about the only city in which the licensing of dogs is not a function of the municipal government.

NORTH CAROLINA

Personal.—Dr. and Mrs. Charles L. Summers, Winston-Salem, will sail for Europe early next month.——Dr. Baxter S. Moore, Charlotte, will remove to Atlanta, Ga., November 1.

New Infirmary.—The executive board of the trustees of the State Hospital for Tuberculosis, Montrose, at its recent meeting in High Point, awarded the contract for the erection of a new infirmary to afford accommodation for fifty additional patients.

Courses in Sanitation at Trinity.—Trinity College, Durham, with the cooperation of its department of biology and the faculty committee on health, has arranged demonstrations and courses of instruction for its students, in the fundamentals of sanitary science, which for several years physicians urged should be an essential part of a complete modern college course.

PENNSYLVANIA

Examination of Public School Children.—Medical examination of the Lebanon public school children has been decided on, to assist in stamping out diphtheria.

Personal.—Dr. D. Walter Straub, Bethlehem, is reported to be seriously ill with septicemia.——Drs. Thomas A. Monahan, Shenandoah, and John L. Adams, Asheville, N. C., have been appointed assistant surgeons at Fountain Springs Hospital.

Conference of Secretaries.—The conference of the secretaries of the component county societies of the Medical Society of the State of Pennsylvania was held in Harrisburg, September 26, Dr. John J. Coffman, Scotland, presiding. After the completion of the literary program the members were entertained at a dinner given by the state medical society, at which Dr. Thomas S. Blair, Harrisburg, was toastmaster. Dr. Luther B. Kline, Catawissa, was elected chairman and Dr. Clarence E. Shaw, Williamsport, was reelected secretary-treasurer.

Pavilion for Sick Children.—On October 22, a pavilion for the treatment of indigent consumptive children was dedicated at the Philadelphia Jewish Sanitarium, Eagleville, Montgomery County, an institution devoted exclusively to the free treatment of tuberculosis. The pavilion has accommodations for sixteen children as well as facilities for their education. Only children in the incipient stages of the disease will be accepted. This institution was started more than two years ago and has discharged 130 patients as cured. It now has seventy-five patients and a waiting list of nearly 150.

Philadelphia

Club Reception to Clinicians.—The next reception of the Medical Club of Philadelphia will be held November 17, at which Dr. Albert J. Ochsner, Chicago, the president of the Congress of Surgeons of North America, and the president-elect will be the guests of honor.

Election in New Society.—The Philadelphia Laryngological Society, recently organized and whose first meeting was held October 25, has chosen the following officers: president, Dr. Ross H. Skillern; vice-president, Dr. George W. Mackenzie, and secretary and treasurer, Dr. Charles A. O'Reily.

Personal.—Dr. Alexander W. Biddle is recovering from the effects of a slight operation performed at the Pennsylvania Hospital.——Dr. Louis Starr sailed October 18 to spend the winter in Europe.——Dr. Charles Lincoln Furbush has returned from Europe.——Dr. Louis O. Heiland has been appointed secretary to the board of directors of Girard College.

Municipal Dental Laboratory.—Bids have been opened by the director of public health and charities for the equipment of a dental laboratory in city hall; drugs, medicines, surgical instruments and supplies and for the purchase and installation of a modern *x*-ray apparatus. The department has $1,700 for dental supplies; it has $5,922.75 for a new *x*-ray machine at Blockley and has $120 for drugs.

War on Fake Doctors.—War on fake doctors who are swarming here from "physical culture" schools in other cities is to be opened by the Philadelphia County Medical Society. At the meeting of the society October 16, a resolution was passed, providing for action at the second meeting in November toward joining forces with the district attorney in the campaign to compel the so-called "mechanotherapists" and others to discontinue the practice of medicine. These questionable commercial characters, pretending at first to give treatments only under physicians' orders, soon blossom out as doctors, thus evading the statutes on the practice of medicine.

GENERAL AND FOREIGN

Railway Surgeons Hold Meeting.—At the annual meeting of the American Association of Railway Surgeons, held in Chicago October 18-20, the following officers were elected: president, Dr. Rhett Goode, Mobile, Ala.; vice-presidents, Drs. Arthur M. Hume, Owosso, Mich.; Robert A. Kerr, Peoria, Ill.; and Henry H. Clark, McGregor, Ia.; secretary-editor, Dr. Louis J. Mitchell, Chicago (reelected), and treasurer, Dr. Henry B. Jennings, Council Bluffs, Ia.

Meeting of Soo Line Surgeons.—The Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical Association held its fifth annual meeting in Chicago October 16-17, under the presidency of Dr. Albert E. Halstead, Chicago, Ill. The following officers were elected: president, Dr. Charles A. Stewart, Duluth, Minn.; vice-president, Dr. H. Jefferson O'Brien, Superior, Wis.; and secretary-treasurer, Dr. John H. Rishmiller, Minneapolis, Minn. (reelected). The next annual meeting will be held in August, 1912, in Duluth.

Honorary Degrees Conferred on Physicians.—At exercises attending the five-hundredth anniversary of the foundation of the University of St. Andrews, Scotland, the honorary degree of LL.D. was conferred on eighty-six eminent men, of whom the following were members of the medical profession: Sir Thomas Clifford Allbutt, regius professor of physic in the University of Cambridge; Sir Thomas Barlow, professor of clinical medicine, University College, London; George Andreas Berry, president of the Royal College of Surgeons, Edinburgh, and of the Ophthalmological Society of the United Kingdom; Byrom Bramwell, president of the Royal College of Physicians, Edinburgh; Robert Bridges, physician, critic and poet; Alexander Crum Brown, formerly president of the Chemical Society, chemist and physiologist; Sir Hector Clare Cameron, formerly president of the Faculty of Physicians and Surgeons, Glasgow; Francis Gotch, Waynflete professor of physiology in the University of Oxford; Peter Fredrik Holst, Christiania, president of the Norwegian Institute for Medical Science; William Williams Keen, Philadelphia, president of the American Philosophical Society; Hector Leboucq, professor of anatomy, and dean of the Faculty of Medicine in the University of Ghent; Charles Sedgwick Minot, Boston, professor of histology and embryology in Harvard Medical School and secretary of the Elizabeth Thompson Original Research Fund; Rutger Adolf Reddingius, rector and professor of pathologic anatomy in the University of Groningen; Robert Saundby, president of the British Medical Association and professor of medicine in the University of Birmingham; Edward Albert Schäfer, professor of physiology in the University of Edinburgh and president-elect of the British Association, and Johannes Veit, professor of obstetrics and gynecology, and rector of the University of Halle-Wittenberg.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 14, 1911.

Death of John Hughlings Jackson

John Hughlings Jackson, M.D., F.R.C.P., LL.D., D.Sc., F.R.S., consulting physician to the London Hospital and the National Hospital for the Paralyzed and Epileptic, died at his residence in London at the age of 76. Born in Yorkshire, he studied medicine at St. Bartholomew's Hospital, London, and graduated at the Scotch University of St. Andrews. In 1859, largely through the introduction of Sir Jonathan Hutchinson, another Yorkshireman, who was also a schoolfellow, he was appointed lecturer on pathology at the London Hospital. He entertained the idea of pursuing a literary career and giving up medicine but was persuaded not to do so by Sir Jonathan Hutchinson, who afterward described Jackson as his "greatest discovery." In 1864 he was appointed assistant physician to the London Hospital and lecturer on physiology. In company with J. S. Ramskill and C. B. Radcliffe he founded the National Hospital for the Paralyzed and Epileptic, the home of the English school of neurology, of which he has been well described as the father. His contributions to neurology were both numerous and important. An incomplete index to his publications from 1861 to 1894 reached the extraordinary total of 202. His work on aphasia and convulsions and his description of the form of the latter to which his name has been given may be particularly mentioned, but there was scarcely a problem in the whole field of neurology that was not illuminated by his genius. With the other eminent neurologists he may be described as a great clinician, but he differed from them all in one respect: he united the speculations of the philosopher to the facts observed at the bedside. A pupil of Herbert Spencer, he applied this philosopher's doctrines of evolution to neurology. He showed how brain disease conformed to the law of "dissolution" formulated by Spencer. Reasoning in this deductive fashion he postulated the existence of three levels of nerve-centers according to their position in evolution. He showed how the phenomena of brain disease conformed to the law of dissolution in affecting first the highest centers, then the middle centers and finally the lowest. By thus combining philosophical speculation with clinical observation he achieved unparalleled success and anticipated many of the discoveries of the experimental methods. Thus in his "Study of Convulsions" he postulated the existence of a motor area in the cortex, of centers in that area, and their arrangement—a speculation subsequently confirmed by the experiments of Fritsch, Hitzig and Ferrier.

The Royal Commission on Tuberculosis

The final report of the Royal Commission on Tuberculosis has been reviewed in a previous letter (The Journal, Aug. 5, 1911, p. 491). The first two of the extensive appendixes have just been published containing complete details of the experiments and observations and calling for some further notice. They are very valuable because of the minute accuracy and detail with which a long series of experiments has been described. To determine the character of the bacilli active in the production of tuberculosis in man, cultures from fifty-four cases representative of all the common types, except lupus, were used. In the cases of generalized tuberculosis caused by bacilli admitted through the alimentary tract, cultures were isolated, not only from the glands nearest the point of entry, but also from distant lesions. In two cases, human and bovine bacilli were isolated from the same patient, but in the other cases, the bacilli were either distinctly bovine, growing with difficulty in artificial media and of high virulence, or human, growing luxuriantly and of low virulence for the rabbit, but of much lower virulence for the calf than the bovine type. Bovine bacilli were isolated from four out of ten cases of alimentary tuberculosis in children and from two cases of pulmonary tuberculosis. Four children died as a result of infection with bovine tubercle bacilli, the cause of death in one case being general tuberculosis; in the second, tuberculous meningitis; in the third, tuberculous peritonitis, and in the fourth, stricture of the intestines following tuberculous ulceration. The two pulmonary cases occurred in adults, aged 21 and 31 years, respectively.

The question of a possible modification of the bacilli from the human to the bovine type or vice versa as a consequence of residence in the human or animal body was discussed. The bovine type in man was obtained almost solely from children, in whom it had presumably entered through the alimentary canal. The disease produced varied in severity. In the majority of cases it was fatal; in the remainder, it was apparently limited to the cervical glands or was found in children who had died from other causes. Considering the many opportunities which the bovine bacillus has for entering the human body there must be many children who survive the invasion. What then is the fate of the invaders? As bovine bacilli are rarely found in the tuberculosis of adults, they must either be eventually killed or changed into bacilli of the human type. To prove the latter is very difficult. The problem has been attacked by the investigation of many different strains of tubercle bacilli from human lesions with a view to ascertaining whether there exist types intermediate between the human and the bovine, and also by the passage of various strains of tubercle bacilli through different species of animals to determine whether the properties (with regard to culture and virulence) are stable or capable of being altered. The general result of these experiments lends no support to the view that human bacilli can be changed into bovine bacilli by passage through calves or other mammals.

In a case of lupus a culture was isolated which differed from all other human bacilli grown from human tuberculosis. It possessed the cultural characters of a bovine bacillus but had a relatively low virulence for the calf. This led to an investigation to determine whether the bacilli of lupus were different from the bacilli of other forms of human tuberculosis. The general result was that cultures from lupus fall into one or other of the two main divisions of bacilli (human and bovine) as far as their cultural characters are concerned. But few possess the degree of virulence which these characters would indicate. It was thought that some of the cultures might be bovine bacilli which had become attenuated in virulence either before their entry into the human body or as a result of residence therein. Exhaustive experiments, however, showed that the lupus type cannot be regarded as intermediate between the bovine and human types but seems to be a degenerate form of the human type.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 6, 1911.

The Death of M. Troost and the Candidacy of Mme. Curie for the Academy of Science

M. Louis-Joseph Troost, member of the Académie des sciences since 1884, at which time he succeeded Wurtz, has just died, aged 85, and in consequence the question of the entry of women to the institute has been raised again. Many members of the academy are wondering if Mme. Curie would once more become a candidate. It is certain that she would now have the greatest chance of being admitted. The principal argument against her last year was the high merit of M. Branly, who is now a member of the institute. Mme. Curie would, therefore, probably have a majority of votes. It is inevitable that there would be some opposition, since many members of the academy have an intense horror of feminism, but these devotees of tradition would not be able to sway the final results.

The Consumption of Brandy

Dr. Jacques Bertillon, *chef des travaux de la statistique municipale de la ville de Paris*, has just presented to the Académie des sciences morales et politiques, an analysis showing the consumption of brandy in thirty-three large French cities. It appears that in all the consumption of brandy has diminished considerably since 1900-1901, that is to say, since the law of Dec. 29, 1897, reducing the tax on wine and beer and increasing considerably the taxes on distilled liquors. Formerly the consumption of brandy was almost the same in all the groups of cities, that is to say, from 7 to 8 liters of alcohol per year per inhabitant. It was only 2.84 liters in the country. Since 1901 it has fallen to 6 liters in small cities of 4,000 to 10,000 inhabitants, to less than that in the cities a little larger, and to a still smaller figure (4.23 liters) in the cities of more than 50,000 inhabitants. The diminution has been great, therefore, in the large cities; there has been no decrease in the country. The consumption of wine, meanwhile, has increased.

Scarcity of Milk in Paris

For some time Paris has been suffering from a scarcity of milk, which tends to become chronic, since the demand for milk in Paris amounts to 1,100,000 quarts per day, and no more than 900,000 quarts are received. It is in vain that the large milk companies have trebled the extent of territory from which they draw milk, and to-day go as far as 180 miles (300 kilometers) to obtain what they formerly obtained at 60 miles at the maximum. This insufficiency of production is due to three principal causes: the drought which has dried up the pastures; foot-and-mouth disease, which has decreased the herds, and the higher prices and smaller numbers of the dairy employees. Although the situation is not alarming for the hospitals, milk being furnished for the Public Charities by contract, it is rather disturbing for the general population. The prefect of police has accordingly interviewed the presidents of the dairy companies. Measures have been taken so that infants, sick persons and the aged shall not feel the effect of price. In all the dairies a notice has been posted requesting persons having young children or sick persons or old persons in the family to indicate the quantity of milk which is necessary for them in order that it may be reserved each day.

Measures Against Depopulation

The commission on depopulation has just terminated its labor by the adoption of the general report of its president, M. Paul Strauss, senator. Crimes against infants, more particularly infanticide, have, in our day, taken the most hypocritical and refined form, being encouraged by a doctrinal and practical propaganda. Judicial repression is altogether insufficient. Thus in 1906, out of 736 cases of concealed childbirth, 713 infants were abandoned. The commission adopted the resolution of the Ligue de la mortalité infantile, calling for a strict oversight of midwives and lying-in homes and a rigid repression of the neomalthusian propaganda by lectures, tracts, etc. They recommended, on the other hand, the encouragement of maternity by all possible means before and after birth. It is necessary to avoid overwork which exercises a bad effect on the woman and to combat the ignorance which has a large share of the responsibility for preventable accidents. The secret lying-in homes shelter future mothers who wish to hide their fault at any cost and also the *déracinées* and vagabonds. Some form of charity or mutual assistance is necessary to protect the future mother. Stations of observation are indispensable in our popular centers to insure physiologic preparation for maternity. After the accouchement a respite from work of at least four weeks is imperiously demanded. The bill now before the senate, after having been unanimously passed by the Chamber of Deputies, ought to be passed without delay. During the period of accouchement and afterward, the combat against ignorance demands especial vigilance. The infant consultation is the instrument best adapted for educating mothers and keeping the medical control of infants.

After having examined the question of children aided in various ways, M. Paul Strauss has studied the sanitary protection of children aged 1 to 14 years, and of adults. For the former he especially recommends the institution of the sanitary school record (*casier sanitaire scolaire*), such as is used in Geneva, with continued oversight and intelligent education from the point of view of hygiene and preventive medicine. School lunches, vacation colonies, stations for convalescents, should be used in the struggle against transmissible diseases, tuberculosis and degeneration.

M. Strauss showed that according to the tables drawn up for the period extending from 1898 to 1903 by M. Lucien March, head of the general statistics of France, out of 1,000 new-born infants the following number survived to one year in the countries named respectively:

France	8.435
England	8.691
Denmark	8.799
Belgium	8.880
Sweden	9.079

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 5, 1911.

Personals

September 28, Professor v. Michel, director of the Berlin University eye clinic, died at the age of 68. When some lay and medical journals about two months ago published the news that he intended to resign his position at the end of the winter semester, he contradicted it with the statement that he had not thought of leaving his service. Now, however, death has contradicted his assertion. Michel died from contracting kidney and tuberculosis. He was an excellent investigator and teacher, who had enriched his specialty with a number of works. His text-book also received a considerable circulation through several editions.

As a result of the removal of Professor Killian to Berlin, privat-docent Dr. Marx has provisionally undertaken the direction of the Freiburg laryngologic clinic.

Closing of Bilz's Quack Hospital

The renowned quack Bilz who by his vast advertising has circulated by the hundred thousands a "Nature Cure Book" (*Naturheilbuch*) published under his name, but surely prepared by some one else, has been deprived by the authorities of the concession for the maintenance of his institution located at Niederlösnitz near Dresden, on account of the objections raised on hygienic and moral grounds against the conditions existing there.

The Meeting of the German Society for the Advancement of Science

The annual *Naturforscher* congress was held this year at Carlsruhe, as usual in the latter part of September. The attendance was not so large as at previous meetings, in spite of the fact that the program of addresses and entertainments was very inviting. In the medical section a number of important subjects were treated. The pathology and therapy of exophthalmic goiter was discussed by Professor Gottlieb of Heidelberg from the pharmacologic standpoint, by Professor Simmonds, as a pathologic anatomist, by Professor Starck of Carlsruhe, as an internist from the clinical standpoint, diagnosis and therapy, and by Professor Rehn of Frankfurt a. M., with reference to the operative results. The Freiburg professors Aschoff, Krönig, de la Camp and Professor v. Beck, the surgeon of Carlsruhe, delivered addresses on thrombosis and embolism. Professor Biedl of Vienna, and Professor Morawitz of Freiburg reviewed the subject of internal secretions.

EHRLICH ON SALVARSAN

Great interest was naturally aroused by the address of Ehrlich on salvarsan, which I would like to report to your readers in detail. Ehrlich first addressed himself to a criticism of the publications regarding the injurious effects of salvarsan. He said that it was easy to show that certain injurious effects which were at first laid to salvarsan, were in fact due to other agencies. Thus the bladder disturbances depended on the use of a product that had become poisonous on account of oxidation. The same was true of other accidents. In regard to the numerous side-effects which had appeared, such as fever, headache, vomiting and diarrhea, and which occasionally assumed a serious character, Wechselmann first pointed out that these phenomena must be connected with the bacterial content of the distilled water used for solutions and showed, that these practically disappeared with the use of an absolutely fresh distilled water. This peculiar phenomenon is explained by Ehrlich by the supposition that under the influence of bacteria the body cells acquire an increased sensitiveness to arsenic. This circumstance must influence the process of sterilization unfavorably, aside from the fact that the febrile reaction, when it is severe, may exercise a fatal influence on weak individuals with disease of important organs. Further Ehrlich maintains that it is possible that under such a reaction to the endotoxins, disease processes will be favored and that even the symptoms referable to the cranial nerves are connected with this fact.

NEURORECURRENCES AFTER SALVARSAN

In no other way can be explained the fact that in certain clinics, as for instance that of Finger in Vienna, such neurorecurrences are unusually frequent. Independently of this we must consider the possibility that such a stormy reaction injures the cells so as to make them supersensitive to a second injection of salvarsan. Other by-effects which have played a great rôle are those affecting the nervous system. Among these we must distinguish two groups, those occurring within a short time after the injection and those which appear later, from two weeks to one, three, or rarely four months. The first type of quickly appearing functional nerve disturbances are explained most simply by supposing that after the destruction of the spirochetes, a swelling of the affected part sets in, such as may be observed as Herxheimer's reaction in the skin under salvarsan treatment. But in a narrow bony canal such a reaction will not run so harmless a course but will cause pressure on the nerves. More important is the group of nerve symptoms, called nervous relapses or neurorecurrences, which were originally attributed to poisoning by arsenic. Dr. Benario has compared 194 nervous relapses under salvarsan treatment with 122 cases under mercurial treatment, and he was able to establish the fact that under the latter treatment the same affections, e. g. those of the auditory nerve, occur under like conditions. From this Ehrlich concludes that the opinion that nervous relapses under mercurial treatment are rare is not correct. In certain clinics an unusual number of nervous relapses under salvarsan have occurred. On the other hand in certain localities, in especially large clinics, they are practically unknown. After a thorough discussion of the factors that indicate that in these nervous relapses we have to do with the propagation of the few spirochetes which have survived, and not with an injury to the nerves, Ehrlich continues: "The cause of the nervous relapses is to be referred to the fact that almost the entire number of syphilis germs in the body have been destroyed and only isolated spirochetes remain alive. We have to do with a sterilization that is almost complete. These few germs are placed under better life conditions because their competitors have been expelled. Since from anatomic reasons the action of salvarsan is more difficult in the nervous tissues, most of the residuary spirochetes are found here and come therefore most markedly and earliest into evidence."

FATALITIES

As regards the fatal cases in connection with salvarsan, Ehrlich remarks that we have to do with a large number of treated cases and a small number of these cases are patients in whom salvarsan was tried as a remedy of last resort. When we consider that in the course of the last year several hundred thousand patients have been treated with salvarsan, the number of accidents is so small as to give no occasion for any serious objection. It may be affirmed that salvarsan has been shown by the experiences of the last year to be a relatively harmless substance. We have seen that the acute reaction to it is due to a lack in technic.

TREATMENT BY A SINGLE LARGE DOSE

Ehrlich then discusses the principle of treatment by '*sterilisatio magna*. In numerous experiments the undoubted cure of severely affected animals has thus been achieved. In Russia it has been shown by wholesale experiments in spirillosis of hens and geese, that salvarsan is able: 1. to cure a severely affected animal permanently by a single injection. 2. Salvarsan has shown itself to be a really wonderful means of sterilization in relapsing fever in Russia, Spain, and the Congo. A single injection is sufficient to free the patient at once from the parasites and lead to a permanent cure. 3. The results in frambesia are quite as brilliant. In Surinam in all 900 frambesia patients were treated and of these only three relapsed. In the frambesia hospital in Surinam 828 frambesia patients were treated within a week. Two weeks later the last patient was in a condition to be discharged from the hospital and thus in the history of medicine this was the only instance in which the hospital could be closed. 4. In tertian malaria salvarsan achieves a remarkably curative effect. 5. Bilharzia seems to be sterilized by a single injection. 6. From extensive trials an injection of 30 gm. of salvarsan effects a cure in the murrain of horses (epizootic). Also in the so-called African *Rotz* a single injection of salvarsan cures the animal. Finally oriental sore which is caused by *Leishmania* is cured by salvarsan. It seems that in suitable forms of syphilis salvarsan used in sufficiently large and frequent doses is capable of effecting a complete sterilization of the body, and that in these cases results can be obtained that are not attainable by mercury. On the other hand, it seems that by a combination of salvarsan with mercury excellent results are obtained and that by means of this combination it is possible to secure results with smaller amounts of salvarsan than without it. By many authors emphasis has been laid on the point that from the sociologic standpoint our most important task is to treat syphilis in its early stages. It seems possible in over 90 per cent. of the affected cases to secure the healing of primary syphilis.

OUTLOOK

After a thorough exposition of the most suitable methods of early treatment Ehrlich concludes: If the result of securing a final cure in the great majority of cases of primary syphilis should be achieved, a very important forward step in the attempt to abolish this fearful plague would have been taken. Whether a permanent cure is possible in the later stages and to what extent must be determined by further experience.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Oct. 10, 1911.

Some Grievances Against the Proposed New Medical Act

The government has quite recently worked out a new medical act to replace the old one (from 1801), and has invited the medical councils to cooperate in its working; the councils have unanimously refused to undertake such a task in the short space of time allotted for its accomplishment. Moreover, several features of the act have called forth violent remonstrances from the majority of the practitioners. Thus, for instance, it is intended to bring into force the "numerus clausus" as regards practitioners in towns with more than 50,000 inhabitants, and in the *Curorte* (health resorts). Free competition would thus be made impossible. Another article deals with the medical boycott. The act would nullify and make punishable all negotiations or contracts between physicians by which parts of the population, districts or towns should not receive medical help. This aims at the most useful weapon of our profession here, which made possible the successful issue of several medical strikes where contract practice and club practice were at stake. Already the councils are conducting an action of protest against the act as such, and there is no possibility that it will become law before a year. By that time the profession will have drawn up a "medical act" of its own, wherein the interests of the profession and those of the public will be brought into harmony as far as possible.

Moving of the Laryngologic and Pediatric Clinics

Within the last week the clinics for rhinolaryngology and for diseases of children have moved out of their old premises into their new grand houses. The new institutes provide for growth. Although at present they have each about 100 beds, the number can be increased by 50 per cent., if required. They are fitted most lavishly and absolutely up to date, according to the requirements of the professors (Chiari and von Pirquet). A more detailed description will be forthcoming in due time. A point worth mentioning is that in future the assistants of the clinics will not be allowed to follow up private practice in the hospital, as was hitherto the custom. The space occupied hitherto in the old house by these two clinics will be speedily converted, partly into laboratories and partly into use for new buildings.

Marriages

Harriet M. Wiley, M.D., and Edward W. Whitney, M.D., both of Northampton, Mass, at Tenants Harbor, Maine, October 12.

Clarence Adair Rhodes, M.D., Atlanta, Ga., to Miss Agnes Stewart Plummer, at Washington Grove, Md., October 12.

Richmond Favour, M.D., Boston, Mass., to Miss Dorothy Georgia M. Chapman of Bowdoinham, Maine, October 11.

Malcolm Cameron Rose, M.D., New York City, to Miss Mary Ella Dunning of West Orange, N. J., October 10.

Emory D. Bernard, M.D., to Miss Nina deWolfe, both of Port Arthur, Texas, at Beaumont, Texas, October 11.

David Barton Penniman, M.D., Argyle, Ill., to Miss Fannie Littell Rudgers of Montclair, N. J., October 4.

Walter D. Chase, M.D., Bethlehem, Pa., to Miss Helen M. Harleman of South Bethlehem, Pa., October 7.

Whedon W. Mercer, M.D., Washington, Ill., to Miss Kathryn J. Giblin of Kankakee, Ill., September 20.

Roy Hamilton Peck, M.D., Springfield, Mass., to Miss Alice Jemima Campbell, at Baltimore, October 11.

Oscar Milton Marchman, M.D., Dallas Texas, to Miss Martha Jenkins of Waco, Texas, October 26.

William Plumer, M.D., Farmington, Ill., to Miss Pearl C. Winters of Pittsburgh, Pa., September 25.

Jesse R. Kauffman, M.D., Blue Island, Ill., to Miss Alice Jane Rondthaler of Chicago, October 12.

Frederick G. Sigman, M.D., Spencer, N. C., to Miss Louise Wilson of Durham, N. C., October 8.

John W. Stevenson, M.D., Palouse, Wash., to Miss Blanche Campbell of Omaha, Neb., recently.

Elmer Le Roy Biggs, M.D., Los Angeles, Cal., to Miss Grace Wentworth of Chicago, October 12.

George T. Penn, M.D., to Mrs. Gertrude M. Hughes, both of Spokane, Wash., October 4.

Thomas J. Talbott, M.D., Baltimore, to Mrs. Mary J. Carland, at Baltimore, October 9.

J. Frank Small, M.D., York, Pa., to Miss Anna M. Howell of Harrisburg, Pa., October 4.

Louis C. Swartzlander, M.D., to Miss Mona Dillon, both of Omaha, Neb., October 25.

Juniattus A. Fisher, M.D., to Miss Emily L. Smythe, both of St. Louis, October 12.

Martin Kutscher, M.D., to Miss Helene Kahn, both of New York City, October 5.

Walter H. Pilger, M.D., to Miss Bertha Wilkins, both of Norfolk, Neb.

Deaths

Alexander Hugh Ferguson, M.D., a prominent surgeon of Chicago, died at his home in that city, October 20, from diabetes, aged 58. He was born in Ontario, and was an honor graduate of the Medical College of the Trinity University in 1881. He began practice in Manitoba in 1882, where he remained until 1894, when he moved to Chicago. He was one of the founders of Manitoba Medical College, Winnipeg; for three years was professor of physiology and histology in the institution, and for eight years thereafter professor of surgery. In 1894 he was made professor of surgery in the Chicago Post-Graduate Medical School and Hospital, and since 1900 had been professor of clinical surgery in the College of Physicians and Surgeons.

His society membership included the American Medical Association, British Medical Association (in which he served as first president of the Manitoba Branch); Chicago Medical Society (of which he was president in 1910), Western Surgical and Gynecological Society (of which he was once president), the American Surgical Association and other learned societies. In 1906 Dr. Ferguson was honored by the king of Portugal with the decoration of Commander of the Order of Christ of Portugal. His hospital appointments included those of surgeon to the Winnipeg Hospital, surgeon-in-chief to St. Boniface Hospital and chief operator at Brandon and Morden hospitals, Manitoba, and after his removal to Chicago he became surgeon to the Post-Graduate Hospital and Cook County Hospital for the Insane, and was also surgeon-in-chief to the Chicago Hospital.

Dr. Ferguson had been afflicted for many years with diabetes; recently a carbuncle on the neck developed; other carbuncles formed and a condition of general sepsis followed which, with the previously existing diabetes, produced a condition too formidable for even his great strength to resist, and he succumbed at a comparatively early age and in the full tide of his professional usefulness.

Helene Knabe, M.D., formerly state bacteriologist of Indiana, was found dead in her apartments in Indianapolis, October 24, with her throat cut. She came from Germany to this country as a young girl, and paid the expenses of her medical education by her own efforts; she graduated with honors in 1904 from the Medical College of Indiana. Immediately after her graduation, she was made supervisor of the laboratories and assistant in pathology in her alma mater, and later was appointed demonstrator of pathology in the medical department of Purdue University. In October, 1905, she was appointed assistant pathologist and bacteriologist in the Indiana State Laboratory of Hygiene and later was made state bacteriologist. She resigned from this position a short time ago to devote her time to the study of hygiene and physical culture. She was a member of the American Medical Association and the Mississippi Valley Medical Association. Dr. Knabe's untimely death at the age of 35 deprives the medical profession of an enthusiastic worker in the field of hygiene and sanitation; one whose excellent qualities endeared her to her many friends.

George W. Hogeboom, M.D. Berkshire Medical College, Pittsfield, Mass., 1864; one of the oldest practitioners of Kansas; surgeon of the Eleventh Kansas Volunteer Infantry with the rank of major during the Civil War; for several terms a member of the house of representatives and senate from Jefferson County; chief surgeon of the Santa Fe System for fifteen years and organizer of the hospital system of that road; died at his home in Topeka, October 8, from pleurisy, aged 79.

William I. Bertram, M.D. University of Berlin, Germany, 1849; said to have been the oldest practitioner of Keokuk, Iowa; assistant city physician of New Orleans in 1853 during the yellow fever epidemic; from 1862 to 1864 surgeon of volunteers with the rank of major; consul to Montevideo, Uruguay in 1872 and also consulting surgeon to the Marine Hospital at that place; died at his home in Keokuk, October 3, from senile debility, aged 85.

Alsephus T. Robertson, M.D. Jefferson Medical College, 1861; formerly a school teacher in the Choctaw Nation, but since 1864 a resident of Ashmore, Ill.; for ten years town clerk and also police magistrate, supervisor and a member of the local board of U. S. pension examiners; died at the home of his son in Denver, September, from chronic gastritis, aged 77.

Philip F. Casey, M.D. University of Buffalo, N. Y., 1882; a member of the American Medical Association; for several years physician at the California State Penitentiary, San Quentin, thereafter a practitioner in San Francisco, and since the earthquake and fire, a resident of Oakland; died at his home October 1, from heart disease, aged 57.

Elisha Eugene Gilmore, M.D. Transylvania University, Lexington, Ky., 1857; Kansas City (Mo.) Medical College, 1878; formerly a member of the American Medical Association and president of the Hodgens Medical Association; died at the home of his sons in Kansas City, May 19, from pneumonia complicating mitral insufficiency, aged 75.

Annie Rose Baker-Hainer, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1903; a member of the South Dakota Medical Association and Secretary of the Public Health Education Committee of the American Medical Association for South Dakota; died at her home in Sioux Falls, June 23, from pneumonia, aged 40.

Charles Henry Hartline, M.D. Jefferson Medical College, 1892; of Oley, Pa.; local registrar of the State Board of Health; was found dead in the woods near his home October 5, as the result of shock and hemorrhage from incised wounds of the neck and wrists believed to have been self-inflicted with suicidal intent, aged 52.

William H. H. Hagey, M.D. Rush Medical College, 1868; a member of the Nebraska State Medical Association and president of the Elkhorn Valley Medical Society of Norfolk, Neb.; secretary of the local U. S. pension examining board; died suddenly in Norfolk, October 8, from cerebral hemorrhage, aged 69.

Lester W. Shean, M.D. St. Louis College of Physicians and Surgeons, 1887; for thirty-two years a practitioner of Canaan, Maine; president of the Canaan Board of Trade, selectman and a member of the school board; died at his home October 3, from heart disease, aged 65.

Frank Byron Flanders, M.D. Harvard Medical School, 1878; a member of the Massachusetts Medical Society and for several years secretary of the Lawrence Medical Club; visiting surgeon to the Lawrence General Hospital; died at his home, September 29, aged 61.

James Watson Scott, M.D. Medical College of Indiana, Indianapolis, 1879; for twelve years an assistant surgeon at the National Military Home at Danville and its branch at Marion; died at the Danville institution, October 2, from acute gastritis, aged 54.

George P. Bailey, M.D. Dartmouth Medical School, Hanover, N. H., 1882; for three years a member of the common council of Natick, Mass., and during the last year president of the council; died at his home in Natick, October 1, from nephritis, aged 53.

James Welch Guthrie, M.D. University of Michigan, Ann Arbor, 1862; of Bedford; assistant surgeon of the Twentieth Ohio Volunteer Infantry during the Civil War; died at the home of his son in Orange City, Ia., September 27, aged 84.

Frelinghuysen H. Gulledge, M.D. New Orleans (La.) School of Medicine, 1869; local surgeon of the Illinois Central Railroad at Goodman, Miss.; died at his home in that place, June 12, from chronic interstitial nephritis, aged 65.

Joseph Oliver Andrews (license, years of practice, Indiana), for nearly fifty years a practitioner of Westland, Hancock County, died at the home of his daughter in Greenfield, Ind., July 8, from cerebral hemorrhage, aged 79.

Garland J. Watkins, M.D. University of Arkansas, Little Rock, 1897; a member of the Arkansas Medical Society, and formerly president of the Boone County Medical Society; died at his home in Bellefonte, May 1, aged 35.

George Duffield Armstrong, M.D. Jefferson Medical College, 1839; one of the oldest practitioners of Chester County, Pa.; died at his home in New London, May 19, from bronchitis following whooping cough, aged 96.

Joseph M. Hollingsworth, M.D. College of Physicians and Surgeons, Baltimore, 1886; a member of the Medical Society of the State of North Carolina; died suddenly at his home in Mount Airy, April 12, aged 55.

George Washington Smith, M.D. College of Physicians and Surgeons, Chicago, 1902; died at his home in that city, October 2, from phlebitis and cardiac dilatation following pleurisy, aged 46.

Llewellyn D. Eaton, M.D. Cleveland University of Medicine and Surgery, 1871; formerly of Palatka, Fla., but for several years a practitioner of Sanford; died at his home in that city, September 18.

Newton M. Massey (license, Michigan, 1900); for more than forty years a practitioner of Newaygo; died at the home of his son in Barryton, October 4, from cerebral hemorrhage, aged 66.

William Payne Russell, M.D. Atlanta (Ga.) Medical College, 1891; of Hayneville, Ala.; died in Montgomery, Ala., April 4, from the effect of gunshot wounds of the chest and abdomen, aged 47.

Julius L. Speas, M.D. Jefferson Medical College, 1877; a Confederate veteran of Boonville, N. C.; died in church in that place, September 24, from heart disease.

George Schoonover (license, Kansas, 1901); said to have been the oldest practitioner of Anderson County; died at his home in Garnett, October 4, aged 78.

Joseph M. Perry, M.D. Medical College of the State of South Carolina, Charleston, 1860; formerly of Lakeland, Fla.; died at his home in Pensacola, September 19.

Joseph Penn Cheney, M.D. University of Maryland, Baltimore, 1852; died at his home in Breathedsville, Md., October 3, from senile debility, aged 80.

John Daniel Lavery (license, eighteen years of practice, Michigan, 1900); died at his home in Mount Pleasant, Mich., June 7, from paralysis, aged 69.

James W. Fletcher, M.D. Cincinnati College of Medicine and Surgery, 1861; died at his home near Rufus, Ky., Oct. 9, 1910, from senile debility, aged 72.

Felix H. Johnson, M.D. Jefferson Medical College, 1869; died at his home in Gainesville, Texas, October 4, from disease of the stomach, aged 65.

Charles M. Hoag, M.D. Eclectic Medical Institute, Cincinnati, 1907; died in his home in Judsonia, Ark., August 19, from typhoid fever, aged 29.

Charles Edward Stammler, M.D. College of Physicians and Surgeons, New York City, 1885; died at his home in Brooklyn, September 28, aged 56.

John A. Francis, M.D. Medical College of Ohio, Cincinnati, 1868; died recently at his home in Covington, Ky., and was buried October 3, aged 66.

James Fair, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1883; died at his home in New Paynesville, Minn., in August.

Herbert L. Atkins, M.D. Medical College of Virginia, Richmond, 1893; died at his home in Boydton, Va., July 20.

William M. Murdock (license, North Carolina, 1876); died at his home in Balsam, April 13, from heart disease.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

CONVICTIONS UNDER THE FOOD AND DRUGS ACT *

(Continued from page 1385)

NICHOLS' COMPOUND KOLA CORDIAL

This drug was made by Billings, Clapp & Co., Boston, who claimed that it contained:

Kola Nut	40 grains.
Coca Leaves	40 grains.
Strychnin	1/50 grain.
Alcohol	20 per cent.
Cocain, in each ounce....	0.2

The product was declared misbranded because, while it was labeled "Nichols' Compound Kola Cordial," it was not manufactured by Nichols and it was not kola; further it did not contain 20 per cent. alcohol and neither did it contain the proportion and amounts of cocain, kola nut, coca leaves or strychnin, which the label represented it to contain. The company first pleaded not guilty but later changed its mind, and was fined $25.—[*Notice of Judgment, No. 909.*]

HARRIS' LITHIA WATER

"Nature's Remedy—Harris' Lithia Water, for the liver, kidneys, stomach and the bladder, and all affections attendant on a uric acid condition" was offered for sale in the District of Columbia. The label stated that:

> "This water is unequalled for the cure of rheumatism, gout, constipation, all forms of dyspepsia, stone in the bladder, catarrh of the stomach, Bright's disease," etc

The label also bore what purported to be a certified analysis in which the statement appeared that the water contained 2.86 grains of lithium bicarbonate to the gallon. The analysts in the Bureau of Chemistry found, however, that Harris' Lithia Water contained only about 1/830 grain of lithium to each gallon. The product was declared misbranded because it was not a lithia water and did not contain the amount of lithium bicarbonate given on the label. The consignee, Thomas H. Atkinson, of Washington, D. C., admitted the charges brought by the government. The court decided that the bottles of water might be returned to Atkinson after he had paid the cost of the proceedings and had given bond that the water should not be sold or disposed of contrary to law. [*Notice of Judgment, No. 924.*]

DR. ELDERS' CELEBRATED TOBACCO SPECIFIC

H. W. Elders of St. Joseph, Mo., shipped into the state of Michigan a quantity of a drug preparation having the name given above and under claims that were in part as follows:

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* Descriptions of ninety convictions previously reported in popular form in The Journal are issued as an illustrated pamphlet, entitled "Convictions," price 6 cents.

> "Cures Smoking, Chewing, Cigarette and Snuff Dipping Habits in three to five days."
>
> "It is as Certain in its Cure as are Taxes and Death sure to all."
>
> "Oldest, Cheapest, Best. Thousands so testify."
>
> "A positive cure for the 'Tobacco Heart'."
>
> "Contains no injurious drugs or ingredients."

Analysis by the government chemists showed that the tablets consisted essentially of cocain and cocain derivatives, strychnin and cinchona alkaloids. The cocain, strychnin and cinchona alkaloids amounted to about 3/10 of 1 per cent. The remainder of the tablets consisted of sugar and starch with a small amount of ginger, the whole being flavored with artificial oil of wintergreen. As the tablets were not a specific for the tobacco habit and as it did contain "injurious drugs or ingredients," the product was declared misbranded. Elders pleaded guilty and was fined $100 and costs. [*Notice of Judgment, No. 930.*]

CHANDLER'S HEADACHE BUTTONS

Another typical headache mixture, each "button" containing 3½ grains of acetanilid as well as caffein. The label stated that it would cure rheumatism, nervous headache, neuralgia and other things "in fifteen minutes." This, of course, was an untruth and the stuff was declared misbranded. The Chandler Medicine Company of St. Louis, who distributed this stuff, pleaded guilty and was fined $10 and costs. [*Notice of Judgment, No. 931.*]

SABINE'S BLACKBERRY SOOTHING DROPS

A preparation of this name was shipped by the A. J. Lemke Medicine Company of Milwaukee into another state. It was labeled as a "cure" for diarrhea, dysentery, colic and cramps, and pain in the stomach and was recommended for "summer complaint" and teething children. Analyzed by the government chemists, it was found to contain nearly 10 per cent. of alcohol with glycerin, sugar and oil of cassia. The nostrum was declared misbranded because of the falsity of the therapeutic claims and because the proportion of alcohol was not given. The defendant pleaded guilty and was fined $10. [*Notice of Judgment, No. 933.*]

VANI-KOLA COMPOUND SYRUP

This was a soft drink preparation made by the Vani-Kola Company of Canton, Ohio. Analysis disclosed the presence of cocain and caffein and the product was therefore deemed adulterated in that it contained deleterious ingredients. It was also declared misbranded because the quantity or proportion of cocain was not given on the label. The company was fined $25 and costs after entering a plea of nolo contendere. [*Notice of Judgment, No. 935.*]

WHITE'S HEADEASE

O. P. White of Rusk, Texas, made and sold a liquid "headache cure" which contained acetanilid, alcohol and caffein. According to the label, it "contains no . . . enslaving drugs." The jury before whom the case was tried agreed with the Department of Agriculture that acetanilid and caffein are enslaving drugs and the product was therefore misbranded. White was fined $25. [*Notice of Judgment, No. 941.*]

AMMON PHENYL

Salvadore Penny, doubtless feeling that his own name was not sufficiently imposing, did business under the style International Chemical Company, Palisades Park, New Jersey. Mr. Penny was engaged in a business that used to be very popular among a certain class of self-styled pharmaceutical manufacturers, namely, that of selling a simple acetanilid mixture under a pseudo-scientific and sonorous title. "Ammon Phenyl" was said to be:

> "Antipyretic Antiseptic, Antineuralgic, Antiseptic Puritas et Potentia, Non Plus Ultra Stimulant, Laxative . . . For Physicians' Prescriptions only . . . Ammoniated Pheno Acetyl, $C_6H_5NH_2$."
>
> "Ammon Phenyl is one of the acetyl derivatives of anilin of the Amido-Benzene Series whose base is $C_6H_5NH_2$, combined by our own special chemical process with ammonia. The presence of ammonia tends to overcome the depressing effects usually observed in other Coal Tar derivatives . . . "

And a great deal more pseudo-scientific nonsense of the same type. A sample of this wonderful chemical was analyzed by the government chemists and found to be a mere mixture of:

Acetanilid
Sodium bicarbonate
Ammonium bicarbonate

This headache remedy was declared misbranded because of the attempt on the part of the manufacturer to obscure the origin or nature of the product and make it appear that this simple mixture was a chemical compound. The inference given that the mixture did not produce the depressing effects of acetanilid was also false and misleading. In addition to this the therapeutic claims were declared false. Penny entered plea of non vult and was fined $25. [*Notice of Judgment, No. 942.*]

SMITH'S QUININETS

Smith's Quininets were sold by C. E. Rupert Smith of Philadelphia. It was labeled as "a sure cure and preventive" for a long list of ailments, although analysis showed it to consist essentially of a mixture of quinin and acetanilid. The product was declared misbranded because of the false therapeutic claims. Smith pleaded guilty and was fined $5. [*Notice of Judgment, No. 965.*]

BUCKHEAD LITHIA WATER

This water shipped by the Buckhead Springs Company of Buckhead, Virginia, was another lithia water that did not contain any measurable quantity of lithia. It was declared misbranded and as no one appeared to claim it, the courts ordered its destruction. [*Notice of Judgment, No. 968.*]

WALKER'S TONIC

Walker's Tonic Company and Sam Dreyfuss, both of Paducah, Ky., shipped a consignment of this preparation to Tennessee. It was sold as a "brain food," "heart tonic," "stomachic" and "liver regulator," and was a nostrum of the cure-all type. When analyzed, it was found to consist essentially of 18.21 per cent. alcohol, 4.02 per cent. non-volatile material, including capsicum, celery, an emodin-bearing drug and other drug extractives, the balance of the product being water. It was declared misbranded because of the falsity of the therapeutic claims. The defendant pleaded guilty and was fined $25 and costs.—[*Notice of Judgment, No. 982.*]

HAARLEM OIL CAPSULES

This product sold by the Holland Medicine Company, Scranton, Pa., was labeled "Genuine Haarlem Oil Capsules." Analysis by federal chemists showed that the preparation contained methyl salicylate which is not a normal ingredient of Haarlem oil. Various false and extravagant claims were made for the nostrum. It was declared misbranded because of the therapeutic claims and because of the presence of methyl salicylate. A plea of nolo contendere was entered by the defendant and the court imposed a fine of $10 and costs.—[*Notice of Judgment, No. 987.*]

HUMBUG OIL

Humbug Oil was the expressive and truthful title given to a nostrum shipped by Mrs. J. F. Marshall Smith of Minnesota to Utah. If no other claim than that denoted by its name had been made, Mrs. Smith could doubtless have continued to sell her nostrum unmolested. It was said, however, to "relieve diphtheria of the most malignant type." The government chemists reported that Humbug Oil consisted essentially of 20 per cent. oil of turpentine, 20 per cent. linseed oil and the balance a watery-alcoholic solution of ammonia water, ammonium salts and a volatile alkaloid, probably coniin. While the stuff was undoubtedly a humbug, it would not "relieve diphtheria of the most malignant type" and was therefore declared misbranded. The defendant was fined $5 after entering a plea of guilty.—[*Notice of Judgment, No. 988.*]

DR. MOFFETT'S TEETHINA

T. N. Flourney, who does business in St. Louis under the name of C. L. Moffett Medicine Company, shipped a consignment of Dr. Moffett's Teethina into another state. Analysis of this preparation showed the product to be a powder consisting essentially of:

Opium.	Calomel.
Calcium carbonate.	Powdered cinnamon.

This mixture was said to aid digestion, heal eruptions and sores, prevent a tendency to colic, remove and prevent worms in children, strengthen the child and make teething easy—and to do several other things. All of these claims were declared false by the government officials and on that ground the preparation was declared misbranded. Flourney pleaded guilty and was fined $10 and costs.—[*Notice of Judgment, No. 1019.*]

FITCH RHEUMATIC CURE

The Fitch Remedy Company of Racine, Wis., made this stuff, which was "guaranteed to cure the most stubborn case of sciatic or muscular rheumatism." The government chemists reported that it was found to consist essentially of rhubarb and alcohol. False therapeutic claims were the basis of the charge of misbranding brought by the government. The defendant pleaded guilty and paid the $10 fine that was imposed.—[*Notice of Judgment, No. 1024.*]

CERRODANIE CAPSULES

Samuel H. Jameson, who did business at Decatur, Ill., under the firm name of The Cerrodanie Company, made the following claims on the label of his nostrum:

"A positive cure for rheumatism."
"We are the first to discover the true cause of rheumatism."
"A radical and certain cure of this dreaded disease."

The capsules were reported by the government chemists to contain sodium salicylate, potassium nitrate and charcoal, together with a small amount of chloroform extract, containing capsicum and an unidentified oily substance and a large amount of talc and the carbonates and oxids of sodium and potassium. Because the therapeutic claims made for this preparation were false, it was declared misbranded. Jameson pleaded guilty and was fined $10 and costs.—[*Notice of Judgment, No. 1025.*]

(To be continued)

Correspondence

Eliminate the Term "Allopath"

To the Editor:—The following correspondence speaks for itself:

Mr. Joseph W. Hill, President,
Atlanta City Directory Company,
Atlanta, Ga.

Dear Sir:—In recent issues of the "Atlanta City Directory," the medical practitioners of the city have been classified as "Allopathic," "Homeopathic," "Eclectic," etc., and at a regular meeting of the Fulton County Medical Society, the undersigned were appointed a committee to confer with you, as president of the directory company, in regard to this classification.

Medical men may be divided into two grand classes—physicians and practitioners of exclusive systems. The adherents of the several systems which have come into existence from time to time, and some of which are now represented in this country, have adopted certain distinctive terms to designate their peculiar practice and to distinguish them from the great body of educated and scientific physicians who belong to no sect, affiliate with no "school," accept no dogma, acknowledge no creed and recognize no arbitrary limit in their practice of the healing art.

To the employment of nicknames on the part of these seceders we urge no objection, and in the use of such names by them—whatever may be their object—we have no concern. Their segregation is voluntary, and the names selected by themselves, it is presumed, are appropriate and agreeable to them.

This is not true, however, of the attempt to fix the name "allopathic" on the reputable physicians of the country. Any such epithet is objectionable and offensive to them, and is repugnant to truth. They are physicians—regular physicians, if you prefer—and it is impossible to apply a qualifying term that appropriately describes their status. They hold that it is inconsistent with the dignity of a learned and honored profession to be designated by a nickname or by any appellation of restrictive significance, and that it is entirely at variance with propriety and the facts to describe their faith or practice by a word, when they are not, in any manner, bound or limited in their views of disease, the selection of remedies or the application of remedial agents.

No descriptive term, therefore, is necessary, and none is available. They cannot properly be circumscribed, hedged in or defined. Physicians are the disciples of the whole science and art of medicine in its widest and most comprehensive sense—nothing more and nothing less—without any real or professed limitations, whatsoever.

We feel confident that, on reflection and investigation, you will coincide with these views and that you will accede to our request to eliminate, as misleading, unnecessary and unjust, this distasteful feature of your excellent work.

Awaiting your answer, we are

Yours very truly,
James B. Baird, M.D.,
John C. Olmsted, M.D.,
L. P. Stephens, M.D.,
Committee.

Dr. J. B. Baird, Chairman Committee,
Fulton County Medical Society, City.

Dear Sir:—Replying to your recent favor requesting that we discontinue the use of the term "allopath," as applied to the medical fraternity belonging to your school of medicine, beg to say that it will afford us great pleasure to comply with your request.

In publishing the city directory, it is our chief aim to give satisfaction to everybody and to be accurate in our statements.

With kindest regards, we are

Yours very truly,
Atlanta City Directory Company.
Per Joseph W. Hill.

I am informed that the objectionable term "allopathic" is in general use throughout the country among directory publishers, and I believe the medical profession should make determined resistance to the obnoxious practice. It is doubtless largely the result of ignorance on the part of publishers—an ignorance which also involves the general public and even some reputable medical men.

It will be a gracious and profitable move on the part of The Journal with its wide influence to take cognizance of this question.

James B. Baird, Atlanta, Ga.

Antifat and Society Women

To the Editor:—An editorial in The Journal, entitled "Antifat and Society Women" (Oct. 14, 1911, p. 1290), induces me to report the following, showing a dangerous effect of thyroid: About five years ago a woman, aged 42, came to me complaining that in bright light she had difficulty in seeing, all objects appearing more or less hazy; but in a subdued light, or even in comparative darkness she had no trouble. An ophthalmoscopic examination showed an apparently normal fundus, with the possible exception of slight blurring of the edges of the disk. The vision was 2/3 of normal in each eye. Perimetric examination disclosed an oval central scotoma for red and green in both eyes. Investigation of her mode of life revealed no apparent cause for this condition; she denied being addicted to either tobacco or alcohol. Repeated examination disclosed no sugar in the urine, this being the most frequent cause of a chronic toxic amblyopia, such as she was suffering from. Quite accidentally, during a subsequent examination, she volunteered the information that for a number of months she had been taking an antifat remedy recommended by a friend. Investigation revealed the fact that this patient had been taking thyroid extract for almost three months to reduce her weight. The thyroid was at once stopped; the patient was given strychnin hypodermatically, and in a few weeks the scotoma disappeared. On searching the literature at that time, I found one similar case reported by Albertsberg (*Arch. f. Augenh.* [Knapp's], January, 1904, p. 86), who cites four cases reported by Coppez. Whether any cases have been reported since that time, I am unable to say.

Emanuel F. Snydacker, Chicago.

Low Sanitary Standards in Rural Communities

To the Editor:—A Current Comment in The Journal (Oct. 7, 1911, p. 1214) leads me to describe the *status quo* of the town in which I am practicing. No doubt there are numerous parallel cases which literally "smell to heaven," while eliciting no reaction in the obtuse sensibilities of human beings. Our community has about 2,000 inhabitants, but is not incorporated, being part of the township government. It has been built up alongside a foundry which employs nearly all the men of the place; the owners of the foundry hold title to a large section of the dwellings. There is no sewer system and no public water-supply, a matter of surprise in view of the fact that the inhabitants are mostly American-born. In three squares of the section owned by the foundry authorities, the water-closets are without vaults and all overflow into open drains in the rear alleys, from which the contents are carted away at irregular intervals. In three other squares of this section the water-closets abut on and overflow into the streets. The supply of drinking-water of the residents of this section comes from wells in close proximity to these outhouses. A one-room school housing seventy pupils, with a triangular playground about 40 feet in its greatest dimension, is situated directly between and separates these two sections. The health standards in this place are markedly low, but the place is lacking in representative citizens informed and disinterested enough to demand redress. There is a local board of health, but it fails to act in the matter. An appeal to the state board of health elicits the information that it has no power to act in cases in which the nuisance is not a proved source of contagion. I believe that, for the proper application of the remedies suggested in the Current Comment, a radical broadening of the power of state health boards is demanded, since the members of local boards are usually incompetent to deal efficiently with questions of sanitation. Philip J. Dorety, M.D., Florence, N. J.

Thrombosis of the Mesentery Diagnosed Before Death

To the Editor:—I take exception to the statement of Dr. R. W. Wakefield in his article, "Thrombosis of the Mesentery," etc. (The Journal, Oct. 14, 1911, p. 1286), that "thrombosis of the mesentery . . . is never diagnosed except at operation or post mortem." I recall a case in which I made a necropsy several years ago at the University Hospital, in which an ante-mortem diagnosis was correctly made by Dr. Alfred Stengel. The most striking of the symptoms was sudden severe abdominal pain. Autopsy revealed a thrombus in the superior mesenteric artery close to its origin, with corresponding segmental gangrene of the ileum.

Penn G. Skillern, Jr., Philadelphia.

Postoperative Constipation

I cannot agree with Dr. S. T. Pope (The Journal, October 21, p. 1359) that postoperative constipation is not harmful, or that it never causes auto-intoxication. In September a case in the Akron City Hospital after operation (performed for me by a surgeon) resulted in stasis of the intestine. The following failed to produce a movement: castor oil, enemata, aloin-belladonna-strychnin-cascara pills, cascara alone, phenolphthalein, etc., all repeated several times. Meanwhile the temperature climbed up day by day to over 103 F. Finally, twelve ounces of fluid citrate of magnesia did the work, and the temperature dropped to normal.

A. S. McCormick, Akron, O.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

DEFINITION OF THE WORD MORON

To the Editor:—In some recent medicolegal data I have seen used several times the word "moron." In consulting medical dictionaries and medicolegal works, I have not found a satisfactory definition. It seems to be derived from the Greek word *μωρία*, meaning madness, dementia or folly. Please give the accepted definition of the word. E. Moore Fisher, M.D., Wilmington, Del.

Answer.—Moron is a term applied in the classification of feeble-minded or subnormal children and indicates a high-grade feeble-minded child as distinguished from the imbecile or the idiot. The word, as our correspondent surmises, is from the same root as the Greek *μωρία*, folly, deing derived from the adjective *μωρός*, foolish. The English word "fool," as formerly used, describes exactly the individual designated by the term moron. Defectives have been divided into three classes: (1) those who never advance beyond the mental age of 3—these are the idiots; (2) those so retarded that they never advance beyond the mental age of 7—these are the imbeciles; (3) those so retarded that they never advance beyond the mental age of 12—these were formerly classed as high-grade feeble-minded children, but are now designated as "morons." Such children, if sufficiently high-grade to be sent to school, will always be behind and will reach their final mental development at the 12-year-old level. The moron can be trained to do a great many things but can never be made normal nor competent to take care of himself without direction. It is said that statistics show that from 1 to 2 per cent. of all school children belong to this type of feeble-minded. In a study of nearly 10,000 feeble-minded children, H. H. Goddard ("Subnormal Children," *Training School*, September, 1910) finds that the morons not only are subnormal mentally but show decided deviation from the normal in their growth. They cease growing from two to three years earlier than normal children, although this is not so apparent during the school age. As tested by the dynamometer, they have a capacity of from 20 to 30 per cent. of normal children. From among them come the dullards, and often the truants and incorrigibles.

PROCHOWNICK DIET IN PREGNANCY

To the Editor:—Please give details of the Prochownick diet and indications for its use. F. W. L.

Answer.—For patients threatened with dystocia on account of a contracted pelvis, excessive development of the fetus with normal pelvis or fat and weak abdominal walls, Prochownick proposed a diet for the last eight weeks of pregnancy which should decrease the size and weight of the child, while strengthening the mother. The essential features of the diet are the withholding of carbohydrates and fluids and the giving of sufficient amounts of proteids. It is practically an antifat diet.

The following is the daily bill of fare:

Morning, one small cup of coffee without sugar; a small, thin piece of bread (¾ of an ounce).

Noon, all kinds of meat, fish without sauces, eggs, a little green vegetables, salad and cheese.

Evening, same as at noon, one medium piece of bread (1½ ounces) butter, eggs and meat.

If the patient is accustomed to the use of alcohol, a small bottle of red or white wine is allowed, or an equal quantity of water may be taken during the day.

Large quantities of liquids, soups, potatoes, desserts, sugar, etc., are forbidden.

Such a diet provides about 125 gm. of proteids giving 500 calories; 100 gm. of carbohydrates having 400 calories and 100 gm. of fat having 900 calories or in all about 1,800 calories a day.

Fat patients with weak muscles improve physically and mentally on this diet and come to labor in a much improved condition. As to the effect on the child, Prochownick and his followers assert that it will weigh a pound less than it would in the absence of the diet. The fat of the new-born, which amounts to 1 or 2 pounds, is laid on during the last eight weeks of pregnancy; the diet prevents this fat deposit. The child looks wrinkled, the head sutures are larger, and the head molds much better in its passage through the obstetric canal.

While the favorable effect of the diet is acknowledged by all, the results reported by Prochownick and a number of other good observers are such as to justify its adoption in proper cases. It is indicated, as already intimated, in women who are not very thin and anemic and who have a moderately contracted pelvis, conjugata vera between 8.5 and 10 cm., and especially in such multiparæ who have had a difficult labor. It is also indicated in a woman with a normal pelvis who has previously had a very large child and hard labor. Likewise it is indicated in a woman who has fat, weak muscles in whom dystocia may be expected due to insufficiency of the forces of labor.

The Public Service

Medical Officers, U. S. Army

Changes during the week ended Oct. 21, 1911.

Feely, James F., acting dental surgeon, left his home, Philadelphia, October 13, for his station, Ft. Slocum, N. Y.

McIntyre, H. B., captain, left Ft. Caswell on leave of absence for three months.

Fuffner, E. L., major, returned to Ft. Missoula from leave of absence.

Sheckley, M. A. W., major, on arrival of the *Sherman* will accompany the 146 C. A. to Ft. H. G. Wright, N. Y., then proceed to his station, Ft. Niagara.

Griflin, A. M., M.R.C., on arrival of the *Sherman* will accompany the 2nd Battery 20th Inf. to Ft. Douglas, Utah, then proceed to his station, Ft. Riley, Kan.

Mason, G. L., dental surgeon, reports his arrival at Ft. Omaha, Neb.

Heterick, R. H., lieut., reports his return to Ft. Brady, Mich., from leave of absence.

Bushnell, G. E., colonel, reports his departure from the Army General Hospital, Ft. Bayard, N. M., on thirty days' leave.

Sherwood, C. E., acting dental surgeon, reports his departure from Greenfield, Mass., for Columbus Barracks, O. (to obey his first order).

Feely, James F., acting dental surgeon, reports arrival at Ft. Slocum, N. Y., for duty.

Garcia, L. C., lieut., granted leave of absence for three months on surgeon's certificate of disability.

Boehs, C. J., M.R.C., returned from duty at Plattsburg Barracks, N. Y., and order to Ft. Banks, Mass., for duty.

Sanford, J. L., M.R.C., relieved from duty at Ft. Ruger, H. T., and will sail on the transport leaving Manila Oct. 15, 1911, for San Francisco, and on arrival will proceed to his home and stand relieved from active duty in the M.R.C.

Griflin, A. M., M.R.C., granted leave of absence for one month and twenty days, with permission to apply for an extension of one month, to take effect on relief from duty with troops at Ft. Douglas, Utah.

Crosby, W. D., lt.-col., left Soldiers' Home, Washington, D. C., for Army and Navy General Hospital, Hot Springs, Arkansas, for treatment.

Greenleaf, H. S., major, granted leave of absence for three months.

Sherwood, C. E., acting dental surgeon, reports his arrival at Columbus Barracks, Ohio, for duty.

Wing, F. F., dental surgeon, left Ft. D. A. Russell, Wyo., for Ft. Lincoln, N. D., for temporary duty.

Holmberg, C. E., lieut., returned to Ft. Bayard, N. M., from leave of absence.

Breoke, Roger, major, arrived in the U. S. and reported for duty at the U. S. Army General Hospital, Presidio of San Francisco.

Weed, M. D., lieut., returned from duty on the *Sherman* and assigned to duty on the *Thomas* as surgeon.

Huber, E. G., lieut., granted leave for one month about Oct. 15, and authorized to await at Nagasaki the arrival of the transport to leave Malia Nov. 15, 1911.

Parce, A. D., lieut., granted leave of absence for one month and fifteen days about Oct. 4, 1911, and authorized to await at Nagasaki the arrival of the transport to leave Manila Nov. 15, 1911.

"PUPPY LOVE" vs LOVE FOR HUMANITY
FALSE SENTIMENT CANNOT PREVAIL AGAINST THE PLEA OF HUMAN LIFE.

Medical Corps, U. S. Navy

Changes during the week ended Oct. 21, 1911.

Miller, O. J., acting asst.-surg., appointment revoked from Oct. 21, 1911

Tolfree, H. M., surgeon, detached from the navy recruiting station, Atlanta, Ga., and ordered to duty at the naval hospital, Norfolk, Va.

Jenness, B. F., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to the navy recruiting station, Atlanta, Ga.

Stuart, M. A., P. A. surgeon, detached from the *Franklin* and ordered to duty at the naval hospital, Norfolk, Va.

Mann, Jr., W. L., asst.-surg., detached from the *Tennessee* and ordered to the *Hannibal*.

Stone, E. P., medical inspector, detached from duty at the naval hospital, Canacao, P. I., and ordered to naval hospital, Mare Island, Cal., for treatment.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

NEWSPAPER ENDORSEMENTS OF NATIONAL HEALTH LEGISLATION

The newspapers are giving an increasing amount of space to the endorsement of public health legislation. The duty of the state to protect the public health is now being urged by many of our leading dailies and sentiment is rapidly growing in all parts of the country in favor of advanced state activity on this subject. It is only possible to reprint an occasional newspaper editorial, from time to time, for the information of the readers of The Journal. A recent issue of the Spokane *Review* contained an excellent editorial entitled:

CARE OF HEALTH FALLS WELL WITHIN THE SPHERE OF THE STATE

"The American Medical Association pursues a statesmanlike policy in pushing doctors into the lecturing field as apostles of the gospel of health and of national conservation of human health.

"The *Spokesman-Review* has always accepted the view expressed by Gladstone that the care of health, both that of the individual and that of the community, falls well within the sphere of the state and the legitimate functions of the government.

"A great authority on the value of man said that he is of infinite worth. Economists have estimated the annual cost of avoidable diseases to a country as amounting to millions on millions of money. But governments expend immense amounts on preventing disease among the animals used by men and practically nothing to avoid the needless diseases of human beings.

"This is putting the cart before the horse. It betrays an inverted sense of relative values. If the national government has in ten years spent $40,000,000 to protect the health of crops and animals it may logically and consistently be expected to spend more for the health of the toiling men and loving women and dear children, that are worth infinitely more than grains, fruits, donkeys and cows."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

Second Month—Fourth Weekly Meeting

Acute Traumatic Abscess of Brain[1]

Pathology: Compound fracture, injury to meninges and cortex, character and quantity of pus, changes in meninges and cortex, granulation and cicatrization.

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[1] Starr: Medical Record, March 10, 1906. Spiller: Univ. of Penn. Med. Bull., October, 1906. Ballance: Surgery of the Brain. Macewen: Brit. Med. Jour., July 30, 1904.

SYMPTOMS: Local evidences of sepsis, pulse and temperature, focal symptoms. Differentiate from meningitis.

TREATMENT: Indications for operative treatment.

CHRONIC TRAUMATIC ABSCESS OF BRAIN

PATHOLOGY: Secondary to pus in skull, foreign bodies, ear, nose, thorax. By metastasis. Sinus-thrombosis. Location of abscess, abscess membrane, mode of extension, rate of growth.

SYMPTOMS: (1) Primary symptoms, cause and significance. (2) Latent period, length, usual symptoms. (3) Secondary symptoms. (4) Terminal period.

TREATMENT: Indications for exploring or trephining.

TUMORS OF BRAIN[2]: VARIETIES, PATHOLOGY AND INCIDENCE

General Symptoms: Headache, optic neuritis, vomiting, giddiness, mental disturbance. Papilledema.[3]

Localizing Symptoms: (a) Central motor area, signal symptom, extension, paralysis or anesthesia. (b) Prefrontal region, mental symptoms, later symptoms. (c) Parieto-occipital lobe, aphasia. (d) Occipital lobe. (e) Temporal lobe. (f) Basal ganglia. (g) Pons and medulla. (h) Cerebellum.

TREATMENT: Indications for cerebral decompression.[4]

Monthly Meeting

Indications for Operative Treatment of Fractures of the Base of the Skull.

The Operability of Tumors of the Brain.

Indications for Cerebral Decompression and Technic.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

CONNECTICUT: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

FLORIDA: Regular, Jacksonville, November 7-8. Sec., Dr. J. D. Fernandez.

LOUISIANA: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

MAINE: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, November 14-16. Sec., Dr. Edwin B. Harvey.

NEVADA: Carson City, November 6. Sec., Dr. S. L. Lee.

TEXAS: Forth Worth, November 28. Sec., Dr. J. D. Mitchell.

WEST VIRGINIA: Hotel Waldo, Clarksburg, November 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Kansas June Report

Dr. H. A. Dykes, secretary of the Kansas Board of Medical Registration and Examination, reports the written examination held at Topeka, June 13-15, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 66, of whom 46 passed and 20 failed, including one chiropractic. The following colleges were represented:

College PASSED	Year Grad.	Per Cent.
University of Colorado	(1911)	93
Howard University, Washington, D. C.	(1910)	92
Chicago College of Medicine and Surgery	(1911)	83
Illinois Medical College	(1910)	87
College of Physicians and Surgeons, Chicago	(1900)	91
University of Kansas (1911) 77, 78, 80, 81, 83, 83, 86, 86, 87, 87, 87, 88, 88, 89, 90, 93.		
Kansas Medical College (1894) 78; (1911) 78, 80, 84, 84, 85, 85, 86, 87.		
College of Physicians and Surgeons, Kansas City	(1904)	77
University of Louisville	(1911)	76
University of Michigan, Dept. of Med. and Surg.	(1885)	86
Eclectic Medical University, Kansas City	(1904)	78
Washington University, St. Louis	(1910)	87
Kansas City Medical College	(1900)	79
University Medical College (1908) 76; (1910) 85; (1911) 78, 79, 79, 84.		
Kansas City Hahnemann Medical College	(1911)	77
Creighton Medical College	(1911)	86
Leonard School of Medicine	(1910)	76
Western Pennsylvania Medical College	(1896)	82

College FAILED	Year Grad.	Total No. Examined.
Bennett Medical College	(1909)	1
Kansas Medical College	(1911)	2
University of Louisville	(1911)	1
Ensworth Medical College	(1908)	1
Central Medical College, St. Joseph	(1896)	1
St. Louis College of Physicians and Surgeons	(1910)	3
Kansas City Hahnemann Medical College	(1909)	1
University Medical College, Kansas City	(1911)	3
St. Louis University	(1903)	1
Eclectic Medical University	(1908) (4, 1911)	5

Nebraska August Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, August 9-10, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 15, of whom 14 passed and 1 failed. Nine candidates were licensed through reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent.
College of P. & S., Chicago (1892) 76.5;	(1911)	78.5
University of Maryland	(1911)	84.5
Missouri Medical College	(1893)	87.5
Ensworth Medical College	(1911)	77.4
Lincoln Medical College (1909) 89;	(1911)	78.7
Creighton Medical College (1911) 76.9, 82, 83,		87.5
Jefferson Medical College	(1901)	84.9
Meharry Medical College	(1911)	77.6
Marquette University	(1910)	89.2
FAILED		
Lincoln Medical College	(1911)	70.7

College LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
University of Iowa, Homeopathic College	(1910)	Iowa
University of Michigan, College of Medicine	(1901)	Iowa
Barnes Medical College (1911) Illinois;	(1911)	Missouri
Kansas City Hahnemann Medical College	(1910)	Missouri
Lincoln Medical College	(1907)	Kansas
Jefferson Medical College	(1907)	Ohio
Chattanooga Medical College	(1896)	Kansas
Meharry Medical College	(1909)	Tennessee

Texas Reciprocity Report

Dr. J. D. Mitchell, secretary of the Texas State Board of Medical Examiners, reports that 57 candidates have been licensed under the reciprocity provision since Feb. 10, 1911. The following colleges were represented:

College	Year Grad.	Reciprocity with
University of Arkansas	(1910)	Arkansas
George Washington University	(1906)	Dist. Colum.
Northwestern University Medical School, (1902) (1908) (1910) (1911) Illinois	(1908)	Minnesota
Chicago Homeo. Med. Coll. (1892) Wisconsin;	(1888)	Iowa
College of Physicians and Surgeons, Chicago	(1900) (1905) (1907) (1908) (1909)	Illinois
Hahnemann Med. Coll. and Hospital, Chicago	(1903)	Illinois
Rush Medical College (1901) Iowa;	(1903)	Illinois
University of Iowa, College of Medicine	(1907)	Iowa
Keokuk Medical College	(1899)	Wisconsin
Kansas Medical College	(1905)	Kansas
Kentucky School of Medicine	(1889) (1890) (1897) (1901)	Kentucky
Hospital College of Medicine, Louisville	(1903)	Indiana
University of Louisville	(1890) (1909) (1910)	Kentucky
Tulane University of Louisiana	(1911)	Arkansas
Baltimore Medical College	(1907)	W. Virginia
University of Michigan, Dept. of Med. and Surgery (1883) Missouri; (1893) Michigan.		
Washington University, St. Louis	(1901)	Missouri
Ensworth Medical College	(1897)	Nebraska
Missouri Medical College	(1883)	Missouri
St. Louis University	(1896)	Kansas
Barnes Medical College	(1901)	Missouri
St. Louis College of Physicians and Surgeons	(1901)	Missouri
Creighton Medical College	(1905) (2, 1911)	Nebraska
Lincoln Medical College	(1904	Nebraska
University and Bellevue Hospital Med. Coll.	(1901)	Kentucky
Starling Medical College	(1898)	Ohio
Cleveland University of Medicine and Surgery (1894) Illinois; (1894) West Virginia.		
Miami Medical College	(1905)	Ohio
University of Pennsylvania	(1910)	Maryland
Jefferson Medical College (1906) Illinois; (1906) West Virginia; (1909) District of Columbia.		
Vanderbilt University (1881) Maryland;	(1906)	Missouri
University of Texas	(1910)	Missouri
Marquette University	(1910)	Wisconsin
University of Toronto, Ontario	(1910)	W. Virginia
University of Naples, Italy	(1893)	Nevada

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2. Frazier: Prog. Med., March, 1908. Horseley: Brit. Med. Jour., Dec. 10, 1910. Frazier: Am. Jour Med. Sci., February, 1904.

3. Therapeutic Gazette, July 15, 1909. THE JOURNAL A. M. A., Sept. 11, 1909.

4. Spiller and Frazier: THE JOURNAL A. M. A., Sept. 22, 1906. Horsley: Brit. Med. Jour., Aug. 25, 1906. Ballance: Trans. Am. Surg. Assn., 1906.

Book Notices

A Manual of Pathology and Morbid Anatomy. By T. Henry Green, M.D., F.R.C.P., Consulting Physician to Charing Cross Hospital, and to the Brompton Hospital for Consumption and Disease of the Chest. Eleventh Edition. Revised and Enlarged by W. Cecil Bosanquet, M.A., M.D., F.R.C.P., Assistant Physician (Late Pathologist) to Charing Cross Hospital and to the Brompton Hospital for Consumption and Diseases of the Chest. Cloth. Price, $4.50 net. Pp. 642, with 350 illustrations. Philadelphia: Lea & Febiger, 1911.

The alterations in the contents of this book since the last edition are not inconsiderable owing to the many noteworthy advances made in pathology since the last edition was published, six years ago. Much more space is given to the chapters on parasites and tumors and new matter is added, although it is rather doubtful whether the pathology of affections of the skin can be presented adequately in the few pages here allotted to this subject. Acne and psoriasis are the only two skin affections considered. Only half a page is given to the spleen and two pages to the lymph structures. The chapter on bone does not even mention fragilitas ossium or osteomyelitis, although tuberculous osteomyelitis is discussed in the chapter on tuberculosis. Rickets and achondroplasia are the only two conditions described under bone. One paragraph disposes of the pathology of the hypophysis cerebri. The adrenals and thymus are not mentioned. As for the joints, their pathology is disposed of in a two-page discussion of gouty and rheumatoid arthritis. The diseases of the blood are merely touched on. In fact, all that portion of the book, about 200 pages, devoted to the diseases of special tissues and organs is incomplete; many topics being omitted and others merely mentioned. The author has given most of his attention to parasites and tumors. They are discussed in a thorough and able manner. In short, as a book on general pathology this work possesses many admirable features; as a book on special pathology, it is not altogether satisfactory.

Practical Medical Chemistry for Physicians and Students. By Charles Platt, A.C., M.D., Ph.D., and William A. Pearson, Ph.C., Ph.D., Analytical and Consulting Chemist. Sixth Edition. Cloth. Price, $2.50 net Pp. 254. Philadelphia: John Jos. McVey, 1229 Arch Street, 1911.

This work is evidently intended to be a combination of encyclopedic text-book and laboratory manual. Apparently it endeavors to include a smattering of all of the knowledge of chemistry required by medical students and physicians. It is obvious that the numerous subdivisions of chemistry, an understanding of which is necessary to the physician, cannot be treated adequately in a work of this size. As an example of the inadequate treatment of the subject-matter, it may be mentioned that the general subject "glucosids" is disposed of in nine lines, notwithstanding that the glucosids are of constantly increasing importance in therapy and toxicology. More attention is devoted to urinalysis than to any other subject, the essentials of a moderately complete examination being given together with suggestions as to the clinical significance of the results obtained.

Meningitis, Sinus Thrombosis and Abscess of the Brain. With Appendixes on Lumbar Puncture and Its Uses and Diseases of the Nasal Accessory Sinuses. By John Wyllie, M.D., Author of "Tumors of the Cerebellum." Cloth. Price, $3 net. Pp. 258. New York: Paul B. Hoeber, 1911.

This little volume is written from the view-point of the internist and not from that of the surgeon, although the major part of it deals with purely surgical subjects. The first two chapters, on "Meningitis" and "Thrombosis of the Cerebral Sinuses," respectively, are rather meager and not very satisfactory. The chapter on "Intracranial Abscess" is much better and some useful points may be found under "Differential Diagnosis." The author, not being a surgeon, does not take up the treatment but says, "The only possible treatment is operation, the management of which does not form part of this work." Omitting therefore such an important phase of the subject, the work must prove more or less unsatisfactory to those consulting it. A brief appendix on "Lumbar Puncture" and one on "The Nasal Accessory Sinuses" concludes the volume.

Medicolegal

Religious Belief no Defense for Parent's Failure to Furnish Medical Treatment for Child

(Owens vs. State (Okla.) 116 Pac. R. 345)

The Criminal Court of Appeals of Oklahoma affirms a conviction of the defendant Owens of violating the law by wilfully omitting, without lawful excuse, to furnish medical attendance to his minor child. The court holds that, under the statutes of that state, it is the duty of a parent having the custody of a minor child to support and educate such child; that such "support" includes necessary medical attendance to preserve the health and life of such child; that a reasonable construction of the statutes requires the furnishing of medical treatment in such a manner and on such occasions as an ordinarily prudent person, solicitous for the welfare of his child and anxious to promote his recovery, would provide it.

In a prosecution for a violation of that section of the statutes which provides, "Every parent of any child who wilfully omits, without lawful excuse, to perform any duty imposed on him by law to furnish necessary food, clothing, shelter or medical attendance, for such child, is guilty of a misdemeanor," an instruction of the trial court that religious belief will not constitute a defense to such prosecution is correctly given. The question of the necessity for medical treatment is a question of facts for the jury in any case for the violation of the statute, and when submitted under proper instruction of the court a finding of the jury, contrary to the contentions of an accused, will not be disturbed on appeal, when the evidence tends reasonably to support the finding.

In this case it appeared that the defendant's child was afflicted with typhoid fever, and that the county health officer and other physicians and neighbors of the accused called on and endeavored to induce him to permit the child to be attended by physicians and nurses, and he refused to do so, even though the medical attendance was offered without expense. In the testimony of the accused, he admitted that he was acquainted with the serious nature of typhoid fever, and knew that his child was seriously ill, and offered no excuse for his conduct, but the testimony on behalf of the state, and by the mother of the child, who testified on behalf of the accused, disclosed that the reason for refusing to provide medical attendance was on account of religious belief.

The court says that, under the Oklahoma statutes, it is the duty of the parent, regardless of his religious belief or superstition, to furnish necessary food, clothing, shelter and medical attendance to his child. A reasonable construction of these statutes would be that the parent is required to furnish the necessary food, clothing, shelter and medical attendance looking to the preservation of the health, as well as the life, of the child. The law does not contemplate the calling of a physician or the furnishing of medical attendance for every trivial complaint with which a child may be afflicted. A reasonable amount of discretion is vested in the parents charged with the duty of maintaining and bringing up of infant children. As before stated, the correct rule would require the furnishing of medical treatment in such a manner and on such occasions as an ordinarily prudent person, solicitous for the welfare of his child and anxious to promote its recovery, would provide.

The proposition that religious belief constitutes no defense for violation of a penal statute has been repeatedly announced by the courts in construing various other statutes, principally the violation of statutes on Sabbath breaking. The reasons given in those cases support the position of the court in this case. If religious belief would be a defense to the violation of the statute quoted it would necessarily follow that it would be a defense to the violation of the statutes against Sabbath breatking, and the statutes against polygamous marriages, and various other wholesome penal laws.

In this case, every act necessary to constitute the crime was knowingly done, and the crime was therefore "knowingly committed." The accused in his testimony admitted knowledge of the seriousness of typhoid fever: admitted that his child was seriously ill; and did not deny that the physician offered treatment and nurses free of expense; yet he refused to permit the child to receive the care and attention offered, and which it clearly needed. He was advised by the county health officer that he was laying himself liable to prosecution; yet he persisted in refusing aid for the child. A case of more wanton neglect could hardly be found. There was neither ignorance of fact nor ignorance of law in this case.

In this case the constitutionality of the statute involved was not raised. The authorities cited, however, clearly established the validity and wisdom of the law. The court concludes that the instruction of the trial court, advising the jury that religious belief constitutes no defense under the statute, was correct.

The question of the necessity of medical attendance would be a question of fact for the jury. That question was submitted to the jury, and they found against the accused, and properly so under the record. Under the law in this state, there is probably no way of reaching an adult who refuses to accept medical aid for himself on his own responsibility; but under the statute quoted, persons will not be permitted to allow innocent children, dependent on them, to suffer for the lack of necessary food, clothing, shelter or medical attendance. And the law contemplates the administering of such aid for the protection of the health, as well as the life, of the child.

Liability of Oral Promisor of Payment for Services for Another

(May vs. Roberts (Okla.), 115 Pac. R. 771)

The Supreme Court of Oklahoma says that the defendant said to the plaintiff, a physician, "I want you to go to that little house [pointing same out]; my tenant's wife, Mrs. B., is sick there, and I want you to look after her and take care of her." The plaintiff asked him about the pay, and he said, "I will see that it is paid." It was in answer to the plaintiff's question about pay for such service as he might render to Mrs. B. that he said, "I will see that it is paid." It was error to exclude this evidence from the jury. The evidence was competent and material for the consideration of the jury, in connection with all the facts and circumstances proved, to determine whether the liability created was primary or collateral. The question was whether, under all the evidence, the credit was given solely to the defendant, or to the husband of the woman who was to be treated by the plaintiff, with the understanding that, if the husband did not pay the charge, then the defendant would. If the former, that is, if the defendant's liability was primary, such verbal contract was valid, and the defendant was liable. But if the intention was that the husband of Mrs. B. should be primarily liable, and that the defendant's liability should be only collateral (that is, to answer in case of the husband's default) then the contract was void as within the statute of frauds, which requires promises to answer for the debts of others to be in writing. There might also be a question as to whether there was not a joint liability, that is, whether the husband of Mrs. B. and the defendant were not jointly to be liable.

Liability for Death from Delirium Tremens Precipitated by Injury

(McCahill vs. New York Transportation Co. (N. Y.), 94 N. E. R. 616)

The Court of Appeals of New York affirms a judgment holding the transportation company liable for the death of a man who died from delirium tremens on the second day after being struck by one of the defendant's taxicabs and being thrown about 20 feet, having his thigh broken and his knee injured. He was removed to a hospital and a physician testified that when he was brought there he was unconscious, or irrational rather than unconscious, rapidly developed delirium tremens, and it could be said with reasonable certainty that the injury precipitated his attack of delirium tremens. Of course, it was undisputed, the court says, that the injuries could not have led to delirium tremens except for the preexisting alcoholic condition of the man, and under these circumstances the debatable question in the case was whether the company's negligence was, legally speaking, the proximate cause of his death. The court holds that it was.

The real proposition, however, urged by the company was that it should not be held liable for the results which followed its negligence, either, first, because those results would not have occurred if the man had been in a normal condition: or, secondly, because his alcoholism might have caused delirium tremens and death at a later date even though the company had not injured him. But that proposition could not be maintained in either of its branches, which were somewhat akin.

The principle has become familiar in many phases that a negligent person is responsible for the direct effect of his acts, even if more serious, in the cases of the sick and infirm as well as in those of healthy and robust people, and its application to this case was not made less certain because the facts were somewhat unusual and the injured man's prior disorder of a discreditable character. The principle is also true, although less familiar, that one who has negligently forwarded a diseased condition, and thereby hastened and prematurely caused death, cannot escape responsibility, even though the disease probably would have resulted in death at a later time without his agency. However, it is easily seen that the probability of later death from existing causes for which a defendant is not responsible may be an important element in fixing damages in such a case, but it is not a defense.

Society Proceedings

COMING MEETINGS

American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Thirty-Seventh Annual Meeting, held at Nashville, Tenn., Oct. 17-19, 1911

The President, Dr. Robert H. Babcock, Chicago, in the Chair

Addresses of welcome were delivered on behalf of the local profession by Dr. George H. Price, Nashville, and, on behalf of the citizens of Nashville, by Mr. W. R. Cole. These were responded to on behalf of the association by Dr. Albert E. Sterne, Indianapolis.

The following officers were elected: president, Dr. Louis Frank, Louisville, Ky.; vice-presidents, Drs. Albert E. Sterne, Indianapolis, and F. William Werner, Joliet, Ill.; secretary, Dr. Henry Enos Tuley, Louisville, Ky. (reelected), and treasurer, Dr. Samuel C. Stanton, Chicago (reelected).

Pellagra: Its Epidemiology

Dr. R. M. Grimm, of the Marine-Hospital Service said: An investigation was made during August, 1911, in the counties of Whitley, Knox and Bell, Kentucky. The total number of cases was 140. Only sixteen were living in the homes at which they resided at the time when they noticed the first symptoms of the disease. With one exception, the families of the sixteen pellagrins gave a history of using surface or spring water. No observations were made which would lead one to suspect that the disease is hereditary. So far as I was able to determine, corn products in one form or another had been used exclusively by all of the pellagrins. The cornmeal used by the families of the miners in this region is obtained almost exclusively from the stores of the coal mining companies. The cornmeal was not of the best quality.

The Prevention and Eradication of Bubonic Plague

Dr. W. C. Rucker, San Francisco: Plague is primarily a disease of rodents and secondarily and accidentally a disease of man. Man's safety from the disease lies in the exclusion of the rodent and his parasites. This is the basis of all preventive and eradicative work. If man can live in rodent-free surroundings he need have no fear of plague, because if there are no rodents there can be no rodent parasites, and fo all practical purposes the flea may be considered as the common vector of the disease from rodent to rodent and from rodent to man. The eradication of bubonic plague, therefore, means the eradication of rodents.

In the city the fight is directed against the rat and its parasites and aims to prevent the spread of the disease from them to man. In the country two measures follow the same general lines as in the city and are modified only to meet the existing conditions, such as the species of the rodent to be combated, the density of the population, and the different character of the buildings. The work of prevention is directed against the rodent and its parasites lest they import and nourish the seeds of pestilence, later to distribute them to mankind.

Preventive Vaccination Against Typhoid Fever

DR. W. S. HARPOLE, Chicago: Vaccination has been done in many hospitals and asylums, where nurses, patients, doctors have been protected. Notable are the experiences of Richardson and Spooner in the Massachusetts General Hospital. From 1902 to 1906, twenty-six nurses contracted typhoid fever, and for each case of typhoid fever treated a nurse contracted the disease. In 1909 and 1910, under vaccination, no cases of typhoid occurred among the nurses. The experiences of our army and of hospitals and asylums are sufficiently convincing of the value of this vaccination. Typhoid vaccination is done by the injection of killed cultures of the typhoid bacillus. The germs are usually killed by heat. All persons who are in contact with typhoid cases, as physicians, nurses, hospital attendants and laboratory workers, should be vaccinated. Children and young people going to the country for the summer should be protected.

Typhoid Vaccines in the Chronic Infection

DR. WILLARD J. STONE, Toledo, O.: Not only should individuals who are typhoid-carriers receive appropriate vaccine treatment, but all individuals including physicians and nurses, whose duties require the attendance and care of typhoid cases should receive immunizing treatment. By this procedure, many individuals otherwise destined to become chronic carriers might secure protection which would prevent in themselves the possibility of cholecystitis or other late manifestations as well as avoid the possibility of becoming a source of danger to others. Such treatment has been found efficient and productive of little discomfort. Nurses, orderlies and physicians should be regularly immunized at intervals of two or three years as should all others exposed to endemic or epidemic outbreaks. When typhoid bacilli have produced clinical or bacteriological evidences of cholecystitis, it is doubtful whether vaccine treatment will of itself be of avail, surgical drainage of the viscus then being indicated. On the other hand, appropriate vaccine treatment in individuals showing evidences of intestinal or urinary tract perpetuation of the bacilli, without cholecystitis, during convalescence from disease or subsequently, should be given the opportunity of vaccine treatment. Not all will be cured, but the bacilli will disappear in some instances. Chronic carriers, who have been treated by vaccines, should be under the control of the local board of health and furnished employment, if necessary, which would not require the handling of food products.

Diseases Produced by the Colon Bacillus; Diagnosis and Treatment

DR. FENTON B. TURCK, Chicago: The etiology of diseases does not sufficiently interest the American physicians and surgeons, hence our remedial measures are directed to the treatment of symptoms, and frequently we find the surgeon content with the removal of gall-stones, appendices and ulcers, etc., without sufficient interest in the causes of these complaints. Consequently we find many discouraging reports of the end-results of many of these abdominal operations.

Not only surgical diseases but many medical diseases masquerading under various names are now recognized as colon bacillus diseases. Thus Trautner experiments with colon bacillus in rheumatism, Metchnikoff in arterial sclerosis, Opie in hepatic cirrhosis. Migraine and neurasthenic conditions are often associated with increased indican which is chiefly the result of activity of bacillus coli in the intestine. Aside from the usual methods, the diagnosis rests on obtaining active cultures of *Bacillus coli* from the cecum (first clearing the lower bowel and allowing the tube to remain in the bowel until the contents from the cecum and also the ileum pass into a culture tube). A pure culture injected intraperitoneally into a rat indicates the virulence of the *Bacillus coli* used by death of the rat or mouse in a few hours. A test vaccine is used to determine the degree reaction of the patient when injected subcutaneously into the patient.

The treatment is directed first to the reduction of the virulency of the colon bacillus in the intestines by dietetic measures and the restoration of the functions of the stomach and intestines, especially the motor functions, and second to the increase of the means of defense by increasing the antibodies in the blood and tissues of the patient. Autogenous vaccines are introduced subcutaneously, intravenously, by mouth, colon or into the bladder or pelvis of the kidney as the case may require. This combined method has been beneficial in patients who have failed to obtain relief after operation for ulcer of stomach and duodenum, for gall-bladder disease, for removal of appendix, etc. It is over three years since this combined method of treatment was first used, and it seems to prove that the cures are permanent where the treatment is completely carried out.

(To be continued)

MEDICAL SOCIETY OF PENNSYLVANIA

Sixty-First Annual Meeting, held at Harrisburg, Sept. 25-28, 1911

(Continued from page 1390)

Lodge Practice

DR. HORACE M. ALLEMAN, Hanover: Have we any economic conditions justifying lodge practice? The difference between legitimate contract practice and lodge practice should always be remembered in discussing this subject. The effect on the physician so engaged is detrimental to good work and is a hindrance to his advancement in his profession. The membership in these lodges is increased by openly advertising free medical treatment. Thus, the profession is used for a twofold purpose.

DISCUSSION

DR. GEORGE E. HOLTZAPPLE, York: The question is how to check this pernicious practice. I believe that it will resolve itself into a personal effort on the part of every physician to help create a proper sentiment against this evil.

DR. CHARLES J. CUMMINGS, Williamsport: The state society ought to have a constitutional provision that no county society shall be a component part of it unless said county society bars lodge practice. Then we shall be getting at the thing in a common-sense way.

DR. ISRAEL CLEAVER, Reading: As a cure, I would suggest that the lodges put the money paid by their members for this purpose into a fund from which to pay any physician the member may choose to employ his regular fee.

DR. STERLING D. SHIMER, Easton: In our county society, we finally adopted the rule that no member should accept any contract work for less than the regular fee. My contract work is paid in this way, but I get nothing extra for night work.

The Value of a Library to a County Medical Society

DR. JAMES M. ANDERS, Philadelphia: There are great advantages in having an independent medical library in each county society, as the working library is an important factor in medical progress. Reference books and medical periodicals are indispensable to the young physician as a source of knowledge and inspiration. The responsibility for establishing such libraries devolves on the members of the county societies. A special committee, cooperating with the secretary of the county society, who should also be the librarian, could raise a fund for this purpose with the aid of a small assessment. A small amount of this money should be appropriated to the purchase of books to keep the library up to date. Experience proves that not less than three-quarters of the books in large medical libraries are donated. In every county a suitable room could be found, as the result of patient effort. The present methods of transportation make it possible for the members to reach some central place easily, especially if the library is made the meeting-place of the society, so that books and periodicals could be taken out and returned at the time of the meeting.

DISCUSSION

Dr. Thomas A. James, Ashley: The Luzerne County Society started with a very small library, and now has over 6,000 volumes. Every member has a key, and can use the library at any time for reading. Most of the volumes have come by donation, and the duplicates we have traded with other societies. We pay $10 a year dues.

Dr. James Tyson, Philadelphia: The journals should be allowed to circulate from one member to another, without requiring a man to go several miles to a center and return them. They could be sent by mail.

Dr. John B. Carrell, Hatboro: In a county such as ours, which is 40 miles long and 20 miles broad, how would members so remote from this library have access to it? I would suggest having a library section of the society, and having each man who wished to belong to it contribute a certain amount of money.

Municipal Milk-Supply

Dr. Ernest J. Lederle, New York: We have come to believe in New York City that the only way to guarantee the safety of the milk-supply is to require pasteurization of all but certain grades of high-priced milk. We have adopted a plan for the official grading of milk into three classes: milk for infants; milk for adults, and milk for cooking and manufacturing. Milk used for the latter purposes does not require painstaking inspection, but it must be pasteurized, because one cannot be sure that it will be put to these uses.

Milk and Its Relation to Public Health

Dr. Percival J. Eaton, Pittsburgh: Clean, raw milk is recognized to be better as a food than either sterilized or pasteurized milk. Raw, clean milk, modified to suit the individual infant, is the best of the substitute foods. Because of the possibility of infection of man by the bovine tubercle bacillus, tuberculosis among cattle should be eradicated. On account of its known rôle as a disease-carrier, the production of all milk should be constantly watched by competent inspectors. The great value of milk depots is their relation to the morbidity and mortality of infants and young children. I would make a plea for the more general recognition of the economic rights of the producer, and for the education of the masses to the belief that a good product deserves and should obtain a good price, and that the best is none too good for the children.

DISCUSSION

Dr. John B. Carrell, Hatboro: It might as well be understood by the residents of cities that the price of such milk as is desirable, not only for infants but also for adults, must be advanced. It is an impossibility for the farmer to produce with profit the kind of milk that should be used, unless the distributor and his profit are done away with.

Dr. James M. Anders, Philadelphia: I do not believe that we shall have a good milk-supply until a prolonged campaign of education is carried on among the farmers and dairymen. There is a method by which milk can be produced with comparative cheapness. By means of the cow-testing associations, the farmer can separate the profitable from the unprofitable cows and get rid of the latter, of which most farmers carry a large percentage. It is of importance for the farmers also to learn the proper time and the best method of cooling the milk, as well as the best manner of straining it.

Dr. David P. Rettew, Coatesville: I believe in raising the price of milk. One cent a quart added to the present price would probably make its production profitable. I doubt whether doing away with the distributor and putting the distribution of the milk-supply in the hands of the municipality would work well in certain cities. There must, however, be better business methods of distribution.

Dr. Henry C. Westervelt, Pittsburg: Milk has very materially improved in quality and cleanliness without any tremendous increase in the price. You are paying 8 or 10 cents a quart for milk that is better than what you paid the same price for three or four years ago. The farmer is not using more men but merely making them do their work better. I believe in a campaign of enlightenment but not of the dairymen or middlemen. I enlighten the mothers, and they promptly enlighten the men who furnish the milk for their sick babies. Any mother can send a specimen of the milk furnished to our municipal laboratory and get a report on it without the knowledge of the dealer.

A New Sign in the Diagnosis and Treatment of Ulcer and Carcinoma of the Stomach

Dr. Edwin Zugsmith, Pittsburgh: A sign of gastric ulcer and carcinoma, which I believe has not heretofore been described, is an abnormal dulness to percussion in the second interspace extending for a variable distance on both sides the sternum. In observations extending over a period of one year, I have noted the presence of this sign in cases of gastric ulcer and much more positively in cases of gastric cancer. Unless the percussion stroke is very delicate, the sign will not be found, for the dulness will be obscured by lung resonance. On the healing of the ulcer the dulness disappears. I believe that this dulness is directly due to enlargement of the lymph-nodes lying along the sternum.

The Relation of the Streptococcus to Scarlet Fever with Active Immunization by Means of Streptococcic Bacterins

Dr. John A. Kolmer, Philadelphia: Among the various organisms considered as the probable cause of scarlet fever streptococci have received the most study and attention, although they are regarded as secondary invaders and responsible for a high proportion of the complications. If streptococcic bacterin prevents scarlet fever, then streptococci bear a much closer relation to that disease than we are willing to admit. Our inoculations, however, with the heat-killed streptococcic bacterin did not prevent scarlet fever. As scarlet fever is probably not due to the streptococcus, that organism being responsible only for the complications, the streptococcus bacterin may prevent a severe attack of scarlet fever by producing an immunity against secondary streptococcus infections.

The Treatment of Cardiac Arhythmia

Dr. George W. Norris, Philadelphia: The forms of cardiac arhythmia are: (1) Sinus arhythmia, in which the normal inspiratory pulse acceleration and expiratory retardation become exaggerated. This may be symptomatically abated by atropin, but direct treatment is rarely necessary. Rest, diet, hydrotherapy and massage constitute our chief line of defense. (2) Extrasystolic arhythmia, in which one or more beats are dropped, which usually results from accentuated myocardial excitability, although it may be due to heart-block or diminished excitability. When temporary, it needs no treatment; when persistent, treatment consists in lessening the work required of the heart muscle. (3) Auricular fibrillation. It is this variety which so often goes hand in hand with the broken compensation of old rheumatic valvular lesions. These patients require rest, sleep, attention to diet and exercise. When the compensation is bad, absolute rest with laxatives and restricted dry diet will often produce many beneficial results. It is in auricular fibrillation that digitalis accomplishes its most brilliant results. (4) Heart-block, which is due to a depression of conductivity. For the serious form of heart-block seen in myocardial disease no definite rule can be laid down. In incomplete block, atropin, in liberal doses, often arrests the condition. Digitalis is contra-indicated. If heart-block is complete, digitalis may be beneficial. (5) Pulsus alternans, which is due to depression of contractility, a condition which can be inferred when we find an alternating pulse or a half frequency pulse. As this is an expression of exhausted or degenerated myocardium, little can be expected by any direct treatment. The treatment may be said to be that of myocarditis in general.

Case of Massive Pericardial Effusion

Dr. Thomas W. Kay, Scranton: During the past winter five cases of pericardial effusion have come under my observation. In one case at least 4,000 c.c. of fluid were present. The gravity of the case depends not on the quantity of fluid but on the intrapericardial pressure. Paracentesis pericardii is done easily and gives prompt relief, but is usually not permanent. By it one is never able to draw off all the fluid. Excellent results are claimed as a result of passing a trocar into the pericardium and introducing a rubber catheter through the cannula well below and to the rear of the heart. Thoracotomy with incision and drainage of the pericardial sac has been reported to give good results.

DISCUSSION

Dr. A. Stengel, Philadelphia: There is one feature of this discussion which must appeal to all of us in our everyday work and that is the matter of diagnosis as between the serious and the trivial forms of irregularity of the heart. The treatment of cardiac irregularities is infinitely more unimportant than the diagnosis, because, after all, the trivial forms take care of themselves in the long run and the other forms are serious and will remain serious, even in spite of treatment, though they may be helped. The matter of diagnosis is of importance mainly because a proper recognition of the forms that are unimportant may lead to permission to the patient to follow a mode of life that in the end rids him of the trouble; or, on the contrary, if the physician looks on it as serious and gives a serious prognosis it would lead to hopeless invalidism. One ought to be very careful in making the prognosis in these cases. A good rule is that the more the patient is incommoded by subjective recognition of his cardiac irregularity, the greater is the triviality of his condition. The use of digitalis should be governed strictly by its effects, and we should recognize that in actual cardiac disease it sometimes, even in proper doses, does harm. In very large pericardial effusions, the fluid is mistaken for pleuritic fluid, and the aspiration is made far out in the left side and a fluid is obtained but it is really a pericardial effusion. As to the radical operation for pericardial effusion, I should say that it is desirable to have more evidence before we can unequivocally recommend this form of treatment for pericarditis. I should prefer to stick to the old paracentesis for the present.

MEDICAL ASSOCIATION OF THE SOUTHWEST

Sixth Annual Meeting, held at Oklahoma City, Okla., Oct. 10-11, 1911

The President, Dr. M. L. Perry, Parsons, Kan., in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. A. L. Blesh, Oklahoma City; vice-presidents, for Arkansas, Dr. T. B. Young, Springdale; for Missouri, Dr. H. S. Crossen, St. Louis; for Texas, Dr. B. N. Freeman, Nevada; for Kansas, Dr. W. S. Lindsay, Topeka; secretary-treasurer, Dr. F. H. Clark, El Reno.

Hot Springs, Ark., was selected as the place for holding the next meeting.

Management of the Nervous Child

Dr. M. L. Perry, Parsons, Kan.: The nervous child is the father of the neurotic and neurasthenic adult, but granting this potentiality, it is also true that proper care during the developmental period will often prevent the occurrence of actual disease at a later date. It is not only the functional nervous conditions whose seed is sown in early life, but many preventable organic affections originate within or develop later on the ground work of nervous instability acquired in infancy or during the first few years. Under the term "nervous child" I include: 1. The precocious child, with its highly organized but poorly balanced nervous mechanism, who is capable of rather extraordinary mental effort along certain lines, but prone to an early breakdown. 2. The quick, alert, restless child, whose whole nervous system appears to be hypersensitive, whose mental faculties are so active that concentration is difficult, and who is largely reflex in type. 3. The shrinking and abnormally timid child, who is weak in nerve-force and therefore easily exhausted. 4. The backward child, who is slowed up mentally either on account of defective organs or special sense, or an inherent defect in correlating sense perceptions and forming ideas. In the care of such children the influence of nutrition and dietetics is of paramount importance. Malnutrition is a potent factor in the development of nervousness as well as in aggravating the condition when it exists. There is a crying need of reform in our educational system. A more thorough inspection of school children should be made, and school authorities should recognize the necessity of special class work in the public schools for defective children not ordinarily classified as feeble-minded.

Pancreatitis: Suggestions as to Etiology and Surgical Treatment

Dr. A. L. Blesh, Oklahoma City: Chronic pancreatitis in association with bile-tract infections is not uncommon. Without this association it is comparatively rare. When present, while it adds more or less to the symptom-complex, the clinical syndrome is so overshadowed by gall-tract infection that it is rarely diagnosed in the absence of a palpable enlargement of the head of the pancreas. Both pancreatic and gall-tract infections may be due to an infection from below, and this, in turn, may depend on a malformed colon, causing a high degree of coprostasis. The frequent association of pancreatic biliary infections, duodenopyloric ulcers, and chronic appendicitis is at least suggestive of a common exciting cause. In this train of sequences the fact that we never encounter an acute but always a chronic type of appendicitis, is of great theoretical and practical importance as, at least, hinting the etiology. Direct biliary and pancreatic drainage, or simple gastrojejunostomy, will not always cure the respective diseases but will always give temporary relief. This fact suggests that respective operations do not always measure up to the pathology and etiology. In properly selected cases, Lane's operation should be added. If done in time, perhaps the latter, in properly selected cases, would be sufficient.

DISCUSSION

Dr. Bacon Saunders, Fort Worth, Tex.: There is one thing that impresses me, namely, the marked tendency to search for something wonderful every time the surgeon opens the abdomen for the relief of some intra-abdominal condition. It would be better not to look for these wonderful things when we operate. I have straightened out many of these kinks by removing the apparent pathologic condition. I have cured many cases of chronic pancreatitis by drainage of the biliary tract. I have had a great many cases in which things looked curious, but after removing well-known pathologic conditions the patients have recovered.

Dr. J. H. Riddell, Enterprise, Kan.: When a surgeon opens the abdomen and finds bands of adhesions, if they have nothing to do with the pathologic condition he is going to correct, they should not be severed. If a surgeon should open my abdomen, I would not want him to remove any section of my anatomy that looks right, for fear it might give me subsequent trouble.

Dr. John F. Binnie, Kansas City, Mo.: We should only remove the real pathologic condition that is causing the trouble; we should not take out an appendix that is not causing trouble.

Dr. Howard Hill, Kansas City, Mo.: I have been having a series of cases of gall-bladder trouble, and in twelve out of thirty or forty cases there has been inflammation of the pancreas, and in most of them the appendix seems to have been affected primarily.

Retrocecal Appendicitis

Dr. J. N. Jackson, Kansas City, Mo.: There are two anatomic positions of the appendix that are extremely unusual, and when the appendix is situated in either of them and is inflamed it gives rise to a different set of symptoms and leads to delay in diagnosis. These are the retroperitoneal and retrocecal types of appendicitis. In the surgical treatment in the retrocecal type, the incision should be made farther out than usual to avoid infection of the peritoneal cavity, possibly splitting the outer fold of the mesocolon so as to turn the colon over to the inside to get at the appendix behind. After removal of the appendix, sometimes there is an abscess cavity to contend with, and the patient is subject to the usual infection following cellulitis. Instead of inserting a drainage tube, the cavity should be disinfected thoroughly with iodin or phenol (carbolic acid), followed by alcohol and packing. In cases in which an abscess has ceased to be local and has spread behind the intestine and peritoneum, under the colon, a counter-opening should be made to get drainage at the most dependent point.

DISCUSSION

Dr. Bacon Saunders, Fort Worth, Tex.: In these cases of appendicitis the symptoms are so slight that they are frequently overlooked, but the patient does not get well. He develops a septic condition and the surgeon sees him one or two weeks afterward and finds out what the trouble is. In these cases I usually make the incision entirely outside of the colon, and in a large percentage of them it is necessary to resort to posterior drainage. A small drain will not do much good.

Dr. H. C. Crowell, Kansas City, Mo.: I have never seen a case in which the appendix is beneath the peritoneum. One of my patients, a girl of 12, who was subjected to the Ochsner treatment for twelve or fourteen days, had a retrocecal abscess. There was a very much distended space in this region. I cleaned out the abscess thoroughly, but the patient died immediately, and I believe death followed because in opening up and disturbing this abscess so effectually at the time, I liberated an undue number of toxins. I believe we frequently have sudden deaths following large abscesses by disturbing the relations and having absorption of the toxins. Had I opened the abscess in this case in a limited way and drained, I feel certain that the girl would have recovered.

Dr. John G. Sheldon, Kansas City, Mo.: In some of these cases in which the appendix is retroperitoneally located, there may be involvement of the ureters.

Dr. J. D. Walker, Caney, Okla.: A patient had typical symptoms of appendicitis, but when the abdomen was opened no inflammation could be found. In tracing the ascending colon down to its termination and finding its union with the small intestine, I found an organ about the size of a goose quill, which I took to be the appendix. I removed it, and the patient recovered.

Dr. J. M. Inge, Denton, Tex.: It is important in these retroperitoneal conditions to go in back of the peritoneum, but how many surgeons, in making an incision, go far enough back to avoid the peritoneum? In some of these cases it is not good surgery to break up dense adhesions in the effort to find the appendix and remove it.

Postoperative Ileus: Report of Case Relieved by Intestinal Puncture

Dr. Leroy Long, McAlester, Okla.: Following the removal of a cystic tumor on the right side, involving both tube and ovary, with an ectopic gestation in the left tube, the round ligaments were shortened on account of a retrodisplacement, and the appendix was removed. Several hours later intestinal obstruction occurred, which was relieved by puncture.

Chronic Colonic Intoxication

Dr. John F. Binnie, Kansas City, Mo.: Chronic intestinal stasis is exceedingly common: it gives rise to diverse and obscure symptoms, and is at least one cause of neurasthenia. It may be due to various causes, but the real etiology is yet unknown. Failure to obtain relief from symptoms of appendicitis after appendectomy is often due to the fact that appendicitis, if present at all, was merely an accident in the course of a case of chronic intestinal stasis. In every operation for chronic appendicitis, the surgeon ought to examine the whole cecum and the terminal segment of the ileum.

DISCUSSION

Dr. H. C. Crowell, Kansas City, Mo.: Some forms of intestinal stasis are benefited by attention to diet and medication, but a large number of patients suffer from chronic auto-intoxication and neurasthenia, on account of adhesions or interference with the peristalsis of the gastro-intestinal tract, and it is the duty of every surgeon who opens the abdomen to make a careful examination in every case to see if there exist adhesions that may interfere with proper peristalsis. In pericolitis I believe that the membrane is congenital, as it does not bear out the conditions, pathologically or histologically, of an inflammatory product.

Dr. A. L. Blesh, Oklahoma City, Okla.: I do not believe we are dealing with a single pathologic condition, but with many. I was called to see a young man who was said to have appendicitis, and in the family at the time there was a case of typhoid. I found he had had several such attacks as he was then suffering from. They consisted in pain, more or less marked, without marked radiating tendencies, in the right iliac region, near McBurney's point. The man's condition at the time was one of profound toxemia. I was fearful that the soreness in the right side was due to a typhoid perforation at the lower end of the ileum. Since there was no danger from waiting, we waited and the condition cleared up. These cases are peculiar in that they do not have a febrile reaction. In other words, they are toxemic.

Abdominal Drainage

Dr. Charles Blickensderfer, Shawnee, Okla.: In the ordinary cases, I prefer the small cigarette drain made by rolling gauze in gutta-percha tissue and thoroughly moistened in normal salt solution. The length is to be governed by the length of the drainage tract to be established. In thick, fat abdominal walls, a short drain of this character extending from the muscular fascia to the surface for a period of twelve hours will prevent mural abscess. Where pus is to be drained, a soft rubber tube of proper caliber may be wrapped with gauze and enveloped in rubber tissue. It is sometimes wise to have a strand of straight gauze lying within the central tube. This can be removed and replaced with others when necessary. In conclusion, the surgeon should not drain if it is possible to avoid doing so. He should not use dry gauze for drainage. He should not tuck or fold back and forth gauze to be used as a drain. Gauze packs are useful to control hemorrhage, but often act as plugs where drainage is sought. One should not use a long drain if a shorter one will suffice. The drain should be removed as soon as its service has been performed, remembering that in pus cases drains are useful for a much longer time than in relatively clean cases.

DISCUSSION

Dr. John F. Binnie, Kansas City, Mo.: Instead of the familiar cigarette drain, it is a good plan to take some strands of ordinary wool, such as used in making thick socks, sterilize it, and use it with a hard rubber tube. It will be found to be better than gauze.

Dr. W. J. Jolly, Oklahoma City: In all wounds, if we have an idea that infection has taken place, the proper thing to do is to drain. I have closed wounds, not having any extra trouble at the time, but have had to reopen them, which is unsatisfactory.

Dr. J. D. Griffith, Kansas City, Mo.: If I want rapid exosmosis, I use sterile petrolatum mixed with normal salt solution. This, being of greater specific gravity than the exudate that is to come out, will produce exosmosis in the capillary attraction. I have been using it for some time and it cuts drainage short and gives me an abundance of drainage. If you put one-quarter sterile petrolatum on the gauze you will find the exudate will be increased very materially.

Septic Infection

Dr. W. J. Jolly, Oklahoma City: In puerperal septicemia we are helpless so far as specific treatment is concerned. The local treatment usually used, curettage, is harmful and only opens up new avenues for the absorption of toxins, and aggravates the condition. While it is the ideal treatment in sapremia caused by a blood-clot or retained placenta, it is to be condemned in true septicemia. Serums, I believe, are worthless. A few patients get well under any treatment, but in my own experience serums do not modify the disease in the least. Our only treatment for the general septicemia is supportive—easily digested, nourishing food, and stimulants to sustain the patient until Nature manufactures antibactericidal serums or opsonins to destroy the bacteria.

DISCUSSION

Dr. S. M. Mayberry, Enid: I believe in the use of the curet in removing portions of retained placenta, and I think there are times when this instrument, if not properly used, would necessarily carry infection into the healthy muscular coat and do harm. When it comes to washing fresh wounds, after removing all foreign material, I favor the use of tincture of iodin and the application of a hot, moist boracic acid and 95 per cent. alcohol dressing.

Dr. John F. Binnie, Kansas City, Mo.: Many years ago a Berlin surgeon made some investigations as to the sterilization of wounds, and unfortunately in the laboratory found that when bacteria had been in contact with a wound for so many seconds or minutes there was no use in trying to do anything. The bacteria were absorbed according to the laboratory experiments. This would have brought about to a large extent therapeutic nihilism if there had not been found "a nigger in the wood-pile" as regards these experiments. More recently Fredreick, carrying on similar experiments, found that bacteria in a freshly-made wound may be reached by aseptic or antiseptic means for a period of six or seven hours after the wound has been infected. Our methods of treatment of fresh wounds have changed in the last few years.

Do You Do Your Duty in the Obstetric Chamber?

Dr. David A. Myers, Lawton, Okla.: A wholesome surgical fear and a good surgical conscience are two very essential things for a physician. Do not let your surgical fear extend to the point that you will not repair the cervix following childbirth, and do not let your conscience dig you for not doing so. The technic, when once tried, is very simple, and the results are so good that the procedure should occupy the same place as the immediate repair of the perineum.

Cerebrospinal Meningitis

Dr. Wilmer L. Allison, Fort Worth, Tex.: The interesting features in my case were the protracted course after marked improvement following the use of serum; the violent reaction which followed the last four doses of serum, the internal hydrocephalus, the relief of which was followed immediately by marked improvement; the clear mentality throughout the case, and the increased growth of hair over the entire body.

MICHIGAN STATE MEDICAL SOCIETY

Forty-sixth Annual Meeting, held at Detroit, Sept. 27 and 28, 1911
(Concluded from page 1393)

The Diagnosis of Heart Disease

Dr. G. W. McCaskey, Fort Wayne, Ind.: A complete anamnesis is important in studying a case of suspected heart disease. Inspection is too often cursory. Palpation is much neglected. Preliminary percussion may be made by holding stethoscope over area of superficial dulness and percussing lightly to edge of relative dulness. Findings may then be corroborated by ordinary percussion. The Roentgen ray is of immense value in determining the exact shape and size of the heart and the character of the cardiac movements. The orthodiagraph gives the most scientifically exact outline of the heart. Auscultation is very important, but has held too commanding a position. The significance of murmurs depends on their associated signs and symptoms. The rhythm and character of the sounds are more important *per se*. The study of the venous and radial pulse by synchronous tracings made with polygraph is most important, particularly in the study of arhythmias and heartblock. The electrocardiogram and the cardiophonograph are also of immense importance. The study of blood-pressure is absolutely essential though usually due to extra cardiac conditions. Respiratory embarrassment, hepatic engorgement, and dropsy are the time-honored signs of a failing heart. Hepatic engorgement should be sought for more constantly than it is. Fatal heart disease may occur without any of these signs being obtrusively present or even present at all.

The Heart in the Acute Infections

Dr. C. G. Jennings, Detroit: It is probable that acute degeneration of the myocardium results in every acute general infection attended by fever and other symptoms of toxemia. The extent of this degeneration will depend on the type, the virulence of the duration of the infection. Edema and cellular infiltration may precede, accompany or follow the onset of degeneration of the muscular fibers. In certain prolonged cases, chronic interstitial myocarditis is developed. Heart failure from acute myocardial degeneration and inflammation does not usually come in the early days of acute infection. Time must be given for the degenerative changes to weaken the heart. In diphtheria, however, possibly in pneumonia, myocardial changes advance with great rapidity and by the end of the first week may threaten life. In typhoid, influenza and other prolonged infections, the myocardium does not cause apprehension until the second or third week or later.

Circulatory failure in the first few days of an acute infection is usually due to vasomotor paralysis. In circulatory failure during the second week, vasomotor paralysis is still an important factor, although myocardial changes are usually present. The failing heart in the late stages of an acute infection is the result of myocarditis with or without dilatation. From the onset of the disease it should be the aim of the physician to limit toxemia by the early administration of specifics, as in diphtheria and rheumatism, the maintenance of free elimination, the intelligent use of hydrotherapy and careful attention to dietetics and the hygiene of the sick-room.

DISCUSSION OF PAPERS BY DRS. MCCASKEY AND JENNINGS

Dr. A. W. Hewett, Ann Arbor: The particular methods that have been introduced in diagnosis of heart disease, or one of the most important ones, is that of determining the blood-pressure. The form of irregularity in which the heart is extremely irregular has been shown to be due to auriculofibrillation, and the muscle is in a continuous state of fine fibrillation. Digitalis does not raise the blood-pressure in man to any appreciable extent, and this is a very important point, because it is very common for physicians to decline or hesitate to give digitalis to patients with high blood-pressure. If a patient has high blood-pressure, I hesitate to give it; but if he has a low blood-pressure, it is of practical importance, in most cases, to raise it by administering digitalis.

Dr. G. W. McCaskey, Fort Wayne, Ind.: It has been assumed, on ordinary clinical grounds, that digitalis, in ordinary dosage, does not materially raise blood-pressure. I am unconvinced that the tendency of digitalis is not to raise blood-pressure. I have been unconvinced all the time, during recent years, and in those cases particularly where I am afraid of an increased peripheral resistance. I combine vascular dilators to counteract the vasoconstrictor effect which I assume to be present in the use of digitalis.

Acute Anterior Poliomyelitis

Dr. B. F. Green, Hillsdale: In Hillsdale County the epidemic of 1910 began in July and ceased in November, with a total of seventy-two cases, not including any of the abortive type. There were twelve fatal cases, four attributed to polio-encephalitis and eight to paralysis of the respiratory muscles. The spinal type occurred in fifty cases. The ages varied from 2 to 70. Nearly half the patients were under 10 years of age. In only four families were there second cases developing paralysis. In the fatal cases death occurred in the largest number within three days from the onset, though in one case it was delayed until the fourteenth day. So far this year Hillsdale County has had only one case, the patient at present being convalescent.

The General Use of Fat in the Diet

Dr. James E. Davis, Detroit: Indoor life is provocative of an appetite which shows a decided preferment for carbohydrate and protein and a distaste for fat, the result being an unbalanced diet, causing too frequently carbohydrate indigestion and protein errors of metabolism. This indoor class can metabolize fat better than protein, and the difficulties with the digestion of adequate quantities of fat should be met by skilful cooking, which will avoid subjecting it to prolonged high temperatures and will seek suitable combinations with a carbohydrate. Fat in the diet of natural selection is 8.3 per cent. of the total food weight, but it furnishes 16 per cent. of a day's total energy. No other food requires so careful an investigation of individual peculiarities in each patient as fat.

The Relation of Premature Rupture of the Amniotic Sac to Puerperal Sepsis

Dr. George Kamperman, Ann Arbor: A study of 300 recent confinements shows that premature rupture occurred thirty-eight times or in 12 per cent. of all cases. In practically all of these thirty-eight cases the amniotic sac ruptured before the beginning of labor. The labors in these cases of premature rupture were not longer than the average. Among the 262 cases where the membranes ruptured normally, there was a slight rise in temperature in 1.4 per cent. and a severe sepsis in 0.4 per cent. But among the thirty-eight cases where membranes ruptured prematurely, there was a slight rise in temperature in 13 per cent. and severe sepsis in 8 per cent. In this series puerperal sepsis occurred about ten times as often after premature rupture as it did after normal rupture of the membranes. The increased frequency of infection is probably due to the open birth canal, vaginal examinations contaminating the amniotic cavity with the vulval bacteria. As a prophylactic it is suggested that in all cases of premature rupture, the vulva be cleaned and protected from contamination, and that examinations be made per rectum instead of per vaginam.

DISCUSSION

Dr. Eugene Boise, Grand Rapids: I am glad that statistics have shown that primiparæ are much more likely to sepsis than the multiparæ, but the question is, why is it so? Is it not probable because the vaginal examinations are made more frequently in primiparæ than in multiparæ, and the membranes have ruptured prematurely. The question suggests itself, is it not possible that the rupture of the membranes and the discharge, and the manner in which the fluid is discharged has something to do with it? There is also more apt to be an injury to the cervix in these cases of premature rupture of the membranes.

Dr. E. Georg, Ann Arbor: Unless a sterile bath can be taken, every pregnant woman is liable to infection from the douches, especially if the membranes have ruptured. An important thing in the care of these patients is that they should use a bed-pan, particularly after the membranes have ruptured.

Dr. C. E. Boys, Kalamazoo: It would seem to take a very generous supply of rubber gloves and much boiling and frequently changed hand solutions in order to make rectal examination feasible. After all, one sometimes questions how much good these examinations do, anyway. Personally, I depend more and more on external examinations for diagnosis of position and presentation.

External Pelvimetry with Special Reference to Method of Measuring the Outlet

Dr. Howard H. Cummings, Ann Arbor: Routine pelvimetry of the outlet has been sadly neglected. The best method of outlet pelvimetry is that taught by Professor Williams of Johns Hopkins. The diameters of the outlet of a normal pelvis should measure, according to Klein, who based his conclusions on the study of 113 normal pelves as follows: Transverse, 11 cm.; anterior sagittal, 6 cm.; posterior sagittal 9.5 cm.; anteroposterior, 11.5 cm. Williams measured 185 normal pelves and obtained as average outlet measurements the following: Transverse, 10.5 cm.; anterior sagital, 5 cm.; posterior sagittal, 7.5 cm.; anteroposterior, 11.5 cm. A series of seventy cases measured at the University of Michigan Maternity Ward gave the following average outlet measurements: Transverse, 10.2 cm.; anterior sagittal, 5.4 cm.; posterior sagital, 8.5 cm.; anteroposterior, 11.3 cm. Funnel pelvis was found in four cases in ninety consecutive obstetric patients.

Coloptotic Constipation

Dr. L. J. Hirschman, Detroit: All cases of coloptosis must have associated with them an atonic condition of the colonic musculature, as all coloptotic patients are not constipated neither have all constipated patients coloptosis. In many patients who are coloptotic, a compensatory muscular development of the colon overcomes the ptosis. The surgical treatment consists of mesenteric suspension of the ptotic bowel, rotation and anchoring of prolapsed cecum and lateral anastomoses of parallel dependent limbs of prolapsed transverse and descending colon. Hygienic, dietetic and physical therapeutic measures are advocated in conjunction and following the surgical procedures.

DISCUSSION

Dr. P. M. Hickey: From the fact that about every fifth individual is born with a ptosis, our treatment should begin very early. The schools should take up the matter of correct position. Pupils should not be allowed to go around with the shoulder blades prominent and shoulders bent forward and the abdomen totally limp, but they should be taught the military exercises, and setting-up drill to bring them up in shape and accentuate the development of the abdominal muscles, and then this condition would not be present in later life, and there would not be so many neurasthenics.

Blood-Pressure in Eclampsia

Dr. Walter E. Welz, Detroit: There is always an increase of intravascular pressure in pregnant women before the advent of eclampsia. The blood-pressure is highest during the convulsive state, and gradually drops to normal with recovery. All women passing through the later months of pregnancy may be placed in one of five groups: (1) normal, (2) eclamptic, (3) chronic nephritic, (4) non-toxic renal, (5) mechanical albuminuria. Blood-pressure readings and urinary analyses are the principal factors of this classification, which should lead to earlier diagnosis, efficient prophylaxis and more definite prognosis in cases of toxemia of late pregnancy. Abnormal urinary findings are of value only when qualified by blood-pressure readings. The blood-pressure alone is worth more as a diagnostic aid than any other symptom, and for this reason should be made use of as the indicator for the care of threatened eclampsia. If the high pressure of late pregnancy is controlled, the patient may pass through pregnancy, labor and puerperium without the advent of convulsions. Veratrum viride apparently helps control the convulsions by slightly lowering blood-pressure, which causes a subsidence of the serious condition in acute eclampsia.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

October, CXLII, No. 4, pp. 470-624

1 Specificity, Danger and Accuracy of Tuberculin Tests. L. Brown, Saranac Lake, N. Y.
2 *Is Pernicious Anemia of Infectious Origin? H. C. Moffitt, San Francisco.
3 *Coagulation Time of Blood in Various Diseases. R. D. Rudolf and C. E. C. Cole, Toronto.
4 Physiology and Pathology of Fever. A. I. Ringer, New York.
5 Treatment of Febrile Conditions. F. S. Meara, New York.
6 Cysts of Spleen. J. H. Musser, Philadelphia.
7 Case of Late Hodgkin's Disease (Lymphoma Granulomatosum), With Various Cases Presenting Clinical Picture of Splenic Anemia (Banti's Disease). F. P. Weber, London.
8 Insidious Onset of Pneumothorax. O. H. P. Pepper, Philadelphia.
9 *Sound Production and Sound Conduction Along Respiratory Tract. J. H. Barach, Pittsburg.
10 General Considerations as to Visceral Ptosis. A. L. Benedict, Buffalo.
11 Multiple Metastatic Abscesses of Heart and Lungs in Pyemia. R. N. Willson, Philadelphia.
12 Aortic Regurgitation. W. W. Kerr, San Francisco.
13 Recent Advances in Anatomy and Pathology of Heart from Clinical Point of View. A. E. Cohn, New York.

2. **Pernicious Anemia.**—Reasoning by analogy as well as on the basis of clinical observation, Moffitt appears to incline to the belief of an infectious origin of this disease.

3. **Coagulation Time of Blood in Various Diseases.**—Secondary anemias, other than those due directly to hemorrhage, appeared to have a normal clotting time. Twelve observations were made by Rudolf and Cole on six patients, with an average clotting time of 7.8 minutes, and a range of from 10.5 to 6.4 minutes. When the anemia resulted from hemorrhage, the clotting time was invariably shortened, except in the case of hemophilia, when hemorrhage appeared to have no such effect. In eight cases of hemorrhage, with fourteen observations, the average clotting time was 6.6 minutes, with a range of from 5.2 to 10 minutes. The one that showed a time of ten minutes was a case of epistaxis in an old woman. It was not severe, but was very persistent and hard to control. There was no history in the family of bleeding nor of previous hemorrhages. In one case of severe traumatic hemorrhage the clotting time was 6.4 minutes. The patient was transfused by Crile's direct method, and afterward the clotting time was practically the same (6.5 minutes). The donor, his brother, showed before the transfusion a clotting time of 8.5 minutes, and directly after, one of 5.8 minutes. Six healthy children were tested before and after the administration of a prophylactic dose of antitoxin. The dose given was always 500 units, which bulks about 3 c.c. There was no change produced in the clotting time.

Two cases of hemophilia, both typical as regards the family tendency to hemorrhage, etc., showed very different readings as regards their time of coagulation, one giving an average of 9.5 minutes and the other one of nineteen minutes. The one that showed the greater delay was given calcium lactate freely for two days, 30 grains every four hours, with a sequence of a clotting time of twenty minutes. A few days later he was given 15 c.c. of rabbit blood-serum subcutaneously without any perceptible effect on the clotting time. Six cases of jaundice showed an average clotting time of 9.6 minutes as a result of ten observations. In none of them had there been any recent hemorrhage. A case of splenomyelogenous leukemia, which remarkably improved as regards the blood-picture under the biweekly use of Roentgen rays showed some lengthening in clotting times as the leukocytes dropped in number. Forty-seven observations were made on seventeen cases of lobar pneumonia, and the average clotting time was 8.1 minutes, but ranged from 5.5 to 12.75 minutes. The clotting time did not vary with the acuteness of the infection, two fatal cases showing a time of 8.25 and 8.75, respectively, shortly before death. No marked daily variations occurred. Three cases of purpura, in which subcutaneous hemorrhages occurred without definite cause, showed an average coagulation time of 6.16 minutes from eight observations, the range being from 4.9 to 7 minutes.

Thirty-eight observations were made on the blood of fifteen patients with acute rheumatism, and the average clotting time was found to be 10.2 minutes, with a range of from 7 to 14.3 minutes. Thus, the clotting time in acute rheumatism seems to be lengthened. It was noted that the clotting was delayed as long as the acute pain lasted, but it did not seem to have any special relation to the degree of fever present. All of these patients were freely treated with salicylates, but the delay in the clotting time was not due to this medication, as in several of the cases the first estimates were made before the remedy was commenced, and in most of them the drug was still being given after the pains had ceased and the coagulation time had consequently become faster. Sixty observations were made on twenty-six cases of typhoid, and the average clotting time was found to be 7.1 minutes, with a range of from five to twelve minutes. The severity of the invasion did not seem to have any effect on the clotting time.

9. **Sound Production and Sound Conduction Along Respiratory Tract.**—Barach found that the "bronchial breathing" heard at the acromial end of the clavicle has its origin at the manubrium sterni, which receives sound vibrations from the trachea behind. The cavernous breathing heard over the cranial bones, particularly the occipital, has its source of origin in the nasal fossa which acts as a resonator. In the nasal fossa, the nasal resonator, a definite amount of sound is produced, and this sound added to the sound wave created along the lower portions of the respiratory tract, makes up the "sound total," which is heard when auscultating. That the nasal resonator is an active factor in auscultatory sound production is readily appreciated by observing the weakening of the respiratory sounds which occur when its action is eliminated. From this it is evident that auscultatory sound production does not begin at the larynx. This, too, shows that the examiner must take into careful consideration the condition of the nasal resonator, and whether the mouth is opened or closed, in the proper interpretation of his auscultatory findings. The observations on tracheotomy cases throw light on the part played by the larynx, which seems to be of less importance than is generally believed. They show that elimination of the larynx results in modification of the pitch and volume of the bronchial and vesicular sounds, but the essential characteristics of these sounds remain unchanged.

Illinois Medical Journal, Springfield

October, XX, No. 4, pp. 387-500

14 *Cancer in Domestic Animals. M. Herzog, Chicago.
15 *Etiology of Cancer. F. R. Zeit, Chicago.
16 Surgical Treatment of Cancer. S. C. Stremmel, Macomb, Ill.
17 Diagnosis of Acute Poliomyelitis. L. H. Mettler, Chicago.
18 *Medical Service of State Hospitals. C. F. Read, Watertown, Ill.
19 Some Necessary Applications of Physiologic Psychology. D. B. McEachern, Chicago.
20 Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
21 Attenuated Types of Suppurative Sphenoiditis in Relation to So-Called Post-Nasal Catarrh, to Headache with Mental Daze and to Asthma. W. E. Casselberry, Chicago.
22 Law and Medicine. C. H. Burton, Edwardsville, Ill.
23 Control of Bovine Tuberculosis. M. P. Ravenel, Madison, Wis.

14 and 15. Abstracted in The Journal, June 17, 1911, p. 1844.

18. Abstracted in The Journal, June 10, 1911, p. 1747.

Kentucky Medical Journal, Bowling Green

August 1, IX, No. 15, pp. 639-696

24 *Surgical Complications of Typhoid. A. D. Willmoth, Louisville.
25 Case of Pellagra. F. Dunlap, Danville.
26 Business Side of Medicine from Idealistic and Optimistic Point of View. J. L. Atkinson, Campbellsville.
27 Endometritis. H. T. Crouch, Bardwell.
28 Appendicitis. L. C. Shafer, Florence.
29 Pelvic Cellulitis or Parametritis. G. W. Payne, Bardwell, Ky.
30 Milk: Its Relation to Public Health. F. J. Eisenman.
31 Cerebral Arteriosclerosis. E. Harthill, Pewee Valley.
32 Careless Examination; Thereby Causing Faulty Diagnosis. B. P. Earle, Dawson.
33 Prognosis and Treatment of Typhoid. C. R. Garr, Flemingsburg.
34 Diarrhea of Children. C. R. Morton, Dawson Springs.
35 Postpartum Hemorrhage. H. C. Clark, Falmouth.

August 15, IX, No. 16, pp. 697-730

36 *Observations on Sepsis and Antisepsis in Medicine. W. S. Thayer, Baltimore, Md.
37 *Rubber Gloves in Obstetric Practice. W. B. Gossett, Louisville.
38 Circumcision and Uncircumcision. R. B. Gilbert, Louisville.

24. Abstracted in The Journal, Oct. 8, 1910, p. 1308.

36. **Sepsis and Antisepsis in Medicine.**—It is urged by Thayer as an antiseptic prophylactic measure that there should be special typhoid wards, special tuberculosis wards and special isolating wards in which diseases such as bacterial dysentery may be cared for. Precautions such as those now supposed to be taken in connection with typhoid should be taken in the care of patients with diseases such as pneumonia or influenza. Orderlies and nurses with bad colds or tonsillitis should not be allowed to attend regularly to susceptible individuals or to those in whom the contraction of the malady might produce grave results, such, for instance, as patients suffering with mitral disease. Every hospital ward should be thoroughly and effectively netted against flies and mosquitoes. The omission of a precaution so elementary in its necessity as this, should be regarded as criminal negligence. Not only nurses and orderlies, but attending physicians, should wear clean uniforms or gowns, whenever attending wards containing contagious diseases and remove them on leaving the wards. And among contagious diseases, Thayer includes such maladies as typhoid, tuberculosis and

dysentery. All attendants should invariably and thoroughly wash their hands on leaving a ward or a bed containing a patient suffering from an acute infectious disease. The observance of the necessary precautions of sterilization of the clothes, eating utensils, excreta and bath water of all patients with infectious diseases, should be as rigidly and thoroughly enforced as are the antisepsis rules in the surgical operating room. Cultures should be taken from the urine and feces of all typhoid patients before their discharge from the hospital and, as a rule, no patient should be discharged until his excreta are free from the infectious organism. Similar steps should be taken with regard to dysentery.

Thayer is convinced that if precautions such as these were uniformly adopted in large hospitals, a great step would be taken, not only toward the immediate protection of the population of that institution and of the surrounding community, but toward the education of the medical and lay public at large, for similar precautions should also be taken in connection with patients whom physicians are attending at their homes. In the case of typhoid, for instance, the house should be thoroughly netted. No flies from that patient should infect the food of his neighbors. Furthermore, when possible no one but the attendants should be allowed in the room of the patient. If, however, it is necessary for one member of the family to be present, that individual should adopt all the precautions observed by physician and attendants. The physician should wear a fresh, clean gown whenever he visits the patient. A sufficient supply of these garments should be kept, so that a fresh one may be worn at every visit. The gown should be placed immediately in a tin boiler and boiled after every visit of the physician, so that in most cases, one or two gowns would suffice. The rules for the sterilization of the bath water, excreta, clothes and eating utensils should be carried out in the same manner as in the hospital. Final cultures should be made in the same way. He says that physicians as a body have been content to limit their practice to the treatment of infections after they have occurred, while the surgeon has long since passed beyond this, and has recognized that his most important duty lies in prophylaxis against this infection.

37. **Rubber Gloves in Obstetric Practice.**—Gossett is of the opinion that it is unnecessary for the obstetrician, under normal conditions, to make a habit of using rubber gloves in every case, if he takes the same precautions in cleansing his hands as the surgeon does before performing a major operation. The man who uses gloves must remember that their employment in no way lessens the necessity for thorough cleansing of the hands beforehand. The same precautions must be taken with the hands as if the gloves were not to be used. And just here, Gossett says, will be a great danger because a great many physicians will think that with the use of gloves this precaution is not necessary.

New Mexico Medical Journal, Las Cruces

September, VI, No. 12, pp. 291-330

39 The Needs of New Mexico. F. T. B. Fest, Las Veges, N. M.
40 Anesthesia. W. W. Spargo, Albuquerque, N. M.
41 Inalienable Birthright of Physician. C M. Yater, Roswell.

Annals of Surgery, Philadelphia

October, LIV, No. 4, pp. 433-576

42 Study of Infections. A. T. Bristow, Brooklyn, N. Y.
43 Anatomy of Spinal Puncture with Technic and Paralytic Sequels. W. C. Lusk, New York.
44 *Technic of End-to-End Arterial Anastomosis. A. Ehrenfried and W. M. Boothby, Boston.
45 *Lateral Vascular Anastomosis. B. M. Bernheim and H. B. Stone, Baltimore.
46 Some Recent Mechanical Aids to Hollow Visceral Anastomosis. C. E. Tennant, Denver, Colo.
47 Successful Ligation of First Portion of Left Subclavian Artery. J. M. Neff, Spokane, Wash.
48 Fibro-Epithelial Tumors of Mammary Gland. R. B. Greenough and C. C. Simmons, Boston.
49 Intercostal Diaphragmatic Hernia: Report of Case. J. C. A. Gerster, New York.
50 Experimental Study of Management of Post-Operative Thoracic Infections. N. W. Green and H. H. Janeway, New York.
51 Surgical Clinic of Protestant Episcopal Hospital of Philadelphia. C. H. Frazier, Philadelphia.

44. **End-to-End Arterial Anastomosis.**—The authors report a successful case of suture of the femoral artery which had been completely severed, though the ends were held together beneath by some strands of uncut adventitia. The surrounding tissues were infiltrated with blood-clot. The vein and nerve were intact. Crile clamps were applied to the artery, the adventitia trimmed away and the ends sewed together by Carrel's method. The clamps were taken off, and then the clamp on the iliac artery was removed. There was some oozing of blood from the anastomosis, which ceased in two minutes under light pressure. Pulsation was readily felt beyond the suture. The abdominal wound was sewed up in layers, the thigh wound by mass sutures. Sterile dressing was applied, stimulation, heaters and blankets. The recovery was rapid and uneventful, despite the weakness of the patient from loss of blood. When seen the next day the left foot was warm and on the day following pulsation of the dorsalis pedis could be readily made out and heaters and blankets were discontinued. The temperature and pulse were normal on the fourth day and remained so. The stitches were removed after the tenth day and on the fourteenth day the patient went home, well except for a small granulating area at the site of the original wound.

45. **Lateral Vascular Anastomosis.**—In the method devised and employed by the authors the artery and vein between which the communication is to be established are carefully dissected out and bull-dog or Crile clamps, rubber-shod, are applied to each vessel at corresponding points. The incision in the artery is made first. A sharp cataract knife, held transverse to the long axis of the vessel, is plunged through the artery in a direction oblique to the horizontal plane in which the vessel lies, so as to form a sector of the lumen with its arc equal to about one-third of the circumference. The knife is thrust in with its cutting edge upward and toward the adjacent vein. The overlying one-third of the artery wall is then divided. At once the retraction of the longitudinal muscle and elastic fibers causes this transverse incision to gape and become an open ovoid. Owing to the fact that the knife was entered obliquely and not perpendicularly, this ovoid looks toward the vein and also somewhat upward. The posterior edge of the opening is thus easily accessible for suturing. As soon as the artery is opened all blood is washed out with salt solution, the adventitia stripped off carefully and the lumen and other surfaces freely bathed with liquid vaselin. The artery is then protected with vaselin-soaked gauze and a similar incision, corresponding in size and position, is made in the vein so that it looks toward the artery and upward. The suture is started by passing the needle through the wall of the artery from without inward, then crossing to the vein and passing here from within outward. When this suture is tied the knot lies outside the vascular lumen. From this starting point a simple continuous suture is carried around the openings in the two vessels, care being taken to avoid purse-stringing. The operation is completed by tying the last suture to the remaining long end of the first tie. No difficulty is experienced in approximating the edges of the incisions and there is no more tension on the thread than in an end-to-end anastomosis.

After completion of the suture, the clamps are removed first from the vein, as in all vascular surgery. If any marked leakage occurs, the weak spots are reinforced by one or two extra sutures. Then the arterial flow is gradually allowed to go over. During the suturing, intima is not always approximated to intima, but with the establishment of the arterial stream through the anastomosis, the "pull" in opposite directions between the two vessels helps to bring about an accurate approximation. This method has been employed with great satisfaction a considerable number of times in animals and was equally simple in execution in the one clinical case in which they have so far had the opportunity to try it. After an interval now of three months, this patient's anastomosis is working splendidly.

Vermont Medical Monthly, Burlington

September 15, XVII, No. 9, pp. 209-234

52 Epidemic Poliomyelitis in Light of Recent Laboratory Researches. G. R. Pisek, New York.
53 An Operation (Mayo) for Hysterectomy. S. E. Maynard, Burlington, Vt.

54 Anterior Poliomyelitis. F. E. Steele, Waterbury, Vt.
55 Single Rod Axis Traction Forceps. G. L. T. Hayes, Graniteville, Vt.

Journal of American Public Health Association, Columbus

September, I, No. 9, pp. 601-676

56 *How to Get and Keep Competent Health Officers. G. W. Goler, Rochester, N. Y.
57 Some of the Larger Aspects of the Work of the Metropolitan Sewerage Commission of New York. G. Soper, New York.
58 Ventilation of Emigrant Ships. P. H. Bryce, Ottawa, Canada.
59 Chemical Disinfection of Water and Sewage; Recent Development and Present Status. E. B. Phelps, New York.
60 Bacteriologic Examinations of Shucked and Shell Oysters. G. W. Stiles, Washington, D. C.
61 Source, Manufacture and Composition of Commercial Agar Agar. H. A. Whittaker.
62 Some Results Obtained from Digestion of Suspected Tubercular Sputum. B. R. Rickards, Urbana, Ill., and L. V. Parker, Minot, N. D.
63 Use of Streptococcus Vaccine as Means of Prophylaxis Against Scarlet Fever. E. T. Biwer, Chicago.
64 Score Card System of Dairy Inspection from National Standpoint. G. M. Whitaker, Washington, D. C.
65 Sterilizing Stations in Dairy Districts. C. E. North, New York.
66 Pasteurization of Milk in Sealed and Final Package. J. C. Carter, Boston.

56. **How to Get and Keep Competent Health Officers.**—The practice of modern sanitation and hygiene, having for its object the prevention of disease and the prolongation of life, Goler says, does not lead to increased compensation for the health officer, but, cut off from that increase in private practice which devotion to public duty in America always brings, he lands at the end of his career, out of work, out of money and out of health. To the city of his service he has usually given the best that is in him and his labor has been of inestimable value to the life and health of the people of the community; but more than that, if well done, it has been of economic value by lessening the burden which the city has had to bear in caring for the sick, supporting the widowed, the orphaned and the fatherless, in hospitals and other institutions, through private and public charities. Even more than this, the economic value of his work serves to attract attention to the city as a city of the well; and the advantages of a city where health is high and deaths relatively infrequent will be in the time to come, if not now, more than the advertising advantages of bill boards and newspapers. Our cities, says Goler, are beginning to learn the lesson that our insurance companies are learning and just as the insurance men have realized that it is better by care to keep their policy holders alive to pay premiums, than it is to let them die and have the companies pay death claims, so our cities are learning that to grow in population and in importance it is not only necessary to attract new citizens, but it is necessary to take care of the health and lives of those they have.

To do all this, and much more, is the work of the new health officer. To do his work well, he will not only have to exercise all the knowledge he has, but he will have constantly to accumulate new knowledge by frequently attending meetings and conventions of sanitary and social workers. He will also have to do a large amount of research work, both directly and through the labor of those in the laboratory. The equipment of the modern health office, the employment of laboratory workers and the purchase of apparatus, all cost money and in the beginning it may be difficult to get all the money necessary to man and equip the various divisions of the department where advanced work should be going on for the solution and interpretation of questions relating to the public health. For the study of cognate subjects, public spirited citizens equip and endow departments in various institutions and surely no one could place even small sums of money to any better purpose, than for the endowment of special or general work in public health laboratories. Under such conditions, the opportunity to work with a reasonable tenure of office and a fair compensation, the new health officer would become the chief advertiser of the city's health, its wealth and its progress.

Medical Fortnightly, St. Louis

September 25, XXXX, No. 6, pp. 385-408

67 Conservation of Our Young People. D. Lewis, Chicago.
68 In the Twilight. C. E. Warren, North Easton, Mass.
69 Modern Management of Pneumonia. S. Baruch, New York.

October 10, XXXX, No. 7, pp. 409-430

70 Contribution to Medical History of Napoleon's Campaign in Russia in 1812. A. Rose, St. Louis.
71 In the Twilight. C. E. Warren, North Easton, Mass.
72 Modern Management of Pneumonia. S. Baruch, New York.

Buffalo Medical Journal

October, LXVII, No. 3, pp. 121-178

73 Treatment of Acute Gonorrhea. C. W. Bethune, Buffalo.
74 Labor in Moderately Contracted Pelves. F. C. Goldsborough, Buffalo.
75 *Case of Laceration of Trachea. W. L. Wallace and H. O. Brust, Syracuse, N. Y.

75. **Laceration of Trachea.**—While performing athletic stunts this patient fell from a bar, striking the front of his neck across the back of a chair. He was at once in great distress for breath and coughed up much blood. For six days and six nights he was unable to lie down and if he dropped off to sleep for a second, his breath would be instantly shut off. He also had great difficulty in swallowing any food or water. At the operation it was found that three or four of the rings were badly broken from about the third to the fifth or sixth. The proximal and distal ends of the broken trachea were entirely separated and out of line and were held together only by the fibrous membrane which connects the posterior extremities of the cartilaginous hoops. The authors cut away the protruding splinters of the rings and sewed up the tracheal wound with fine chromic catgut. Most of the stitches were passed through the entire wall of the trachea, fastening and holding the broken rings to the sound rings above and below. As the mucous membrane tended to peel away from the rings and plug the breathing space and as the broken rings tended to collapse, they found these through-and-through stitches necessary. After getting the trachial tube air-tight by stitching a piece of fascia over the repair, they were met with another difficulty. When they took off the tenacula, used to hold the ends of the trachea in line and together, the windpipe collapsed, lacking the supporting cartilage hoops. When they pulled forward again, he could breathe. They therefore passed two or three traction linen sutures into the front of the trachea and brought them forward out of the wound, keeping up the tension while the superficial wound was closed and fastened them around the dressing covering the wound. A small rubber drainage tube was left at the lower extremity to take care of the infiltrated tissues. The drainage tube was gradually withdrawn during the next four or five days and at the end of a week the traction stitches were found to be no longer needed. They were therefore removed and the wound allowed to close and he has had no further trouble. One month later, his breathing and speaking were normal.

Journal of South Carolina Medical Association, Charleston

September, VII, No. 9, pp. 329-358

76 Medical Inspection of Schools in Spartanburg, S. C. L. R. N. Gantt, Spartanburg, S. C.
77 Medical Inspection of Schools and School Children. J. F Townsend, Charleston, S. C.
78 Medical Inspection in Winthrop College Training School. L. Boyd, Rock Hill, S. C.
79 Uncinariasis; Its Eradication in South Carolina. J. L. Ward, Columbia.

Journal of Nervous and Mental Diseases, Lancaster

September, 38, No. 9, pp. 513-576

80 *Early Symptoms of General Paralysis. P. C. Knapp, Boston.
81 *Pathologic Study of Türck's Bundle. J. H. W. Rhein, Philadelphia.
82* Muscular Hypertrophy with Weakness. A. H. Woods, Philadelphia.

80 and 81. Abstracted in The Journal, July 29, 1911, pp. 417 and 418.

82. **Muscular Hypertrophy With Weakness.**—Woods calls attention to a disease of the muscular system the characteristics of which are as follows: Increased bulk of affected muscles, which feel firm when contracted; diminished power with early fatigue; hypertrophy of individual fibers, some increase in number of nuclei; no proliferation of fibrous or fatty tissue and no degeneration; tendon-reflexes, mechanical irritability and electrical reactions varied from slight diminution to slight increase. No qualitative electrical changes; a few cases show vasomotor skin changes; and some, dull pain

or tenderness of muscles; the course is slow, but little change occurring from year to year; males are more often affected. The upper extremities were involved more than the lower, though any part of the body may suffer.

American Journal of Obstetrics and Diseases of Women and Children, New York

October, LXIV, No. 406, pp. 593-728

83 The "Pelvic" Kidney; Report of Two New Cases. D. Bissell, New York.
84 *Posture of Lying-In Patient. G. C. Mosher, Kansas City, Mo.
85 Comparative Anatomy of Female Genitalia. E. A. Schumann, Philadelphia.
86 Surgical Hints. T. F. Lowe, Washington, D. C.

84. **Posture of Lying-In Patient.**—Mosher's rule is that the woman should be on her feet when she can have a record of two days in which no red color is shown. This puts the average patient up about the fifteenth day. She walks to a chair, is up an hour, increases the limit daily, as she shows her recuperation, judging by the lochia and height of fundus. Mosher examines her the fourth week and cautions her to lie down part of each day through the sixth week. He has had the fundus at the brim by the ninth day and the lochia serosa at the same time and he has had the patient in bed eighteen and twenty days. Usually she may be up half the day the third week and out the fourth week, but Mosher finds a routine practice during the first ten days of raising the head of the bed 8 or 10 inches an advantage in assisting drainage without subjecting the patient to any effort or exertion as is done when on the back rest. Mosher says that American women of the better class are not to be compared in their physical strength with the German peasantry, so that conclusions drawn from hospital statistics of the latter class cannot serve as a criterion for us in putting the patient on her feet. On the other hand, the modern young mother of the present generation who has had an education and an opportunity to live the normal life under direction of her advisor will be found to come through her ordeal in better shape by the adoption of the conservative rule than if she followed the heroic teachings of our brothers across the sea.

As to the change of posture in bed, Mosher's own experience has led him to allow the patient to be turned on her side after the first few hours, this gives her a sense of comfort after the long enforced cramped position on her back with her knees flexed, as she was during labor. He has never been unfortunate enough to see a case of embolism following labor, but appreciates that one is never too old to learn. The catheter is a last resort. The patient is urged to use the pan while lying on her back with various devices of pitcher, douche, water poured from height into a vessel or from a faucet to aid by suggestion the emptying of the bladder. If these expedients fail, she may be turned gently over on her face, lying across the pan to aid by gravity the expulsive effort. Then as a last resort, rather than to catheterize, she is, if the pulse is 90 or under, allowed to be helped out to the jar, which, giving her the upright posture usually accomplishes the desired result. The rule to be laid down from the present state of knowledge, is that the involution of the uterus, the color of the lochia and general condition of the individual patient must govern the conduct of the case, rather than an arbitrary time limit, based on the number of days following delivery.

Virginia Medical Semi-Monthly, Richmond

September 22, 16, No. 12, pp. 289-312

87 Prolapse of Uterus. C. R. Robins, Richmond, Va.
88 Symptoms of Exophthalmic Goiter. G. B. Lawson, Roanoke, Va.
89 Pathology and Chemistry of Exophthalmic Goiter. R. L. Rhodes, Roanoke, Va.
90 Treatment of Exophthalmic Goiter. H. H. Trout, Roanoke, Va.
91 Training of Nurses. C. S. White, Washington, D. C.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

September, III, No. 1, pp. 1-99

92 *Effects of Pilocarpin and Atropin on Amylolytic Power and Composition of Saliva. E. M. Ewing, Columbia, Mo.
93 *Actions of Caffein on Mammalian Circulation. T. Sollmann and J. D. Pilcher, Cleveland.
94 Consideration of Some Biologic Tests for Epinephrin. R. G. Hoskins, Columbus, O.

92. **Effects of Pilocarpin and Atropin.**—Ewing found that the volume of the normal saliva, its amylolytic power and the amount and percentage composition of solids secreted, remain approximately constant during a continuous period of secretion of six or eight fifteen-minute periods. If there is any change, it is a very slight falling off of the percentage composition of organic solids and at times of the amylolytic power. Pilocarpin reduces the relative amylolytic power of the normal saliva from 30 to 60 per cent. Although the relative amylolytic power of the saliva is much diminished by pilocarpin, the amount of maltose produced in the total volume of saliva secreted in a given period, after the administration of this drug, is greater than that produced by the amount of normal saliva secreted in the same length of time. "The efficiency" of the secretion is therefore increased by pilocarpin. Pilocarpin increases the amount and tends to increase the percentage of both the organic and inorganic solids of the saliva; the greatest increase is in the organic constituents, however. Any percentage increase of the solids is not nearly so great as the increase in the actual amount secreted. Atropin diminishes the amylolytic power of the saliva from 15 to 30 per cent. Both the amount and percentage composition of total solids secreted are greatly diminished by atropin. The decrease is in the organic constituents. Pilocarpin and atropin affect the factors which influence both the "trophic" and "secretory" elements of the saliva. The effect of pilocarpin and atropin on the secretion, or activity of the ptyalin of the saliva, bears no definite relation to the action of these drugs on the other physicochemical properties of the secretion.

93. **Action of Caffein on Mammalian Circulation.**—The effect of caffein on the circulation is shown by Sollmann and Pilcher to involve the following factors: Cardiac stimulation or depression, according to the dose and rapidity of injection; increased heart-rate, not due to vagus-depression (if the vagus is intact, there may be slowing through central stimulation, but with large doses, the heart escapes from the vagus tone); vasodilation, through peripheral depression of the vasoconstrictor mechanism; central vasoconstrictor stimulation generally ineffectual, also convulsive stimulation; cardiac irregularities, with large doses. The early intravenous injections show the following phenomena: Momentary myocardial depression, succeeded by myocardial stimulation; peripheral vasodilation; central vasomotor stimulation, usually ineffective; increased heart-rate. Blood-pressure: primary fall, followed by recovery and often a small rise. Oncometer: primary fall, followed by larger rise, usually outlasting that of the blood-pressure. Summation of effects with cumulative doses: (a) Total dosage of 20 to 150 mg. per kilo shows: cardiac depression (dilatation); peripheral vasomotor paralysis; moderate and ineffective central vasomotor stimulation; heart-rate reaches maximum and becomes irregular; blood-pressure falls to constant level of 50 to 70 mm.; fall of oncometer. (b) The blood-pressure reaches a constant level when the dosage reaches about 150 mg. per kilo, and further doses of caffein may then be injected with little effect, but sudden cardiac failure may supervene at any time.

Journal of Maine Medical Association, Portland

August, 2, No. 1, pp. 341-379

95 *Modern Methods of Clinical Investigation in Relation to Hospital Organization. H. A. Christian, Boston.
96 Prostatic Concretions and Calculi. F. B. Lund, Boston.
97 Borderland of Medicine and Surgery. H. F. Hewes, Boston.
98 Chronic Alcoholism. F. E. Leslie, Andover.
99 A Brief History of Medicine. M. P. Judkins, Rockland.
100 Pregnancy Complicated by Eclampsia and Fibroid of Uterus. F. H. Jackson, Houlton.

95. **Hospital Organization.**—The very complexity of method used in modern medical investigation, Christian says, demands a highly specialized training and continuity of observation for investigators and in addition a large variety of apparatus and trained assistants if advance is to be made. The time element enters to make impossible the application of such methods to more than a relatively few patients at any one period. Consequently the trend of modern clinical investigation is more and more toward the most minute continuous study of a few patients rather than the cursory observation

of the many. Team work and cooperative coordinated observ-ation become increasingly important and hence the necessity of a centralized staff organization. As a result of the influence of present methods of clinical investigation there has come the feeling that for the hospital in which medical investigation is to be conducted, a continuous service with a single head is a more advantageous unit of organization than the older method of broken service with three or four chiefs of coordinate rank on duty during the twelve months. If we examine critically the hospitals of the world with reference to their productivity in investigation, it seems quite certain that productivity is most marked in those that have used the continuous service plan.

How does such a continuous service affect the other functions of a hospital? Is there better teaching with a continuous than with a broken service? Can better men be attracted to the one than to the other? The teaching function of a hospital is, in large part, at least, utilized in connection with a medical school, and staff selections should be made in cooperation with medical schools, thereby securing better men for the work. The continuous service in connection with a teaching position in a medical school is considered more desirable than the broken service, inasmuch as t singles out one man as director and leader and concentrates n him the emoluments of the position. Abler men will naturally seek such a place and selection need not remain local, s was the case with the broken service. The ability to pick he best man wherever he may be is certainly desirable from he pedagogical view point. In fact, it is almost alone in the linical branches of medicine that the limitations of local selections are tolerated in the choosing of teachers. If in all ther branches of educational work the best teachers can be secured by a non-local competition, why not in clinical medcine, surgery, etc.?

Lancet-Clinic, Cincinnati

September 30, CVI, No. 14, pp. 329-354

01 Acute Indigestion. C. C. Fihe, Cincinnati.
02 Bronchoscopy. J. W. Murphy, Cincinnati.
03 Shop Sanitation as Factor in Workman's Efficiency. O. P. Geier, Cincinnati.

October 7, CVI, No. 15, pp. 355-380

04 Psychic Causes of Insanity. I. O. Allen, Richmond, Ind.
05 Paralysis of Arm Removed by Suggestion, Although Accompanied by Cerebral Neoplasm. T. A. Williams, Washington, D. C.
06 Ancient Cincinnati House Physicians. T. C. Minor, Cincinnati.

Journal of Cutaneous Diseases, New York

October, XXIX, No. 10, pp. 521-568

07 *Skin Changes in Leukemias and Allied Conditions. H. H. Hazen, Washington, D. C.
08 *Treatment of Malignant Syphilis. H. Morrow, San Francisco.

107. **Skin Changes in Leukemias.**—Observation of three ases and study of case reports in the literature has coninced Hazen that there is a group of cutaneous lymphomata nd lymphosarcomata, which includes leukemia and pseudoeukemia cutis, lymphosarcomatosis cutis, lymphodermia perniciosa, mycosis fungoides and the cutaneous lesions of chloroma and myeloma which are closely related. The "serum eaction" recently discovered for mycosis fungoides by Jolain and Brin and described by de Beurmann and Verdun ay prove of service in elucidating the relationship. Lymhodermia perniciosa is a condition closely related to both eukemia cutis and to myocosis fungoides. Mycosis fungoides an aleukemic lymphomatosis and may become leukemia. he cutaneous lesions of leukemia are probably infiltrations nd are comparable with the internal nodules in splenomyegenous leukemia.

108. **Treatment of Malignant Syphilis.**—Judging from the tion of salvarsan on a number of malignant cases of syphis and on fifty-five milder luetic infections Morrow is of e opinion that salvarsan controls malignant lues quicker and etter than mercury. Severe infections seem to clear up as uickly as milder ones. In nasopharyngeal necrosis, the tion is quick and sure. If given early in lues, alone or in onjunction with mercury, cases of malignant lues will be a inical rarity.

Journal of Kansas Medical Society, Kansas City

October, XI, No. 10, pp. 403-450

109 Traumatic Neuroses. O. D. Walker, Salina.
110 Hypothermia. H. L. Chambers, Lawrence.
111 Septic Endometritis: Report of Case. H. H. Brookhart, Scammon.
112 Medical Jurisprudence. J. H. Connaughton, Kingman.

Albany Medical Annals

October, XXXII, No. 10, pp. 575-636

113 Diagnosis of Kidney and Ureteral Calculi. D. N. Eisendrath, Chicago.
114 *Occlusion of Posterior-Inferior Cerebellar Artery, a Definite Symptom-Complex. H. C. Gordinier, Troy, N. Y.
115 Exostosis of Os Calcis. J. M. Berry, Albany, N. Y.

114. **Occlusion of Posterior-Inferior Cerebellar Artery.**—Three cases of this very unusual condition are reported by Gordinier. He believes that the branches of the posterior-inferior cerebellar artery which supply the medulla oblongata are physiologic end-arteries and that occlusion of this artery occasions a perfectly definite symptom-complex. The area of softening resultant from occlusion of this artery is strictly limited to the lateral field of the formatio reticularis and restiform body. The salient clinical symptoms of this complex are easily explainable by the loss of functioning of the important tracts of fibers and cranial nerve nuclei contained in the softened area. No motor paralysis is present unless the thrombus extends into the vertebral or basilar arteries. This complex is equally as characteristic as that of the so-called Brown-Séquard's spinal paralysis. The symptoms occasioned by the occlusion of the right posterior-inferior cerebellar artery are exemplified by the three cases narrated. They may be briefly summarized as follows: Sudden onset without disturbance of or loss of consciousness; remarkable and long persistent vertigo with nausea and vomiting; deafness on the right side; absolute inability to swallow due to paralysis of the muscles of deglutition of the right side; voice low and hoarse. Staggering toward the right side, often striking objects on that side, the gait resembling closely that due to cerebellar disease. Complete analgesia and thermic anesthesia of the left side of the arm, trunk and leg and in two of the cases partially so of the left side of the face; absolute preservation of the tactile sense on whole right side; diminution or loss of pain and temperature sense in distribution of the right trigeminal nerve (observed only in case three). Impairment of sense of pain and temperature in pharynx while sense of touch was normal. Contracted pupil, ptosis, narrowing of the palpebral fissure, retraction of eye-ball on right side, loss of sweating on the right side of face and neck. Motor power normal and no permanent paralysis in the domain of the right facial and hypoglossal nerves unless thrombus extends into vertebral. In one case a temporary right-sided facial paralysis existed. Pulse slow in all three cases, probably due to vagus irritation; may be rapid from vagus paralysis. Th ereflexes were not characteristic. Gordinier believes these symptoms are doubtless due to implication (by the area of softening) and consequent loss of functioning of the following important conducting paths. Cranial nerve nuclei and their root fibers; the ventrolateral ascending tract of Gowers; the direct cerebellar tract of Flechsig; the descending vestibular tract and cochlear nerve roots. Dorsal and ventral auditory nuclei. The cerebello-olivary tract; the nucleus ambiguus or combined motor nucleus of the glossopharyngeal and pneumogastric nerves, vasomotor and sympathetic fibers.

Journal of Abnormal Psychology, Boston

October-November, VI, No. 4, pp. 249-328

116 Plea for Study of Philosophic Methods in Preparation for Psychoanalytic Work. J. J. Putnam, Boston.
117 Case Illustrating So-Called Demon Possession. E. E. Mayer, Pittsburgh.
118 Freud's Theory of Wit. A. A. Brill, New York.

Interstate Medical Journal, St. Louis

October, XVIII, No. 10, pp. 983-1072

119 *Rôle of Myocardium in Heart Disease. L. M. Warfield, Milwaukee.
120 Prolonged Pregnancy. A. H. Wright, Toronto.
121 Appendix Dyspepsia. W. F. Cheney, San Francisco.
122 High Frequency Cauterization of Bladder Lesions. E. L. Keyes, New York.
123 Methods of Dealing with Sac in Operations for Radical Cure of Inguinal and Femoral Hernia. H. M. Young, St. Louis.
124 External Malleolar Sign. C. G. Chaddock, St. Louis.
125 Ten Cases of Trauma Capitis. A. H. Deppe, St. Louis.

119. **Myocardium in Heart Disease.**—In Warfield's opinion the myocardium plays the chief rôle in disease of the heart. Valvular lesions mean that the heart is working at a disadvantage, its reserve power is not as great, but it does not necessarily mean a weak heart. It means that every case of heart disease, that is, valvular heart disease must be studied carefully as a distinct entity and not as one of a group of cases having similar lesions. It is just here, says Warfield, that there is the important difference between the really good physician and the average doctor. Habits of life, such as eating, sleeping, mental work and worry, defecation, sexual excesses, drinking, and, in short, everything pertaining to the life of the patient, must be most carefully and painstakingly inquired into before we can even begin to tell him what not to do. No detail is too unimportant for study. When we have grasped the fact that there are no unessentials in the history of a person with suspected heart failure, and the fact that a loud murmur does not necessarily mean real heart disease, and the other important fact that the state of the myocardium controls the situation, then we may have hopes of assisting many apparently hopeless invalids to useful lives.

Medical Record, New York

October 14, 80, No. 16, pp. 759-808

126 Practical Application of Bacterial Vaccines. M. J. Synnott, Montclair, N. J.
127 Movable Cecum and Typhlotomy. O. Lerch, New Orleans.
128 Quinin and Urea Hydrochlorid; Its Preparation and Use as Local Anesthetic; Report of Ten Cases. W. A. Boyd, Westport, Conn.
129 Psychic Indigestion. G. M. Niles, Atlanta, Ga.
130 Can Inebriates be Cured by Physical Means in Hospitals? T. D. Crothers, Hartford, Conn.
131 Foreign Bodies in Lung Simulating Pleural Effusion. J. W. Boyce, Pittsburg.
132 Normal Pregnancy Following Two Ectopics. F. R. McCreery, New York.

Boston Medical and Surgical Journal

October 12, CLXV, No. 15, pp. 545-586

133 *Simple Diet Card and Its Use. F. W. White, Boston.
134 *Phenolsulphonephthalin as Test of Renal Function. H. Cabot and E. L. Young, Boston.
135 Bacteriologic Examination of Stools as Measure of Quarantine Protection Against Asiatic Cholera. A. J. McLaughlin, Washington, D. C.
136 Effect Produced by Some Therapeutic Measures on Different Forms of Leukocytes in Pulmonary Tuberculosis. M. Solis-Cohen and A. Strickler, Philadelphia.
137 Case of Cerebral Syphilis in Child Four and One-Half Years Old Cured by Salvarsan. A. W. Fairbanks, Boston.

133. **Simple Diet Card.**—The importance of the amount of food as well as kind is emphasized by White. He says that the principles of nutrition are better known than the way to apply them. Our use of foods has been much less accurate than our use of drugs, and dietary mistakes have been common through ignorance of food values or difficulty in estimating them. A large part of the difficulty for the busy doctor has been the amount of work needed to estimate the fuel value of a day's food or the amount of carbohydrate, protein or fat in it. The method of doing this must be simple to be freely used.

He presents a simple diet card used by him. Its object is to avoid weighing of food and tedious calculations by giving food values in household measures. By its use one can readily plan or estimate the value of any simple diet or control the amount of some one food material, such as the carbohydrate in diabetes or the proteid in nephritis. The table gives the following:

1 glass of milk equals 160 calories.
1 glass of ¾ milk and ¼ (4 tablespoons) 20 per cent. cream equals 240 calories.
An eggnog (1 glass milk, 1 egg, 2 teaspoons sugar) equals approximately 300 calories.
A plate of cream soup equals 160 calories.
A glass of skimmed milk or buttermilk equals 80 calories.
An equal amount of gruel equals 75 calories.
A glass of albumin water (white of 1 egg) equals 20 calories.
A cup of beef tea or clear soup equals 5 20 calories.

134. **Phenolsulphonephthalin.**—The authors regard this test as simpler in technic and more accurate in its results than any of the other tests of renal function, although they are in doubt as to the accuracy of the test in chronic nephritis. They believe the test to be of great value in cardiorenal disease in indicating the organ principally or most importantly affected.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

September 23, CLXXXI, No. 4,595, pp. 871-930

1 *Two Cases of Extensive Excision of Colon and Ileum for Tuberculous Disease. A. E. Barker.
2 Operative Treatment of Malignant Disease of Pelvic Organs. A. Don.
3 *Three Cases of Congenital Heart Disease. Sir D. Duckworth.
4 Variability of Agglutination of B. Typhosus and M. Melitensis by Normal Sera and Its Importance in Laboratory Diagnosis. E. C. R. Fox.
5 *Mediterranean Fever: Its Influence on Fetus in Utero. R. Samut.
6 Accidents Which Have Occurred Through Color Blindness. F. W. Edridge-Green.
7 Bilharziosis and Ankylostomiasis in Egypt. G. W. G. Hughes.
8 *Roentgenotherapy of Sarcoma. J. D. Harris.
9 Acute Plastic Iritis, Markedly Benefited with Antistreptococcus Serum. A. A. Bradburne.
10 Case of Syphilitic Necrosis of Cervical Vertebra. F. N. J. Callaghan.
11 Portal Pyemia and Hemorrhoids. H. A. Alexander.
12 Prevalence of Pulmonary Tuberculosis in Merchant Service. M. MacKinnon.
13 Case of Myeloid Leukemia with Chylous Ascites. H. S. Furness and G. F. Stebbing.

1. **Extensive Excision of Colon and Ileum for Tuberculous Disease.**—Barker reports two cases. In one, the hepatic colon was clamped, divided, and its end turned in and sutured. The ileum was cut across over 2 feet from the valve and the whole tuberculous bowel with its mesentery and many infected glands removed from the abdomen as above. Then the end of the ileum was planted into the side of the transverse colon about 2 inches from its closed end. The whole procedure was a most complicated one owing to adhesion, infiltration and glandular infection as well as the difficulty of determining how much of the ileum should be taken, for many small tubercles were scattered widely. The cecum with 4 inches of colon and 27 of ileum were removed. In the second case a lateral anastomosis of ileum to middle of transverse colon was made after the removal of the cecum, ascending colon and hepatic flexure.

3. **Congenital Heart Disease.**—Mrs. B. was one of several daughters of a gouty man who was over 80 when he died. Her mother was also long-lived and appears to have suffered from some variety of chronic arthritis. Mrs. B. married at the age of 17; her husband died some years later from chronic dysentery. One son was the issue of this marriage. He has been healthy and vigorous and still survives at the age of 60, with some slight indication of a gouty proclivity. Mrs. B. married a second time a sufficiently robust man, aged 47 years, and had by him two sons and three daughters, all now living and healthy. Soon after this marriage she became very stout (arthritic obesity). After twelve years this husband died from cardiac dilatation and hemiplegia. Later, at the age of 37 years, Mrs. B. married a third time, the husband being a healthy man about 30 years of age. In this man's family there were signs of gouty proclivity in both parents. (His father died at the age of 79 years from the effects of interstitial nephritis. He had Heberden's nodes, and these also developed in others of his children in later life, with obvious gouty symptoms.) During her pregnancy with her first child by this (third) marriage Mrs. B. suffered from gouty pains in the joints and began to lose a good deal of her obesity. A female child was born at term, somewhat small and weakly, and with a languid circulation. In the course of the second year of its life it was still feeble and backward, although not rachitic, and had a tendency to dyspnea on exertion and progressive clubbing of finger-ends, with duskiness of the lips. An examination of the heart at this time revealed the existence of a murmur in the pulmonary arterial area. The child remained delicate and died from scarlet fever in its thirteenth year. There was no necropsy. Eighteen months later Mrs. B. gave birth to a second daughter. This child was with great difficulty made to breathe on delivery and was cyanotic. It lived only fourteen hours. A necropsy revealed a small opening in the septum ventriculorum and patent ductus arteriosus and extremely small pulmonary veins. The mother had suffered for some weeks during her pregnancy from severe gouty pains in various parts of the body. Two

years later she gave birth to a healthy male child, who is still living and robust and leading an active life.

In the course of the next three years Mrs. B. was found to be the subject of gouty glycosuria, little controlled by dieting. She lost weight very gradually and became feeble. She died at the age of 56 years from pleuro-pneumonia, having suffered from glycosuria in varying degree for twelve years. The husband has since his marriage had several gouty attacks of arthritis, lumbago and phlebitis. The third case of cardiac malformation occurred in the first child born to Mrs. B.'s son by her first husband. This son married a daughter of a distinctly gouty man, who had "regular" arthritic gout at intervals. Their first-born daughter showed obvious signs of congenital heart disease from an early date, suffering from dyspnea, some degree of cyanosis, and backwardness in growth. There was a murmur heard to the right of the sternum and the right ventricle was enlarged. This child hardly grew at all after eight or nine years of age and was very delicate. She died about the age of 13 years. A second daughter was born after this child and has maintained good health. The children by the second husband of Mrs. B. have all grown up in satisfactory health. The eldest and second of the daughters and one of the sons have married and had normal children. The third husband of Mrs. B. married a second time a daughter of an exceedingly gouty father and has had two healthy children by her.

5. **Mediterranean Fever and Fetus in Utero.**—The fetus in the case cited by Samut had been exposed in utero for twenty-one days to the influence of those abnormal conditions of the maternal blood consequent on a severe attack of Mediterranean fever. The child's blood and cerebrospinal fluid yielded a positive reaction to *Micrococcus melitensis* in large dilution. The *M. melitensis* could not be recovered from the internal organs of the fetus. The presence of agglutinins alone in this case raises the important question whether, in the absence of the *M. melitensis*, in the fetal organs, they could have been elaborated by the fetal blood, or whether they were transmitted directly from the maternal to the fetal circulation.

8. **Roentgen-Ray Treatment of Sarcoma.**—Harris cites a case of round-celled sarcoma of the right angle of the lower jaw in which colossal doses of Roentgen-rays proved effective.

Clinical Journal, London

September 20, XXXVIII, No. 24, pp. 369-384

14 Cervical Ribs. H. J. Waring.
15 Metrorrhagia.. A. Routh.
16 Points of Otologic Interest in Connection with Injuries to the Head. S. Scott.

September 27, XXXVIII, No. 25, pp. 385-400

17 Eclampsia. T. G. Stevens.
18 Lupus Erythematosus and Its Treatment. J. L. Bunch.

Medical Press and Circular, London

September 20, XCII, No. 3,776, pp. 309-332

19 *Ulcerative Colitis and Its Treatment. W. Murrell.
20 Treatment of Certain Diseases of Alimentary Tract by Roentgen-Rays, Combined with Internal Administration of Metallic Silver. F. Hernaman-Johnson.
21 Antepartum Hemorrhage Followed by Threatened Eclampsia. H. J. S. Kimbell.
22 Tuberculosis: Advanced Cases and Segregation. A. M. Williamson.
23 Infant Mortality and Employment of Women. E. Wardman-Wilbourne.

September 27, XCII, No. 3,777, pp. 333-358

24 Agitation and Its Treatment. P. Camus.
25 Chronic Catarrhal Otitis Media. C. A. Adair-Dighton.
26 Diagnosis and Treatment of Certain Chronic Lung Affections in Children. C. P. Lapage.
27 Revew of Vital Statistics of Ireland Since 1864. Sir W. J. Thompson.

19. **Ulcerative Colitis.**—The following modes of treatment in Murrell's hands have proved inefficacious or of comparatively little value: (1) Opium and morphin in all forms given by mouth, hypodermically or in enemata, special attention being paid to Dover's powder and compound kino powder. (2) Carbonate of bismuth in large doses up to half an ounce every four hours, alternated with salicylate of bismuth. (3) Astringents including the perchlorid and pernitrate of iron, acetate of lead and sulphate of copper. (4) Intestinal antiseptics, such as *B*-napthol, salol and various preparations of formicaldehyde. High rectal injections of boracic acid Murrell has found useful and in one of his cases (a) the injection of a 1 per cent. aqueous solution of a synthetical preparation of silver at a temperature of 80 F. completely stopped the diarrhea. The peculiarity of the case was that when about five pints had been introduced, the patient being in the knee and elbow position, the fluid was observed running out of the mouth and was identified not only by its physical characters but by chemical tests. Murrell is not in favor of appendicostomy. He says that a right-sided colostomy is in every way preferable and often gives immediate relief to the urgent symptoms. It is a difficult matter to decide when the artificial anus should be closed. If this step is taken at too early a period there may be a return of all the symptoms, while if too long delayed the colostomy may be permanent. Even with a permanent opening, the existence of the patient, especially in the case of a middle-aged man, need not be very uncomfortable and by the observance of simple precautions he is not precluded from the society of his fellow men. Murrell is sure, however, that in most cases it is better to attempt to close the opening at the expiration of about nine months.

Indian Medical Gazette, Calcutta

September, XLVI, No. 9, pp. 329-368

28 Dengue-Like Fevers. A. C. Munro.
29 Quinin Without Tetanus. F. A. Smith.
30 Case of Tetanus Treated by Chloretone. V. St. J. Croley.
31 Case of Tetanus with Two Severe Relapses at Long Intervals. L. G. Fink.
32 Case of Malignant Edema. R. F. D. Macgregor.
33 Nature of Epidemic Fever in Lower Bengal Commonly Known as Burdwan Fever. U. N. Brahmachari.
34 Treatment of Granular Ophthalmia and Its Complications by Subconjunctival Injection of Solution of Cyanid of Mercury. R. H. Eliot.
35 Treatment of Local Sores by Carbon Dioxid Snow. W. W. Jeudwine.
36 Two Unusual Cases of Head Injury. E. A. Walker.
37 Treatment of Acute Gonorrhea. W. L. Forsyth.

British Medical Journal, London

September 30, No. 2,648, pp. 717-780

38 Treatment of Ante-Partum Hemorrhage. G. E. Herman.
39 *Malformation of Female Genital Organs in Their Clinical Aspects. A. E. Giles.
40 Inefficiency of Present Methods of Saline Infusion. N. S. Carruthers.
41 Painless Swelling of Parotid Secondary to Local Sepsis. C. E. L. Burman.
42 *Possible Toxic Origin of Some Forms of Insanity. E. Goodall.
43 *Different Types of Multiple Sclerosis. H. Oppenheim.
44 *Relation of Head Injury to Nervous and Mental Disease F. W. Mott.
45 Puncture of Brain for Diagnostic Purposes. B. Pfeifer.
46 Need of Chemistry in Investigation of Mental Disease. R. V. Stanford.
47 Wassermann Reaction in Insanity. W. Muirhead.

39. **Malformations of Female Genital Organs.**—The malformations discussed by Giles and cases cited are as follows: 1. Malformations leading to confusion of sex. Case I.—A case of androgyny, the patient living as a married woman. 2. Malformations that preclude or are unfavorable to child-bearing, but allow menstruation and marriage. Case II.—Congenital retroflexion and under-development; hysteropexy; pregnancy. Case III.—Congenital occlusion of the Fallopian tubes. 3. Malformations that preclude child-bearing and menstruation, but not marriage. Case IV.—Infantile uterus: primary amenorrhea. 4. Malformations that preclude marriage and child-bearing, but not menstruation. Case V.—Stenosis of the vagina, probably acquired. Case VI.—Congenital stenosis of the vaginal orifice. 5. Malformations that preclude menstruation, marriage and child-bearing. Case VII.—Atresia of the vagina; hematocolpos; incision; infection; pyosalpinx. Case VIII.—Atresia of the vagina; absence of menstruation. Case IX.—Absence of vagina; hernia of an infantile uterus in the left inguinal canal. Case X.—Absence of vagina; rudimentary uterus; horseshoe kidney in the pelvis. 6. Malformations that allow of menstruation, marriage and pregnancy, but may be attended by complications. Case XI.—Uterus unicornis: pelvic right kidney; normal pregnancies. Case XII.—Uterus septus with fibromyoma. Case XIII.—Uterus bicornis with ovarian cyst. Case XIV.—Uterus bicornis; exploratory celiotomy. Case XV.—Uterus didelphys.

42. **Possible Toxic Origin of Insanity.**—The following observations are made by Goodall on mental disturbances in autotoxemia. These, amounting to insanity in predisposed persons, occur in various maladies in which the nutrition is

impaired, or in which metabolism and depuration are altered or hindered. Thus, in diseases of the heart, kidneys, liver; in rheumatism, gout or chlorosis; in diabetes. The like disturbances are found with Grave's disease, myxedema, Addison's disease (ductless gland diseases). In the hypothyroidism of myxedema Magnus Levy shows experimentally definite deviation from normal metabolism, removed by administration of thyroid. As the symptoms (including the mental ones) disappear or are greatly mitigated by such means, there is reason for the view that metabolic disorder accounts for the mental disturbances in this disease and if in this, then also, it may be, in other ductless gland diseases. When, however, it comes to administering thyroid or pituitary gland in kinds of insanity in which there is no ground for supposing the action of these glands to be deficient, in order "to promote metabolism," we are empirics, indeed; yet, like empirics, we sometimes do good in this way. Is there any record of the metabolism in these cases before, during and after treatment, asks Goodall.

43. **Multiple Sclerosis.**—Oppenheim regards it as a great advantage for the diagnostician to be familiar with all the different types of multiple sclerosis. But he should never forget that the disease is essentially characterized by the multiplicity of foci. And even when a case appears to be of a pure type it will be his first duty to find out whether some symptom is not present or has not existed that would be the manifestation of foci in some remote part. He only who complies with this exaction will be able to see his way through the vast field of multiple sclerosis.

44. **Head Injury and Nervous and Mental Diseases.**—Mott refers to autopsies in twenty-one cases of general paralysis. The average age at death was 46.5; among these there was not one with a history of head injury. There were 235 male pauper paralytics in whom there was not history of head injury in the notes and the average age at death was 43.5; there were 29 male pauper paralytics with a history of head injury of one kind or another occurring at all periods during the life of the individual; the majority, however, are stated to have occurred within a few months to a few years of the admission of the case to the asylum; the average age at death in these twenty-nine cases was almost the same as in those with no history of head injury, namely, 43.3. In only a very few instances does there seem to be any causal relationship between the injury and the precipitation of the onset, or the acceleration of the course of the disease.

In 1,033 male necropsies there were sixty-one with a history of trauma and of these, twenty-nine were cases of general paralysis (the total number of male paralytic cases was 317), making about 9 per cent. general paralytics in which there is some history of a blow or a fall on the head. Of the 111 female general paralytics, there were only four with a history of trauma, therefore less than 4 per cent. Mott has carefully considered the following points in those cases in which trauma has been the reported cause, or contributory cause, of the paralysis; and the evidence afforded by the notes in the case-books in his judgment does not in a single instance allow one to assume that the head injury was the principal cause of the general paralysis from which the patient died. In some instances the destructive changes in the brain at death, together with the history and clinical symptoms, indicated a duration longer than the period of time between the date of injury and the date of death; in others, and they are not a few, the time elapsing between the date of injury and the onset of symptoms was too long to be accounted responsible as an exciting cause of the disease; in a great number of the cases the nature of the injury, whether severe enough to produce a temporary loss of consciousness or to require medical treatment, is not given, nor is the time and date of the injury mentioned, so that the influence of the injury in the production of the mental disease can never be appraised.

As a general result of his investigations, Mott has come to the conclusion that head injury as an exciting cause was not of much importance either in causing the onset of general paralysis or in accelerating the symptoms. At the same time he has met with a few cases in which undoubtedly head injury may have been the determining cause of the onset of the symptoms and it is not unreasonable to suppose that a syphilitic, if he or she had not received some exciting cause, such as a blow on the head, might never have developed general paralysis, but these cases are rare. General paralysis may not be discovered until an accident or a head injury takes the patient to a hospital or infirmary. There is one essential cause of general paralysis and that is syphilis. All conditions which lead, in a non-syphilitic subject, to neurasthenia may act as exciting and contributory factors; they are sexual excesses, head injuries, alcoholism, speculating, gambling, business worries, leading to prolonged mental excitement and insomnia, in fact, all forms of nervous excitement, singly or combined, which will lead to an exhausted nervous system, especially when acting on an inborn neurotic and erotic temperament in the subject of acquired or inherited syphilis.

Annales de Médecine et Chirurgie Infantiles, Paris

September 1, XV, No. 17, pp. 529-560

48 Simplicity and Ease of Puncturing the Pericardium Through the Epigastrium. (Ponction du péricarde par l'épigastre.) A. B. Marfan.
49 *Typhoid Fever in Infants. C. Achard and C. Flandrin.
50 *Relapse of Diphtheria After Measles. (Rechute de diphthérie après une rougeole.) L. Martin and H. Darré.
51 *Treatment of Malignant Diphtheria. (Traitement des angines diphtériques malignes.) M. Ségard.

49. **Typhoid Fever in Infants.**—Achard and Flandrin declare that the reason why typhoid fever is considered rare in infants is because no one thinks of applying serodiagnostic measures to babes in arms. And yet if this were done many a puzzling febrile affection in infants would be cleared up and the source of epidemics better traced. The typhoid syndrome in an infant simulates an ordinary gastro-intestinal trouble or meningitis or pneumonia. They report a case, the third in their experience. There was no history of typhoid in the environment but two sisters had died recently of supposed measles. The infant was 11 months old, breast-fed, and it recovered after a course of the typhoid of only thirteen days. The symptoms had been general depression and fever, diarrhea one day and then constipation, with vomiting. The lack of symptoms on the part of the lungs, intestines and meninges led to the suspicion of typhoid by exclusion. When the infant left the hospital its dejecta still contained typhoid bacilli. The treatment had been merely fifteen-minute tepid baths at 30 C. (86 F.) and regulation of the diet.

50. **Relapse of Diphtheria.**—A 2-year-old child had apparently recovered from a mild attack of diphtheria when he developed varicella and a suppurative otitis, followed by measles, all within two weeks. Three days after the onset of the measles, severe diphtheria developed. Martin and Darré explain this as due to interruption by the measles of the immunizing process going on in respect to the first attack of diphtheria. The measles sore throat opened up new portals of entry for the diphtheria bacilli still lingering in the throat. They state that the combination of measles and diphtheria has been unusually serious in their experience.

51. **Treatment of Malignant Diphtheria.**—Ségard emphasizes the necessity for intensive serotherapy in these cases and its harmlessness during the three weeks after the first injection, as signs of anaphylaxis do not develop until after this period. In malignant diphtheria the little patient should be watched hour by hour, examining the heart, pulse and urine as well as the throat, and giving antitoxin daily if necessary.

Archives des Maladies du Cœur, Etc., Paris

September, IV, No. 9, pp. 545-608

52 Changes in the Action of the Auricles in "Perpetual Arhythmia." (Note sur les transformations de l'activité auriculaire dans l'arythmie perpétuelle.) C. Esmein.
53 The Granulated and the Stippled Blood-Cells. (Différences de structure et de signification des hématies granuleuses et des érythocytes ponctués.) W. Alexieff.
54 Perforation of Blood-Vessels by Gunshot Wounds. (Note sur les perforations vasculaires produites par les balles de revolver.) Argaud and Thomas.

Obstétrique, Paris

September, IV N. S., No. 9, pp. 777-823

55 Malaria in Relation to Pregnancy, Labor and the Puerperium. (Le paludisme.) A. Laffont.

Presse Médicale, Paris

September 16, XIX, No. 74, pp. 737-744

56 *Pediatrics in the Medical Course. (Enseignement de l'hygiène et des maladies des nourrissons dans les facultés de médecine.) A. B. Marfan.
57 Technic for Salvarsan Treatment. (Technique des injections intraveineuses d'arsénobenzol.) M. Leredde.

September 20, No. 75, pp. 745-752

58 *Aqueous Solutions of Salts in Therapeutics. (La médication dialytique.) G. Hayem.
59 Disturbances in Hearing and Vision After Administration of Hectine. (Troubles auditifs et oculaires consécutifs à l'emploi de l'hectine.) G. Ballet and C. Hischmann.
60 *Treatment of Congenital Torticollis. P. Desfosses.
61 *Treatment of Constipation and Gastric Trouble by Reclining on Right Side. (Stase gastro-duodénale et décubitus latéral droit.) A. Martinet.

56. **Infant Hygiene and Pathology in the Medical Course.**—larfan cites statistics to show that the infant mortality in rance has declined regularly from 258 per thousand in 1892 o 117 in 1909, and that the mortality during the first few veeks of life is due to congenital debility or syphilis, both of vhich have to be combated during the pregnancy or before onception. After the first few weeks the mortality is due to igestive disturbances which can best be warded off by breasteeding under practical supervision. Indifference, poverty and gnorance on the part of parents and midwives are cooperating actors which must be fought. He even hints that the ignornce of infant hygiene on the part of some physicians is not negligible factor and that the medical schools are responsible or this. He urges that the infant consultations, day nurseries nd similar institutions should form part of the daily routine t medical students to train them in the diseases and hysiology of young infants which branch of pediatrics is too ften neglected in the medical course, and that there should e an examination in infant hygiene and pregnancy before onferring the medical degree. (See Berlin Letter in THE OURNAL, October 14, p. 1299.)

58. **Dialytic Medication.**—Hayem applies this term to dilute queous solution of salts, artificial mineral waters, of which e uses five special types, corresponding to the Carlsbad, ichy and other mineral springs. He has been using them aily for twenty years in his practice with more and more itisfaction for stomach trouble and constipation and for ucomembranous enteritis. He insists that the composition f the solution must be identical each time, the dose and duraon of the course carefully defined. The dose should be taken the morning on the fasting stomach, at a temperature of 04 F. No. 1 is a mixture of 2.5 gm. sodium bicarbonate; 3 m. sodium sulphate and 1 gm. sodium chlorid to 1 liter of ater. The freezing point is 0.255 C. This is indicated in spepsia suggesting hyperfunctioning on the part of the creting glands (hyperpepsia). About 250 gm. is taken in l at twenty-minute intervals, continuing for twenty-five or irty-five days, no longer, gradually increasing to 500 gm. e cites as contra-indications tuberculosis, heart disease with iling compensation and gastric cancer. He is inclined to cribe the benefit from this treatment to its action on the ver and pancreas augmenting the receptivity of the duoenum and thus curing the symptoms from the hyperpepsia, otwithstanding that analysis of the stomach content reveals e persistence of the hyperchlorhydria and hyperpepsia, until e vicious circle is entirely broken up. His solution No. 2 ntains 5 gm. sodium chlorid and 2 or 3 gm. sodium sulphate the liter; it is taken fasting in doses of 200 or 250 gm. r four or six weeks as an aid in hypopepsia with a tendency constipation, especially for patients who have been drugng themselves to excess. No. 3 is the same as No. 2 only at sodium phosphate is used instead of the sulphate. Both e mildly laxative. No. 4 contains sodium chlorid 3 gm. and dium sulphate 5 gm. to the liter of water. It is useful for ggish liver and in mucomembranous enteritis in doses of 0 or 400 gm., especially for hyperpepsia with constipation. o. 5 contains 10 gm. sodium sulphate and 5 gm. sodium lorid to the liter of water. This is a powerful laxative and e daily dose should not be over 250 gm. and not taken for ore than a week or two.

60. **Treatment of Congenital Torticollis.**—Ballet and Hitschunn insist on the necessity for wearing a correcting applice and exercising the muscles after the sternocleidomastoid has been divided. The operation on the muscle is only the preliminary to these measures.

61. **Position Treatment of Gastroduodenal Disturbances.**—Martinet ten years ago called attention to the efficacy of position in treatment of disturbances in the stomach not due to a permanent mechanical obstruction or organic lesion. He has the patient recline on a bed or lounge when he feels discomfort, lying on the right side, the head raised a little, and in this position sip a glass of hot chamomile or linden flower infusion. The pylorus region thus becomes an upright funnel and the upper end of the duodenum slants downward so that the fluids which have passed through the pylorus do not accumulate and stagnate just beyond in what Holzknecht calls the duodenal bulb. Both duodenum and pylorus are soon emptied by the force of gravity.

Revue de Chirurgie, Paris

September, XXXI, No. 9, pp. 391-518

62 *Ligation of Thyroid Arteries, Especially in Exophthalmic Goiter. (Ligature des artères thyroidiennes principalement dans la maladie de Basedow.) X. Delore and H. Alamartine.
63 Sporothrix Elbow Arthritis. (Arthrite sporotrichosique.) Sorrel and Verdun.

62. **Ligation of Thyroid Arteries.**—Delore and Alamartine review the experiences in this line at Poncet's clinic at Lyons after a historical sketch of the subject and an illustrated discussion of the anatomy of the thyroid vessels. Experiments on animals seem to show that ligation of one or more of the arteries has no appreciable physiologic effect, but the gland shows histologic changes unmistakably reducing the total of functional capacity. The technic for ligation used by various surgeons and a detailed summary of the work in this line by Berg and Ackermann of Stockholm in fifty-two cases and by Kocher of Berne in fifty-nine cases are compared. Mayo's 225 cases are mentioned but the lack of details, they say, prevent comparison of results. The final conclusions from all these data are that ligation of the thyroid arteries is a logical and safe operation to reduce hyperfunctioning of the thyroid. Mayo's polar ligation of the superior arterial pedicle shuts off both vessels and nerves. When the inferior artery is to be ligated, the best mode of access is back of the sternocleidomastoid muscle. Vascular struma and exophthalmic goiter are the main indications for the ligation; it is contraindicated in secondary exophthalmic goiter and in exophthalmic goiter of nervous origin. With extremely vascular exophthalmic goiter and in the rapidly progressive toxic forms, ligation of three or four arteries is urgently indicated, even if it is merely preliminary to a radical operation. In mild cases it is well to commence with ligation of the two superior arterial pedicles; if this proves ineffectual, follow with hemithyroidectomy. In cases of moderate severity commence by ligating both arteries of the lobe showing the greatest enlargement; then ligate the superior artery on the opposite side, and, if necessary, follow with a complementary hemithyroidectomy.

Semaine Médicale, Paris

September 20, XXXI, No. 38, pp. 445-456

64 Technic for Gastro-Enterostomy. (La gastro-entérostomie de choix avec ou sans exclusion du pylore, dans l'ulcère du duodénum.) B. Schiassi.

September 27, No. 39, pp. 457-468

65 Present Status of Knowledge in Regard to Anaphylaxis. (Etat de nos connaissances sur l'anaphylaxie au cours des deux dernières années.) E. de Peyrelongue.
66 *Present Status of Arteriovenous Anastomosis for Gangrene of the Leg. (Que faut-il penser de l'opération de Wieting?) F. Lejars.

66. **Arteriovenous Anastomosis for Gangrene.**—Lejars compares the arguments presented by Wieting in favor of this operation and those who denounce it as unphysiologic and dangerous. Lejars comments that Wieting, himself, says that the operation is feasible only for young and vigorous persons, without infection and when the character of the gangrene is not directly menacing. In cases such as these, Lejars remarks, a spontaneous favorable outcome is possible while there is danger that this might be compromised by the operation's inducing thrombosis. He does not definitely reject the operation but he insists that those who apply it should fully understand the dangers they thus incur. See Abstract 78 below.

Beiträge zur klinischen Chirurgie, Tübingen

August, LXXV, Nos. 1-2, pp. 1-473

67 Transplantation of Bone from the Cadaver; Three Cases. (Transplantation aus der Leiche.) H. Küttner.
68 Sterilization of Field of Operation with Tincture of Iodin. (Die Jodtinktur als Desinfektionsmittel des Operationsfeldes.) K. Fritsch.
69 *Experimental Research on Treatment of Acute Suppurative Arthritis. (Zur Therapie der akuten eitrigen Gelenkentzündung.) L. Dreyer.
70 *Movable Cecum. (Zur Frage des Coecum mobile.) L. Dreyer.
71 *Gangrene of Penis and Scrotum. (Die Gangrän des Penis und Scrotums.) H. Coenen and J. Przedborski.
72 Errors from Iodipin in Interpretation of Roentogram. (Jodipin im Röntgenbilde.) K. Fritsch.
73 Isolated Fracture of the Greater Tuberosity of the Humerus. (Zur Kenntnis des isolierten Frakturen des Tuberculum maius humeri.) E. Melchior.
74 Fracture of the Calcaneus. (Zur Beurteilung der Calcaneusfraktur.) K. Ludloff.
75 *Conservative Treatment of Prolapse of Rectum. (Eine neue konservative Behandlungsmethode des Mastdarmvorfalls.) A. Bauer.
76 Teratomas of the Pelvis. (Ueber Teratome der Kreuz-Steissbeingegend und der Bauchhöhle.) A. Bauer.
77 Hour-Glass Stomach. (Zur Klinik des Sanduhrmagens unter Zugrundelegung von 34 Fällen.) K. Spannaus.
78 *Arteriovenous Anastomosis. (Ueber das Problem der Umkehr des Blutstromes und die Wieting'sche Operation.) H. Coenen and Wiewiorowski.
79 *End-Results of Treatment of Exophthalmic Goiter. (Dauerresultate operativer und konservativer Therapie bei der Basedow'schen Krankheit.) M. Baruch.
80 Prothesis to Substitute Entire Lower Jaw: Two Cases. (Totalersatz der Mandibula.) H. Riegner.
81 *Transplantation of Parathyroids. (Die Epithelkörperchen-Transplantation in die Blutbahn.) F. Landois.

69. **Treatment of Acute Suppurations in Joints.**—Dreyer found it possible to prevent suppuration in experiments on animals by injection of various powerful disinfectants after infection. Phenol, salvarsan and tincture of iodin were particularly effectual and he thinks that the latter has a promising future in this line. He tried it in a few clinical cases with eminent success. In one patient, a tuberculous girl with an acute painful affection of the knee, after injections of 3 or 5 c.c. of a 5 per cent. tincture of iodin, diluted with alcohol, the pains subsided and the lesion healed as was seen at necropsy after the patient had succumbed to miliary tuberculosis. The pains subsided at once in another case in a woman of 62 with a severe tuberculous affection of the knee requiring amputation. In a third case a boy of 16 had multiple osteomyelitis. The involvement of the knee was treated by the iodin injections and speedily healed while the other foci dragged along a tedious course. The patella was left movable and the lad is regaining the use of his knee. Dreyer thinks that these experiences with iodin justify conservative measures in treatment of arthritis more than has been possible hitherto.

70. **Movable Cecum.**—Dreyer has been studying conditions on the cadaver to determine whether movability of the cecum can be regarded as pathologic. He states that in 67 per cent. of 105 cadavers, free from any history of special intestinal trouble, he found the cecum freely movable. He further experimented to ascertain whether cecopexy produced physiologic conditions, which he found rather dubious. Among the fifty-two female cadavers the cecum was freely movable in 79 per cent. and in the few in which it was fastened, it never occupied the position in which it is placed by the routine cecopexy.

71. **Gangrene of Penis and Scrotum.**—Coenen and Przedborski summarize the details of 203 cases and add three others from their experience. In many cases the trouble was a gangrenous erysipelas. In twenty-one cases the gangrene was a secondary process and the mortality was 18.5 per cent.; in twelve cases the gangrene developed from infiltration of urine and the mortality was 8.3 per cent. It was 21.4 per cent. in twenty-eight cases in which some mechanical or chemical injury or exposure to heat or cold was responsible for the process. In the 145 cases in which the gangrene occurred in the course of a local inflammatory process, the mortality was 22.1 per cent. Good results were obtained in some cases with the actual cautery. A plastic operation afterward is seldom necessary, especially for children and even for adults as Nature restores the defect sometimes most effectually, as is shown by some of the cases cited

75. **Treatment of Prolapse of the Rectum.**—Bauer has had six children wear a celluloid corset fitting around the waist and upper part of the buttocks applying elastic spring pressure to the fold between the nates just above the anus. This lifts up the sagging pouch of Douglas which he thinks is generally responsible for the prolapse, and in a short time of wearing the corset physiologic conditions are restored and the tendency to prolapse is cured. This result was accomplished in the above six cases in from two to several weeks.

78. **Arteriovenous Anastomosis for Gangrene.**—Coenen and Wieweorowski report experiments on twenty-six dogs and on eighteen cadavers attempting to divert the blood from the femoral artery into a vein, and review thirty-four cases from the literature in which this was done, and give another case from their own experience. The end-to-side anastomosis is generally known in Germany as Wieting's operation. Their final conclusion is that it does not deserve to rank as a feasible operation as it conflicts with the anatomy and physiology of the parts. In the thirty-five clinical cases death followed in less than two days in two cases; in twelve in a few days from erysipelas, phlegmon or collapse; in one case the large intestine became gangrenous four months later and amputation had to be done later in twenty cases. In only two of the total number were the end results favorable—in Heymann's and Wieting's cases. (Wieting replies to Coenen in the last *Zentralblatt für Chirurgie* and states that he now has a record of five cases, all successful, and that these results speak louder than Coenen's more theoretical objections. (See Abstract 66 above.)

79. **End-Results of Treatment of Exophthalmic Goiter.**—Baruch reviews the ultimate outcome in ninety cases of exophthalmic goiter treated at the Breslau clinic. These are the only ones that could be followed to date of 164 cases, including eighty-two patients treated by medical measures only. The survivors include forty who had been operated on and only twenty of the eighty-two treated by medical measures alone. Marked benefit or a cure was realized in all but six of the total forty surgical survivors, while not one of the surviving medical twenty can be regarded as cured and only two as improved, while 90 per cent. show no benefit. Comparing the findings in regard to the various symptoms in the medical and surgical cases confirms still further, he thinks, the superiority of operative treatment and should compel an early operation. Hitherto the cases have not been referred to a surgeon until after failure of all internal measures, but he insists that exophthalmic goiter should be regarded as a surgical affection from the start, and that only the most desperate cases should be left in the hands of the internists. After a four-year course the outlook for benefit from any measures is poor. In 46 per cent. of the cured survivors the duration of the disease had been only six months and in 84.8 per cent. less than two years. He adds that patients with exophthalmic goiter not only belong in the surgical ward but that they should be sent there early.

81. **Transplantation of Parathyroids.**—Landois reports discouraging results from extensive experimental research in this line. Even when the transplantation proved successful and the implanted gland retained its vitality and was constantly bathed with circulating blood, yet the experience failed in every particular, showing that there is little hope for successful transplantation in the clinic of organs with an internal secretion.

Berliner klinische Wochenschrift

September 25, XLVIII, No. 39, pp. 1741-1784

82 *Birth Laceration of Atlas-Axis Capsular Ligament. (Zerreissungen der intervertebralen Gelenkkapseln der Halswirbelsäule, eine typische Geburtsverletzung.) F. Stoltzeberg.
83 Morbid Growths in Potatoes and Their Causal Agents. (Der Kartoffelkrebs und sein Erreger.) R. Behla.
84 *Hypernephroma Encroaching on the Heart. (Nierentumor—Grawitz—bis ins Herz fortgewuchert.) M. Kirschner.
85 *Meiostagmin Inoculation Reaction in Cancer. (Ueber Meiostagminreaktion *in vivo* bei bösartigen Geschwülsten.) G. Izar.
86 *Eye Diseases in South Sea Islands. (Weitere Untersuchungen über die Augenkrankheiten in der Südsee.) A. Leber and S. v. Prowazek.
87 Treatment of Lupus by the Two-Route Method. (Behandlung des Schleimhautlupus nach Pfannenstill's Methode.) O. Strandberg.

88 *Acetonuria in Pregnancy. (Ursache der Acetonurie bei Schwangeren.) O. Porges and J. Novak.
89 *Influencing of Temperature of Older Children by Slight Physical Efforts. (Beeinflussung der Körpertemperatur im späten Kindesalter durch geringe Anstrengungen.) A. Wolff.
90 *Syphilitic Heart Disease. (Ueber die syphilitischen Herzerkrankungen als Indikation und Kontra-Indikation für die Salvarsanbehandlung.) M. Breitmann.
91 Dispensary Salvarsan Treatment. (Zur ambulanten Behandlung der Syphilis mit kleinen Salvarsandosen.) E. Simon.
92 Treatment of Pneumonia. (Behandlung der Lungenentzündung.) G. W. Schiele.

82. **Laceration of Capsular Ligaments During Delivery.**—Stoltzenberg found in nine out of seventy-five cadavers of new-born infants that the capsular ligament between the atlas and axis had been lacerated. The laceration was always circular and evidently occurred by traction on the cervical region of the spine, pulling it out of the longitudinal axis. The injury is liable to be fatal from hemorrhage into the spinal canal and meninges.

84. **Hypernephroma Encroaching on the Heart.**—In the case reported by Kirschner the first disturbances were not local out were in the form of heart symptoms with great weakness, ong before symptoms called attention to the urinary apparatus. Then hematuria followed and a tumor was discovered n the left kidney: it proved on removal to be a hypernephroma from aberrant suprarenal tissue proliferating into he ascending vena cava with a tumor thrombus up in the ight auricle. Jumping the right ventricle it had proliferated nto the pulmonary artery. The symptoms on the part of he heart had been observed for five years, a year and a alf before there were disturbances in the urinary apparatus. Kirschner reviews a few similar cases of malignant thrombus ormation in the literature, Winckler having had two as xtensive as this in his twenty-four cases of hypernephroma. Kirschner urges others to seek for symptoms on the part of he heart with tumors of this kind.

85. **The Meiostagmin Inoculation Reaction.**—Izar recently eported that he had found that an aqueous emulsion of an ther or methyl alcohol extract of malignant tumors or pancreas, heated for an hour to 50 C. developed extremely toxic roperties. If a mixture of the extract thus heated and bloodserum is centrifugated, the toxic property is concentrated in he supernatant fluid in the non-cancerous cases while it is oncentrated in the sediment when the serum is derived from ersons with malignant disease. The technic is the same as or the meiostagmin reaction up to the centrifugation. The ediment is mixed with salt solution and this suspension is njected into rabbits. The rabbits die within twenty-four ours when the sediment is from a cancer case, and he calls his the "meiostagmin reaction *in vivo.*" He obtained positive ndings in nineteen of twenty-one cancer cases and in only wo of thirty-two non-malignant cases. The findings with his and the original meiostagmin reaction were constantly arallel. except that in a very few instances the *vivo* gave ositive findings with known cancer when the meiostagmin eaction failed.

86. **Eye Disease in the South Sea Islands.**—Leber and Prowzek report here the results of research undertaken on a ommission from the institute for marine and tropical diseases at Hamburg. They found four types of eye disease on e island of Saipan, trachoma on some of the islands and a onjunctivitis in horses, like that already described at Samoa.

88. **Cause of Acetonuria in Pregnancy.**—Porges and Novak und intense acetonuria in two diabetic women free from gar in the urine on antidiabetic diet. This and research on me normal pregnant women has demonstrated. they state, at acetonuria in pregnancy is the result of a relative defiency of carbohydrates in the diet. The pregnant women em to be less able to tolerate a deficiency in carbohydrates. e data learned from pregnancy acetonuria sustain still rther the assumption of impairment of liver functioning der the influence of pregnancy.

89. **Influencing of the Temperature of Children by Slight xertion.**—Wolff found that examination of the temperature fifty children before and after they were told to run upirs or take some other slight exercise, showed that this ertion caused a slight rise in temperature in thirty-seven of the children. Fluctuation in the temperature after slight exertion must be regarded as a typical normal property of childhood and by no means be accepted as an evidence of tuberculosis or other latent affections. Even a ten minutes' walk or climbing a flight of stairs may send up the temperature. He concludes that the temperature findings are reliable for comparison only when they are taken when the children are quiet in bed. It is possible, he adds, that sensitive children may have their vitality depressed by this rise in temperature which may explain why certain children feel exhausted after a walk instead of refreshed by it. Conditions are better when the children are playing, as in their play. movement and rest alternate more than in a promenade.

90. **Syphilitic Heart Disease.**—Breitmann had a monograph on this subject awarded a prize twelve years ago, and he has been studying it with special care ever since, with exceptional opportunities for research as, he says, syphilis runs its most triumphant course in the small towns of Russia, reigning unmolested by treatment until the patients are driven to the physician by severe tertiary manifestations. Syphilitic affections of the heart have certain characteristic symptoms although none is pathognomonic. Gumma in the heart is seldom diagnosed, as its slow development and its predilection for the "mute" regions of the heart cause its presence to be long unsuspected unless the physician tests the functioning of the heart muscle and finds signs of weakness. But this is the explanation for many instances of sudden death in the midst of apparent health, especially in the young or middle-aged. Breitmann, Mracek and Jullien found syphilis of the heart responsible for the sudden death in from 33 to 50 per cent. of such cases, especially after physical exertion, bicycling, hydrotherapeutic measures, straining at stool or excess in drinking, etc., or slight external trauma. Even in the earliest stages of syphilis there may be symptoms on the part of the heart from disturbances in the heart muscle of anemic or toxic origin, and many supposed rheumatismal heart affections and hemiplegias are in reality of syphilitic origin. This should be suggested by the rapid onset of the heart affection with no or slight fever, with sudden weakness in the midst of apparent health; death may occur suddenly or the trouble drag along for months or years without signs of valvular mischief and without being influenced by the ordinary heart tonics. Another sign is the apparent increase in the area of dulness, without murmurs or other objective signs, while. the force of the heart-beat does not increase in proportion. that is, a strong heart-beat is accompanied by only slight filling of the arteries. A progressive gummatous affection should be suspected when the heart-beat is strong but not diffuse, with a rapid pulse and tachycardia, the sounds sharp, brief and pure. If the heart beat is stronger and its area larger, but the pulse small, the gummatous affection may be referred to the left ventricle. In a recent case there was abnormal pulsation in the left ventricle, while the heart beat was absent and no heart sounds could be heard—this case represents the extreme type. Certain patients feel a slight flickering uneasiness in the chest as the extrasystole starts; others feel as if their hearts stood still during the long pause; others notice particularly the powerful beat that follows the long pause. But most patients are unaware of the irregularity from the extrasystole. A special feature of syphilitic heart disease is the disproportion between the objective findings and the actual anatomic condition; also the youth of the patients—some of his patients were only 13 when the aortic aneurysm or insufficiency or arteriosclerosis developed—also the occurrence of intermittent dyspnea and syphilitic angina pectoris. With the latter there may be an unusual passive movability of the heart, propagation of the second aortic sound to the right and upward. and involvement of other portions of the nervous and vascular systems. The one great clue is the prompt benefit from treatment as for syphilis unless irreparable conditions are already installed. The main point is to spare the heart every unnecessary exertion. and especially spare it from the effects of strong drugs. He has known of cases in which digitalis had a fatal action on a heart weakened by syphilitic disturbances in conduction or a coronary affection. The first thing is to inform the patient of

the danger in which he stands from any physical exertion. During the Adams-Stokes syndrome, the patient may derive benefit from kneeling on his knees and elbows, the Mohammedan prayer attitude; the "Karell cure" may also prove useful. Breitmann's principle, he says, is to apply "chronic," vigorous, intermittent treatment during the earliest stages of a syphilitic heart affection, but the nearer the disease to the tertiary stage, the more the gummatous tendency in the heart has led to cicatricial changes or induration, the more cautious he is in regard to any vigorous treatment or measures of any kind. This applies in particular, he adds, to salvarsan. It may be possible with salvarsan to arrest the heart affection in its early stages and ward off trouble later, but it must be borne in mind that salvarsan has a very powerful action on the heart and circulation, especially if given intravenously as is the rule now. The elasticity of the vessels is much impaired in syphilis and careful search for symptoms on the part of the heart might have revealed some which would have contra-indicated the medication in some of the cases on record in which death followed the injection of salvarsan or over-vigorous mercurial treatment.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

August 30, XIV, No. 12, pp. 449-480. Last indexed August 26, p. 776

93 *Diagnosis of Cancer. (Neuere Untersuchungsmethoden der Carcinomdiagnostik.) P. Saxl. Commenced in No. 10.

September 16, No. 13, pp. 481-528

94 *Pyelitis in Pregnancy. (Pyelitis gravidarum.) E. Venus. Commenced in No. 10.

93. **Modern Diagnostic Measures in Cancer.**—Saxl has been a pioneer in this line himself and here gives a summary of the various technics to induce a general or local reaction or utilize the natural reactions to differentiate malignant disease, explaining the scientific bases for each and the acceptance each has received from the profession. He says of the antitrypsin reaction (Brieger) that this is not strictly specific, at most in the sense that negative findings seem to exclude cancer. The meiostagmin reaction (Ascoli) seems to be giving reliable results, the findings being positive in almost every case of carcinoma and sarcoma and negative in the controls. But the technic is difficult. The cancer cell-destroying seroreaction (E. Freund) seems reliable and the technic simple except for the difficulty of obtaining the cancer cell material, as the cells of many cancers are not dissolved by normal serum, which is the basis of the test. The increase of oxyproteids in the urine in malignant disease (Salomon and Saxl) seems to be a constant phenomenon. Saxl found it in 70 per cent. of 500 cancer cases and only in five of a large number of controls. Various technics have been introduced for determining the proportion of oxyproteids, which are polypeptid bodies containing sulphur. Determination of the sulphur alone also throws light on the presence or absence of malignant disease. The technic for this is very simple: The sulphates and ethereal sulphates are removed from 150 c.c. of urine. Part of the remaining neutral sulphur is then oxidized out with dilute hydrogen dioxid and it becomes visible as a barium sulphate precipitate. Antipyrin and creosote disturb this reaction. Positive findings were obtained in 60 or 70 per cent. of the patients examined, especially pronounced with the still relatively well nourished patients, while the findings were constantly negative in 150 controls with a single exception, a moribund patient with cirrhosis of the liver. Of the reactions in the stomach content, Salomon's test has proved valuable, frequently disclosing the presence of an ulcerating gastric cancer, when all other signs had failed. A few benign ulcers give the reaction too. The technic is simple: The day before the patient eats nothing containing albumin, restricting himself to fluids. At evening the stomach is rinsed out clean and again in the morning with 400 c.c. salt solution. The rinsing fluid is filtered and tested for albumin and nitrogen. Positive findings with the Esbach test and a finding of 20 mg. of nitrogen testify to the presence of an ulcerating carcinoma. Many clinicians have published evidence in favor of the reliability of this test while three do not accept its findings, but Saxl commends the simple technic as indispensable in dubious cases. He does not think that the glycyl-tryptophan-splitting test has yet proved its right to existence, while the sources of error in the test based on the presence of a hemolytic substance in the stomach content render this test impracticable at present. In conclusion he cites without comment the latest contribution to the diagnosis of gastric cancer: Falk and Salomon's salicylate method. They give 3 gm. sodium salicylate in an enema and rinse out the fasting stomach the moment salicylic acid becomes evident in the urine. While the salicylic acid cannot be detected in the stomach fluid of the non-cancerous, with ulcerating gastric cancer, large proportions of salicylic acid are found in the stomach content; benign ulceration only very rarely permits the passage of the salicylic acid into the stomach.

94. **Pyelitis of Pregnancy.**—Venus gives a critical summary of 224 articles that have been published on pyelitis complicating pregnancy. The actual cause is not definitely established although stagnation of urine is evidently a prominent factor. Infection is generally ascending although it may be occasionally of blood-borne origin. The colon bacillus is generally responsible for it. Especial attention should be paid to a history of pyelitis in childhood. The diagnosis is usually simple but it may be necessary to exclude appendicitis, impending abortion and suppuration around the kidney. The prognosis is not absolutely favorable for the mother as complete restitution is seldom observed and there is liability to recurrence at later pregnancies, but there is no immediate danger to life. The prognosis is unfavorable for the child, as it is menaced by the tendency of the uterus to expel its contents during an attack of pyelitis and it may be necessary to interrupt the pregnancy artificially in the interest of the mother. Treatment should be conservative and expectant. Catheterization of the ureter and irrigation of the kidney pelvis are indicated in all severe cases and are often of great benefit. It is only rarely necessary to consider the question whether the pregnancy should be artificially terminated, but operative measures are required for serious degenerative processes in the kidney, such as pyonephrosis, multiple abscesses or calculi.

Correspondenz-Blatt für Schweizer-Aerzte, Basel

September 20, XLI, No. 27, pp. 929-960

95 Psychiatric Notes. (Psychiatrische Mitteilungen.) G. Glaser.

96 Infectious Diseases in Youth in Etiology of Arteriosclerosis. (Aetiologie der Arteriosklerose.) S. Saltykow. Commenced in No. 26.

Deutsches Archiv für klinische Medizin, Leipsic

CIII, Nos. 3-4, pp. 201-422. Last indexed September 2, p. 853

97 Etiology of Dupuytren's Contraction. (Zur Aetiologie der Dupuytren'schen Kontraktur.) W. Ebstein.

98 *Meningeal Symptoms with Infectious Diseases. (Ueber Meningismus bei Infektionskrankheiten.) L. Kirchheim and Schröder.

99 Blood Picture in Epidemic Cerebral Meningitis. (Das Blutbild der Meningitis cerebrospinalis epidemica und dessen diagnostisch und prognostische Bedeutung.) Rusca.

100 Research on the Pulse. II. (Pulsstudien.) E. Edens.

101 Where Oxidation Occurs in the Organism. (Ort der Verbrennungen im Organismus.) P. Morawitz.

102 The Salt Metabolism in Health. (Beobachtungen über den Stoffwechsel des gesunden Menschen.) H. v. Hoesslin.

103 *Colloidal Nitrogen in Urine in Cancer. (Ueber den kolloidalen Stickstoff im Harne der Krebskranken.) S. Mancini.

104 Tumor in the Heart; Two Cases. (Zur Kenntniss der Pathologie und Symptomatologie der Herztumoren.) L. Ehrenberg.

105 *Sclerosis and Dilatation of Innominate Artery. (Sklerose und Erweiterung des Truncus anonymus.) E. Stadler and K. Albracht.

106 Diagnostic Importance of Elimination of Diastase in the Urine. (Diastaseausscheidung im Harn.) E. Marino.

107 The Antitrypsin Content of the Serum. (Die Antitrypsin des Serums.) H. Kämmerer.

108 Rising of Diaphragm During Deep Inspiration with Induced Pneumothorax and Paralysis. (Die paradoxe Zwerchfellbewegung bei künstlichen Pneumothorax und Zwerchfelllähmung.) C. Wellman.

109 Importance of Epinephrin to Vital Processes. (Bestehen Beziehungen zwischen chromaffinem System und der chronischen Hypertonie des Menschen? Ein kritischer Beitrag zu der Lehre von der physio-pathologischen Bedeutung des Adrenalins.) E. Frank.

110 Outline of Heart with Congenital Heart Disease. (Form der Herzsilhouette bei den angeborenen Herzkrankheiten.) T. and F. M. Groedel.

98. **Meningeal Symptoms with Infectious Diseases.**—Kirchheim and Schröder report two cases in which an acute or chronic suppurative meningitis was found at necropsy although there had been none of the usual symptoms of this affection

during life until the agonal phase. These cases show that the anatomic and clinical features of meningitis do not always correspond. They also report five cases in which nothing was found at necropsy to explain the meningitic symptoms observed during life in the course of pneumonia or scarlet fever. In two other similar cases the microscope revealed specific changes in the meninges. The meningeal symptoms are evidently the result of toxic action. The question as to whether this meningism is only the first stage of meningitis is still undecided.

103. **Colloidal Nitrogen in Urine in Malignant Disease.**—Mancini says that determination of the colloidal nitrogen in the urine is a simple and easy process, and the findings in case of malignant disease seem to be constantly characteristic. The colloidal nitrogen is that portion of nitrogen which is precipitated in the urine by absolute alcohol (Salkowski). In all morbid conditions in which colloidal substances pass into the lymph and blood in larger proportions, as during absorption of effusions and exudates, and the kidneys are working properly, the amount eliminated is unusually large in proportion. This occurs with cancer but also with pleurisy, cirrhosis of the liver, suppurative processes, etc. Mancini tabulates the findings in a number of cancer and other cases. The proportion of colloidal nitrogen to the total nitrogen is about 3.42 per cent. in normal urine and about 6.48 per cent. in cancer. If the urine at first was alkaline he rendered it slightly acid with acetic acid, and if it contained albumin, he freed it from this by boiling. The total nitrogen was determined by the Kjeldahl applied to 5 c.c. taken from the twenty-four hour urine. He then evaporated 100 c.c. from the twenty-four hour urine to 10 c.c. in the water bath, then cooled it and added 100 c.c. of absolute alcohol to precipitate the nitrogen. After standing for several hours he filtered and rinsed the filtrate with alcohol until the rinsing alcohol showed no further trace of urea. The precipitate was then dissolved in hot water and filtered and the proportion of nitrogen determined by the Kjeldahl test.

105. **Sclerosis of the Innominate Artery.**—In the two cases reported by Stadler and Albracht the symptoms suggested an aortic aneurysm but roentoscopy revealed general arteriosclerosis, most pronounced in the innominate artery which was dilated but without an actual aneurysm. They discuss the differentiation of the resulting syndrome, especially the percussion findings.

Deutsche medizinische Wochenschrift, Berlin

September 21, XXXVII, No. 38, pp. 1729-1776

111 Heredity Problems; Excess of Male Births. (Ueber die Frage des Knabengeburten-Ueberschusses und über andere Hereditätsprobleme.) E. Jendrassik.
112 Heredity from Psychiatric Standpoint. (Genealogie und Vererbungslehre vom psychiatrischen Standpunkt.) R. Sommer.
113 *Serotherapy of Epidemic Cerebrospinal Meningitis. (Serumtherapie der epidemischen Genickstarre.) G. Jochmann.
114 Technic for a Serodiagnosis of Syphilis. (Verwendung von Azetonextrakten zur Serumdiagnostik der Syphilis.) W. Kolle and O. Stiner.
15 *Surgical Complications of Otitis Media. M. A. H. Martens.
16 Improved Technic for Intubation in Diphtheria. (Erschwertes Dekanülement durch Vernähung der oberen Knorpelränder nach aussen zu beseitigen.) A. Hartmann.
17 *Salt Solution Responsible for By-Effects of Salvarsan. (Ueber Nebenwirkungen bei intravenösen Salvarsan-Injektionen, bedingt durch Kochsalzlösung.) E. E. Galewsky.
18 *Salvarsan and the Eye. (Salvarsan und Auge.) E. Reissert.
19 Volitional Contraction of the Pupil. (Pupillenverengerung durch willkürliche Muskelbewegung.) E. Schlesinger.
20 Dosage in Roentotherapy. (Zur Dosierung mit dem Radiomètre de Sabouraud et Noiré.) M. Levy-Dorn.
21 Quinin Effectual in Urticaria. (Zur Therapie der Urticaria.) W. Wolff.
22 The Darwinian Theory. (Die Darwinsche Lehre im Umschwung der Zeiten.) G. Fritsch.

113. **Serotherapy of Epidemic Cerebrospinal Meningitis.**—ochmann reviews the history of serotherapy of this disease nd his own experience with it, the indications and results. uccess depends on commencing treatment early, he says, njecting the serum into the spinal canal, with not too small oses. The treatment is aided by raising the foot of the bed or 15 to 20 cm. for twelve hours after each injection. It eemed to be borne without discomfort by the patients as a ule, but morphin had to be given in a few cases. The atients usually regained consciousness after the injection, the cerebrospinal fluid cleared up and the condition grew progressively better. In two cases, commencing optic neuritis retrogressed under the serotherapy. He is convinced that with proper dosage and wider application meningococcus serotherapy of epidemic meningitis will save many patients.

115. **Surgical Complications of Otitis Media.**—Martens discusses in particular fracture of the skull with preexisting otitis media, acute or chronic. With existing infection the mastoid process should be opened and he relates some experiences in this line, showing the advantages of surgical treatment even when infection is only menacing, but he doubts whether it is necessary in all cases of fracture of the skull. He has operated in three cases of abscess in the cerebellum with chronic otitis media. One patient succumbed to the existing meningitis and sinus thrombosis; another survived for several weeks but succumbed to progressing encephalitis. In the third case a small boy with a cerebellar abscess recovered promptly after evacuation of the abscess. In Henke's compilation of twenty-three cases of cerebellar abscess, only one of the patients survived, while seventeen survived in fifty-three cases of abscess in the temporal lobe. Martens has cured two patients on whom he operated for an epidural abscess following otitis media, as also in several cases of sinus thrombosis of this origin.

117. **By-Effects with Salvarsan.**—Galewsky has treated 370 syphilitics in the last six months with intravenous injections of salvarsan. The by-effects were always slight and transient until in a group of cases there was a succession of annoying by-effects which he finally traced to the salt solution vehicle. Since he has been paying greater care to the production of the salt solution there has been no further trouble of the kind.

118. **Salvarsan and the Eye.**—Reissert discusses this subject from the standpoint of the ophthalmologist, after summarizing the eighteen cases on record in which injury of the eye followed the injection of salvarsan in from ten days to three months. He also reports a case from his own experience in which a young man previously healthy was given a subcutaneous injection of 0.4 gm. of salvarsan a few days after the primary chancre, and eight weeks later another of 0.5 gm. of salvarsan. There were no symptoms for two months but then pain in the right side of the head and face developed and right optic neuritis and retinitis. While the other symptoms subsided under mercurial treatment, the neuritis progressed and vision was lost. Comparison of this case with those on record has convinced Reissert that the optic neuritis was due to injury from the salvarsan stored up in the tissues from the two subcutaneous injections.

Deutsche Zeitschrift für Chirurgie, Leipsic

CX, Nos. 4-6, pp. 313-634

123 Projecting Spur at Occiput. (Der Occipitumdorn, ein Beitrag zum Calcaneussporn.) J. G. Chrysospathes.
124 Partial Resection of the Kidney for a Cystic-Epithelial Tumor. (Ueber partielle Nierenresektion.) J. Fabricius.
125 Three Years of Appendicitis at Berlin Hospital. (Blinddarmentzündung.) T. Gümbel.
126 *Isolated Subcutaneous Rupture of the Trachea. Beyer.
127 *Treatment of Angiosclerotic Gangrene by Diverting Arterial Blood into Venous System. Wieting.
128 Invagination of Intestines. (Ueber Darminvaginationen.) H. Matti.
129 Extraperitoneal Embedding of Omentum in the Kidney as a Therapeutic Measure, Especially to Promote Diuresis with Ascites; Six Cases. R. Torikata.
130 Ideal Operation for Arterial Aneurysm. (Beitrag zur zirkulären Gefässnaht am Menschen.) K. Omi.
131 Intraperitoneal Rupture of Bladder. A. Galaktionow.
132 *Perforation of Ulcer in Duodenum. (Ueber den jüngsten bekannten Fall von Ulcus duodenum perforatum.) L. Imfeld.
133 Anatomic Bases for Transposition of Sphincter Portion in Resection of the Rectum. J. Fleissig.
134 Second Case of Operative Removal of Subpial Tumor in Spinal Cord H. Brun.
135 Tuberculosis of the Testicles. (Experimentelle Beiträge zur Hodentuberkulose.) W. Tylinski.
136 Origin of Deforming Arthritis. Axhausen and I. Pels.
137 Benign Tumors in the Head. (Beiträge zu den gutartigen Tumoren der Kopfregion.) L. Arzt.
138 *Treatment of Suppurative Peritonitis with Saline Irrigation and Constant Heating of the Abdomen. Iselin.
139 Congenital Displacement of the Kidneys. (Zur Pathologie und Therapie der kongenitalen Nierendystopie.) A. Lindemann.
140 Free Transplantation of Fascia to Close Defect in Abdominal Wall and Fistula into Intestine. Rittershaus.
141 Myonephropexy. Jacobovici and Jianu.

126. **Isolated Rupture of the Trachea.**—The rupture occurred in a boy of 9 from a contusion. The trachea was exposed at once, a cannula introduced, and removed in four days, as recovery was prompt and uncomplicated. The rapid recovery in this case should encourage immediate operation for all isolated ruptures of the trachea, as serious complications are liable to develop otherwise at any moment.

127. See Abstracts 66 and 78 above.

132. **Perforated Duodenal Ulcer in Boy of 15.**—Imfeld reports a case of perforation of a duodenal ulcer in a boy of 15½, with operation at the seventeenth hour, after general peritonitis had developed. He attributes the boy's recovery in part, to the exact suture of the perforation, rinsing out of the abdomen and keeping the patient in a half-seated position. Imfeld comments on the better results with these operations in late years, the mortality having dropped since 1902 from 80 per cent. to 37.7 per cent. in Imfeld's compiled 122 cases in the last nine years. The symptoms in the case reported had been noticed for three weeks before the perforation, pain in the epigastrium coming on five or six hours after eating, until finally the perforation occurred, with intense pain above and to the right of the umbilicus, and signs of acute peritonitis followed.

138. **Local Heat in Treatment of Peritonitis.**—Iselin supplements rinsing out the peritoneum in case of suppurative inflammation by applying heat continuously to the abdomen. This stimulates the vital functioning of the intestines after the abdominal operation and also aids in combating the irritation of the peritoneum without pronounced inflammation. In the latter condition it promotes absorption while after operations the effect is more physical: the augmented evaporation in the hot-air box promotes the drainage of the peritoneum, rinsing it from within outward, as he expresses it.

Jahrbuch für Kinderheilkunde, Berlin

September, LXXIV, No. 3, pp. 237-366

142 Action of Infant's Saliva in Beginning Digestion. (Wirkung des Speichels im Anfangsstadium der Verdauung beim Säugling.) G. Ballaria.
143 Antitoxin Treatment of Diphtheria. (Zur Frage der Antitoxindosen bei Diphtherie.) S. J. Fedinsky.
144 *Scoliosis Begins in Infancy. (Beginn der Skoliose.) E. Kirsch.

144. **Incipient Scoliosis.**—Kirsch insists that the tendency to scoliosis is acquired before the school age and that it should be carefully sought at all times in young children and especially those known to have rachitis. It is most readily recognized when the child lies prone on his stomach, the arms spread at right angles, the head turned first to the right and then to the left. Looking along the spine from the top and bottom, the eye on the same line as the spine or on the same plane on either side, any tendency to curvature is generally easily recognized and roentoscopy will reveal which of the vertebræ are abnormal in shape. Kirsch found curvature by this means in 5 per cent. of 196 children between 6 months and 2 years old. He urges immediate correction with a correcting bed as soon as the incipient scoliosis is discovered. Years may be necessary before normal conditions are restored. One of his patients is now 9 years old and has slept in the correcting bed since she was 2 and has lost all trace of the scoliosis although it was quite pronounced when first detected.

Medizinische Klinik, Berlin

September 24, VII, No. 39, pp. 1483-1526

145 *Infant Feeding During First Two Weeks. (Zur physiologie der Milchsekretion und der Ernährung der Neugeborenen in den ersten Lebenstagen.) E. Opitz.
146 Therapeutic Action of Radium Emanations. (Klinische Beobachtungen über die physiologische und therapeutische Wirkung grosser Dosen von Radiumemanation.) C. v. Noorden and W. Falta.
147 Appendix Used to Close Defect in Male Urethra. (Ersatz eines Harnröhrendefekts durch den Wurmfortsatz.) E. Lexer.
148 Consequences for the Retina of Ligation of the Carotid Artery. (Folgen der Carotisunterbindung für das Centralgefässsystem der Retina.) A. Elschnig.
149 *Possibility of Influencing Tabetic Crises by Nerve Blocking. (Möglichkeit der Beeinflussung gastricher Krisen durch Leitungsanästhesie.) F. König.
150 Operative Treatment of Exophthalmic Goiter. (Umfrage über die chirurgische Behandlung der Basedowschen Krankheit.) T. Kocher, P. Friedrich, der Quervain and others.
151 The Electrocardiogram in Experimental Research. (Ueber das Elektrokardiogram und die negative Schwankung des Froschherzens im Stadium schwacher Digitalisvergiftung.) K. Brandenburg and P. Hoffmann.
152 Treatment of Experimental Syphilis with Aromatic Mercurial Compounds. (Ueber die Behandlung der experimentellen Kaninchensyphilis mit aromatischen Quecksilberdicarbonsäuren.) F. Blumenthal.

145. **Infant Physiology and Hygiene.**—Opitz has had records kept of the temperature, stools, feedings and the weight in regard to 819 infants born at the Düsseldorf maternity. Of the 183 boys showing a tendency to jaundice, only 16.4 per cent. had regained their birth weight by the end of ten days, while 22.2 per cent. of the 230 free from icterus had regained it. The boys seemed to display this tendency to jaundice in much greater numbers than the girl babies and in a more intense form. His records show many interesting facts.

149. **Anesthetization of Spinal Roots for Tabetic Crises.**—König thinks that the benefits of rhizotomy may be attained in some cases of tabetic gastric crises without the necessity for an operation, merely by blocking the nerve roots involved. He urges others to try this method, and relates encouraging success with it in a single case. He used the Braun *Leitungsanästhesie* technic for deep paraneural injection of the anesthetic, injecting 100 c.c. of the fluid in the back, between the sixth and tenth ribs, at the emerging point of the nerves, forcing the fluid deep into the muscle on each side. He introduced the long needle close to the costovertebral articulation until it hit the rib; then it was drawn back a little, pointed upward to the upper margin of the rib and 5 c.c. of the fluid expelled at each point. The method differs from the epidural injection technic and it anesthetizes the nerve trunks for over six hours. It can be applied over and over again and if it proves possible thus to help the patients over the days of their tabetic crises in this harmless manner, much is certainly gained. It is possible, König adds, that this same paraneural technic might prove effectual for tabetic pains elsewhere, lancinating pains in the arm or leg. There is sometimes a local pain at the point of the injection, about two hours later, which he occasionally combats by subcutaneous injection of a small amount of some sedative. König's patient was a man of 44 who had severe gastric crises every month and finally every week with extreme exhaustion and loss of weight. The crises kept up for days at a time. The attack was arrested at once by deep injection of an anesthetic at the emerging points of the sixth to tenth dorsal nerve roots; 100 c.c. were injected at this time and three other attacks within the following week were likewise aborted, but not quite so successfully, possibly because not enough of the anesthetic fluid had been injected, the amounts ranging only from 65 to 80 c.c. instead of the 100 c.c. used the first time. The crises recurred after a month of peace, but the patient had left town.

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 3, pp. 131-178

153 Specificity of the Cutaneous Tuberculin Reaction. (Spezifizität der Pirquetschen Reaktion.) E. Tezner.
154 Acute Nephritis in Children After Impetigo; Twenty-One Cases. (Akute Nephritis bei Kindern nach impetiginösen Hauterkrankungen.) L. Kaumheimer.
155 Importance of Parathyroids for Tetany. (Bedeutung der path.-anat. Veränderungen der Glandulae parathyreoidae für die Pathogenese der infantilen Tetanie.) G. Jörgensen.
156 Adenoids and Hypertrophied Tonsils a Manifestation of the Exudative Diathesis. (Sind die adenoiden Wucherungen angeborenen?) A. Czerny.
157 Causes of Infantile Summer Mortality. (Ursachen der Sommersäuglingssterblichkeit.) H. Kleinschmidt.

No. 4, pp. 179-238

158 Chemical Reaction of Infants' Saliva. (Chemische Reaktion des Säuglingsspeichels.) G. Ballaria.
159 Distribution of Water in Infants Fluctuating in Weight. (Wasserverteilung im Säuglingsorganismus bei akuten Gewichtschwankungen.) N. Berend and E. Tezner.
160 Bromin Dermatosis. (Das Bromoderma im Säuglingsalter.) F. Scherer.

No. 5, pp. 239-280

161 Casein Clumps in Infants' Stools. (Befund von Kuhmilchkasein in Säuglingsstühlen.) J. Bauer. (Kaseinklumpen im Kinderstühle im Zusammenhang mit Rohmilchernährung.) Monrad.
162 *Influence of Neuropathic Taint on Course of Febrile Diseases. (Bedeutung der neuro- und psychopathischen Konstitution für den Ablauf fieberhafter Erkrankungen.) R. Lederer.
163 Bactericidal Substances in Human and Cow's Milk. Bakteriozidine in Frauen- und Kuhmilch.) H. Kleinschmidt.
164 The Spinal Cord in Tetany. (Rückenmarksuntersuchungen bei Tetanie.) J. Zappert.

162. **Influence of Neuropathic Constitution on Course of Febrile Diseases.**—Lederer gives a number of examples to show the danger of being misled by the behavior of a spoiled nervous child to assume organic nervous or brain trouble in the course of an acute febrile disease. The family physician, knowing the history of the child, is able to appreciate its vagaries at their true value, but the physician seeing the child for the first time is frequently at a loss. Treatment and care have to be strictly individualized in such cases, apathetic children roused, those with entire loss of appetite persuaded to eat or compelled to eat small amounts at brief intervals, the excited and sleepless soothed, and the children not further excited by too many therapeutic measures, packs, enemas, etc. The state of the nervous system in general should not be estimated from the behavior during an acute disease.

Münchener medizinische Wochenschrift

September 19, LVIII, No. 38, pp. 1993-2040

165 Anatomy of the Muscles in the Orbit. (Ueber die Anatomie der glatten Muskulatur der Orbita und der Lider, speziell die Membrana orbitalis musculosa.) W. Krauss.
166 *Operative Treatment of Diffuse Peritonitis. (Die operative Behandlung des diffusen, speziell puerperalen Peritonitis.) K. Baisch.
167 *Sugar Solution in Biologic Treatment of Peritonitis. (Die biologische Behandlung der Peritonitis.) F. Kuhn.
168 *Tuberculosis and the Alleged Inherited Taint. (Ueber Umfang und Bedeutung der elterlichen Belastung bei der Lungenschwindsucht.) F. Reiche.
169 Favorable Influence of Mild Climate on Cardiovascular Disturbance. (Die Einwirkung des Klimas der Riviera auf organische und funktionelle Herz- und Gefässkranke.) Galli.
170 Streptococci in Relation to Abortions. (Ueber Vorkommen und klinische Wertigkeit der Streptokokken beim Abort.) O. Bondy.
171 Quantitative Test for Pepsin. (Ueber quantitativen Pepsinnachweis mit Angabe einer neuen Probe.) L. Kohlenberger.
172 *Early Ergot Treatment Responsible for Retention of Placenta. (Retention der Plazenta durch vorzeitige Sekaleverabreichung. H. H. Schmid.
173 *Hydrogen Dioxid Palliative Treatment of Cancerous Stenosis of the Esophagus. (Zur Behandlung des stenosierenden Oesophaguskarzinoms.) G. Liebermeister.
174 Laparo-Thoracoscopy. (Kurze Uebersicht über meine Erfahrungen mit der Laparo-thorakoskopie.) H. C. Jacobaeus.
175 Serpiginous Vaccinia. (Ueber einen eigentümlichen Verlauf von Impfpusteln.) E. Meder.
176 Prescribing of Male Fern. (Die Verordnung von Extractum Filicis Maris.) R. Drenkhahn.
177 Syphilis at the International Hygiene Exposition at Dresden. (Die Syphilis in der internationalen Hygieneausstellung zur Dresden.) M. Leibkind.

166. **Operative Treatment of Diffuse Peritonitis.**—Baisch reports nine cases of puerperal peritonitis from Döderlein's clinic at Munich showing the great advantages of prompt operative treatment in some of the apparently most desperate cases. He argues that there is nothing to be lost in these circumstances and everything to be gained. All the patients recovered whose infection was of endogenous origin while the four whose infection came from germs from without all succumbed. In one case nothing could be found to explain the infection from without until the woman told that finding herself bleeding profusely she had seized a scrap of soiled cotton and pushed it deep into the vagina herself. The most serious cases were always those with freshly imported septic germs. Baisch emphasizes the benefits from copious rinsing out of the abdominal cavity and free drainage. If the peritoneal cavity is already encapsulated above, drainage through the vagina is all that is necessary, but with diffuse and advanced peritonitis he provides for drainage through the vagina, the abdominal wound and both flanks, using large rubber drains. The benefit from these measures was particularly evident in a case of peritonitis following perforation during curetting of the uterus after abortion.

167. **Biologic Sugar Solution Treatment of Peritonitis.**—Kuhn analyzes the natural healing processes as the oozing out of a fluid to wash away the germs from the invaded tissues, this rinsing out process going on throughout the entire body to eliminate waste and poisons, supplemented by extensive arrangements for draining away the fluids. These facts suggest the proper aims in treatment, namely, to stimulate this oozing out of fluids, to supply plenty of fluid at other points so that the fluid will be passed along and increase the effusion at the danger points, and, further, to provide ample facilities for drainage. Kuhn then describes experimental and clinical research which has shown that a solution of sugar applied to an oozing surface has a remarkable osmotic attraction, materially enhancing the outward flow of the fluids in the tissues and thus promoting the auto-rinsing out of the peritoneum in case of peritonitic effusion. The sugar solution also answers the purpose of a rinsing fluid, and, supplemented by copious subcutaneous injection of physiologic salt solution, Nature's processes are imitated and intensified. The sugar solution attracting the fluids in the tissues outward, supplements the rinsing action of the physiologic solution injected elsewhere, while the sugar solution has the further beneficial faculty of dissolving fibrin, thus preventing the coagulation of fibrin and warding off the formation of adhesions and the growing together of parts. He has found that the physiologic sugar solution is a mixture of 4.1 parts grape sugar, 0.9 parts cooking salt and 100 parts distilled water. This solution does not affect the blood corpuscles nor the size of the drops in the body fluids, while it has a number of remarkable properties which adapt it for the biologic treatment of peritonitis. By stimulating the exudation it interposes a protecting sheet of fluid, constantly renewed as the fluid is drained away, and it also promotes production of antibodies and is bactericidal to a certain extent. By using a more concentrated solution, the osmotic attraction keeps up longer. Kuhn's method is to use the above sugar solution as we have been in the habit of using salt solution for rinsing the abdomen, and then toward the last he uses a more and more concentrated solution, finally leaving a certain amount of a 10 per cent. solution in the abdominal cavity.

168. **Family Infection Rather than Inherited Taint Responsible for Tuberculosis.**—Reiche reports the results of investigation of conditions in this line for 2,864 tuberculous policy holders in the Hansastädte Insurance Company. Everything tends to show, he says, the grave importance of family infection and the comparatively slight importance of inheritance in the development of tuberculosis. This dethroning of the old pessimistic theory of an inherited predisposition deprives tuberculosis of much of its horrors, as it shows how infection may be avoided and that no one is fatally doomed from birth.

172. **Retention of Placenta from Premature Administration of Ergot.**—Schmid reports a case of severe complications on account of the administration of ergot before the placenta had been expelled. He cites seven similar cases from German literature. In his case delivery had been normal; two hours later the cervix permitted passage of two fingers and there had been considerable hemorrhage, but no signs of severe anemia, no dizziness nor fainting. As there seemed to be no change in these conditions, in a few hours the physician gave ergot and sent the patient to the hospital where the cervix was found nearly closed. By this time fifty-five hours had elapsed since delivery of the child and there was a slight rise in temperature. After introduction of the inflatable bag for a few hours the placenta was evacuated by hand and the patient soon recovered.

173. **Hydrogen Dioxid a Palliative for Cancer of the Esophagus.**—Liebermeister found that when the esophagus was obstructed by a cancer and the patients were suffering from lack of food, it was possible to improve conditions for a time by having the patients sip every hour a 1 or 2 per cent. solution of hydrogen dioxid. Some of his eleven patients thus treated were restored to comparative comfort by this means and lived for months, able to take nourishment by the mouth. Of course the patients are given only food that will pass readily through the narrow passage. In case of absolute stenosis he feeds by the rectum for two or three days, during which the patients sip the dioxid solution, and then he begins with fluid food which is generally then easily passed along into the stomach. If this proves impossible, he gives a subcutaneous injection of 0.01 gm. morphin or 0.001 gm. atropin half an hour before each of the three meals.

Wiener klinische Wochenschrift, Vienna

September 21, XXIV, No. 38, pp. 1323-1350

178 *Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. (Zur Kompressionsbehandlung der Lungentuberkulose mittels künstlichen Pneumothorax.) R. Perseh.
179 *Hemolytic Precipitation Reaction with Cancer. (Eine hämolytische Ausfallsreaktion.) G. Kelling.
180 Eosinophil Cells in Stomach Content with Gastric Achylia. S. Moacanin.

178. **Induced Pneumothorax in Treatment of Pulmonary Tuberculosis.**—Perseh discusses this subject from various points of view and reports four cases to show the great benefits liable to be derived in certain cases. The effect surpassed all anticipations in his first case, the patient a woman of 27 with various complications of pulmonary tuberculosis of several years' standing. The second case shows the simplicity and ease of the technic and the benefit even of a brief course of treatment. In the third the patient was moribund but the fatal termination was postponed for over three weeks by the immobilization of the lung. The fourth case is particularly instructive; this patient was a young woman with rapidly progressing tuberculosis, apparently restricted mostly to the left lung, the exacerbation following childbirth. The pneumothorax was induced about five months after the childbirth and clinical recovery followed, notwithstanding an exceptionally unfavorable environment.

179. **Hemolytic Reaction in Cancer.**—Kelling reports further experiences with 200 cases which confirm his recent assertions in regard to a hemolytic reaction in the diagnosis of a not yet palpable cancer. The test seems to show that in the serum with cancer there is something which gives a specific reaction with chicken blood-corpuscles. His research has shown that there is not only a hemolytic ferment for fowl blood-corpuscles but also a hemolytic immune body, an amboceptoid and a substance which deviates complement. He describes the technic for this test and for a further hemolytic reaction in which hemolysis is inhibited.

Zentralblatt für Gynäkologie, Leipsic

September 23, XXXV, No. 38, pp. 1329-1360

181 *Extradural Anesthesia. (Ueber extradurale Anästhesie.) F. Lieven.
182 *Menstruation After Curetting. (Ueber den Eintritt der Menstruation nach Abrasio.) F. Jaeger.
183 *Toxic Action of Blood Escaped Into Abdominal Cavity. (Ueber die Giftigkeit des in die freie Bauchhöhle ergossenen Blutes.) P. Bröse.
184 The Pulse After Rupture in Interstitial Pregnancy. (Ein seltenes Pulsphänomen bei innerer Blutung infolge von interstitieller Schwangerschaft und einiges über Herzkraft bei Blutungen.) W. Naeke.
185 Management of Umbilical Cord. (Ueber Nabelschnurversorgung der Neugeborenen.) W. Leube.

181. **Extradural Anesthesia.**—Lieven reports his experiences with an anesthetic injected according to Cathelin's epidural technic in six obstetric and fifty operative gynecologic cases. In the latter he used a very complicated technic, throwing the patients into a twilight sleep before making the extradural injection. In the obstetric cases the extradural technic has the disadvantage that anesthesia does not come on for about twenty minutes and that it puts an end to the abdominal straining during delivery. The introduction of the anesthetic is not always easy, and the anesthesia induced is not of long enough duration for protracted operations.

182. **Return of Menstruation After Curetting.**—Jaeger states that in twenty-five cases in which the curetting was done for endometritis and in twenty-five for the results of abortion, menstruation did not seem to be affected. He accepts this as evidence that menstruation does not depend on the uterine mucosa but on the functioning of the ovaries.

183. **Toxic Action of Blood in the Abdominal Cavity.**—Bröse reports three cases which show the possibility of an extremely toxic action from blood escaping into the abdominal cavity. Two of the women died. The chief symptoms were the paralysis of the entire intestines coming on the second or third day after rupture of a tubal pregnancy or operation for pyosalpinx or fibromyomas accompanied by much hemorrhage. The paralysis of the intestines was accompanied by high temperature and accelerated pulse, somnolency and agitation. According to his experience fluid blood seems to have a more toxic action than the coagulated.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 14, XXXII, No. 111, pp. 1173-1178

186 Immunizing Property of Extracts of Human Tuberculous Lungs. (Sulle proprieta immunizzanti degli estratti di polmone umano tubercolosa.) G. Romanelli and F. Morelli.

September 17, No. 112, pp. 1179-1194

187 Physical Syndrome with Lesions of Right Brain. (Sindromi fisiche da lesioni dell emisfero destro in destrimani.) T. Silvestri.

Policlinico, Rome

September 17, XVIII, No. 38, pp. 1193-1224

188 Earth Worms as Conveyors of Cholera. (I vermi come veicoli d'infezione colerica.) B. Gosio.
189 Omentopexy for Cirrhosis of the Liver. (L'operazione del Talma nella cura delle cirrosi epatiche.) A. Monetti.

Riforma Medica, Naples

September 18, XXVII, No. 38, pp. 1037-1064

190 Cultivation of Cholera Vibrio. (Nuove ricerche culturali su vibrione colerico.) S. Fichera.
191 Difficult Diagnosis of Traumatic Lesions. (A proposito d alcune lesioni violente traumatiche, di diagnosi dubbia.) G. Monzardo.

Hospitalstidende, Copenhagen

September 6, LIV, No. 36, pp. 1001-1032

192 Aggressin Action in Broth Cultures. (Aggressinvirkning i Bouillonkulturer.) I. P. Chrom.

Nordiskt Medicinskt Arkiv, Stockholm

XLIII, Internal Medicine, No. 4. Last indexed April 29, p. 1306

193 *Chemistry of Nucleins. (Nobelvortrag.) A. Kossel.
194 *Experimental and Clinical Research on Diabetes. (Zur Diabeteslehre.) E. Landergren.

193. **Kossel's Research on Chemistry of Nucleins.**—This article is Kossel's summary of his biochemical research for which he was awarded the Nobel prize last winter. His work was reviewed editorially in The Journal, March 18, 1911, p. 817.

194. **Diabetes.**—This monograph on diabetes, based on extensive experimental and clinical research and experience, was awarded the Regnell prize in 1906.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Pediatrics. Edited by Isaac A. Abt, M.D., Professor of Pediatries, Northwestern Medical School. With the Collaboration of May Michael, M.D. Orthopedic Surgery. Edited by John Ridlon, A.M., M.D., Professor of Orthopedic Surgery, Rush Medical College With the Collaboration of Charles A. Parker, M.D. Volume VII, The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Series 1911. Cloth. Price, $1.25. Pp. 237. Chicago: The Year Book Publishers.

The Parasitic Amebas of Man. By Charles F. Craig, M.D., Captain, Medical Corps United States Army. From the Bacteriologic Laboratory of the Army Medical School, Washington, D. C., and the Rockefeller Institute for Medical Research, New York. Published with the Authority of the Surgeon-General of the United States Army. Cloth. Price, $2.50. Pp. 253. Philadelphia: J. B. Lippincott Co., 1911.

Manual of Pathology. Including Bacteriology, the Technic of Post-Mortems and Methods of Pathologic Research. By W. M. L. Coplin, M.D., Professor of Pathology, Jefferson Medical College, Philadelphia. Fifth Edition. Cloth. Price, $4.50 net. Pp. 1139, with 612 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

Annual Report of the Indian Branch of the St. John Ambulance Association. For the Year Ending Sept. 30, 1910. Published by the Authority of His Excellency the Viceroy, President of the Indian Branch. Paper. Pp. 139. Calcutta: Thacker, Spink & Co., 1911.

Report of the Veterinary Director General and Live Stock Commissioner J. G. Rutherford. For the Year Ending March 31, 1909. Printed by Order of Parliament. Department of Agriculture, Ottawa, Canada. Paper. Pp. 212, with illustrations.

Health for Young and Old. Its Principles and Practice. By A. T. Schofield, M.D., M.R.C.S., etc. Author of "Hygiene for Schools." Cloth. Price, $1.50. Pp. 300. New York: G. P. Putnam's Sons, 1911.

Second Annual Report of the Children's Hospital and Training School for Nurses, 2221 Downing Street, Denver, Colo. For the Year Ending April 1, 1911. Paper. Pp. 55, with illustrations.

Footprints Made in the Dark or Forewords of the Present Status of Bacterial Etiology. By A. G. Field, M.D., L.L.B. Des Moines, Iowa, 1863-1910. Cloth. Pp. 31, with illustrations.

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STREPTOTHRICOSIS (ACTINOMYCOSIS) OF THE LUNGS *

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LOS ANGELES

In 1908 I reported[1] seven cases of what I believed to be pulmonary actinomycosis (streptothricosis) discovered in one year. Since then several additional cases have been encountered. They have all been infested by a streptothrix which I have supposed to be the *Streptothrix actinomyces*. Some of these patients have also had tuberculosis, death resulting in each case; some have had simple streptothricosis; several of these have recovered.

Of the former series three patients had also pulmonary tuberculosis and all were free from infection in other parts of the body. In one case (No. 2, N., of the mixed disease) the patient, who had a marked lesion of the left lung, had died April, 1908, after a year's struggle and eight months after coming under observation.

In another mixed case (No. 3, G.) the patient survived till March, 1909. In this case there was little involvement of the lungs, the apices only being invaded, especially the right. The larynx was profoundly involved, with much swelling, swallowing being difficult and painful, and aphonia being absolute for many months before death.

Case 1.—The patient, A., was reported probably cured, had remained so to a recent date, the recovery apparently being permanent. This was the most marked and characteristic case of the series, almost the whole of the left lung being more or less diseased, the patient having expectorated large quantities of bloody malodorous muco-pus for many weeks, often a pint or more in twenty-four hours, and recovering with a mass of consolidated tissue in the left upper third, with reduced vesicular murmur and bronchial breathing over the whole lung.

Case 4.—The patient absconded and has not been rediscovered.

Case 5.—The patient had mixed disease, went east and his fate is unknown.

Case 6.—M., the patient, seemed to pass into recovery with a rather marked consolidation in the bottom of the left lung posteriorly, and a lesser one in the right apex. Marked fibrosis occurred, especially in the left side, which greatly reduced the motion of the chest-walls—in fact, nearly abolished it; the breathing was mostly abdominal, and even moderate exertion caused extreme dyspnea. Yet the man looked well and, barring the short-windedness, felt so. A few actinomycetes were found in his expectoration after the first report, but none for several months before his death—indeed, for many weeks there had been no expectoration of pus. The man went to Colorado in 1909, was seized with some complication and died in two or three days.

Case 7.—W., the patient, had a marked lesion in the lower left chest posteriorly, with free expectoration of thick bloody sputum (his case having been early taken for one of some extraordinary pneumonia—as indeed it was), completely recovered, with evidence of moderate thickening of tissue (so-called consolidation) in the region involved. His health is apparently perfect.

Case 8.—Of the second series of cases, the first was a mixed one, the patient (B.) being a bachelor, aged 25, a lawyer. He came under observation late in July, 1908, and had then been sick for fifteen months. At first his expectoration was bloody; for a year it had not been over a half ounce in twenty-four hours, and blood-free. The lesion was a diffused and moderate one throughout the left lung. It gradually grew worse, with more and more signs of consolidation; dulness, reduced motion, bronchial breathing, râles, reduced vesicular murmur, especially at the bottom of the lower lobe, and finally a cavity. He failed and died in April, 1910. Both tubercle bacilli and actinomycetes were found in the expectoration and were distinct and typical.

Case 9.—R., the patient, is a vigorous-looking bachelor, a street-car conductor of 28 years. He was first seen in December, 1908. He felt poorly and coughed for several months. Expectoration had been moderate in amount and occasionally bloody. A few actinomycetes were found but no tubercle bacilli. There was almost an entire absence of physical signs, barely slight bronchial breathing in the right apex. The germs have increased in the sputa. There has been little or no fever, and he keeps his weight and general condition; the daily expectoration is about three ounces, and it is occasionally bloody, and fetid. Early in 1910 his nose apex swelled, got red and finally broke down in ulceration of the skin in numerous small points. The streptothrix was found in the discharges from the ulcers. The condition recovered under tincture of iodin locally and iodin internally. Later a similar ulceration occurred on one of his legs above the ankle and healed.

Case 10.—H., the patient, of Wyoming, came under observation March 22, 1909. He is a sheep raiser, 52 years of age, married. The previous autumn he had what was pronounced left pneumonia and was in bed four or five days. He was expectorating 8 ounces of pinkish muco-pus every twenty-four hours; had no fever, but was very short-winded; he had lost 15 pounds in weight. The expectoration teemed with actinomycetes. He had manifestly extensive effusion in the left pleural cavity which was aspirated March 25 of the amount of 20 ounces of pinkish sero-pus containing what appeared to be débris of actinomycetes. March 31, the left side remaining still flat, a drainage-tube was inserted which promptly discharged 30 ounces of fluid. There was no lesion of the right lung, so the expectoration manifestly came from the upper part of the left lung and may in part have come through a perforation from the pleural cavity, since after the drainage the expectoration was reduced markedly. The patient soon returned home and his doctor reported for a time a moderate improvement. He returned to Los Angeles in the winter of 1909-10. Actinomycetes in fragments were still found in the discharges. An operation for removal of sections of ribs was done after his return home in the spring of 1910.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Tr. Sect. Hyg. San. Sc., A. M. A., 1908, p. 242.

Case 11.—C., the patient, was in the practice of my associate, Dr. George L. Cole, with a record as follows: He had come under observation December 3, 1908. He was a lumberman, 62 years of age, had been well since 1870 until eight or ten months before; then a cough began and there was pain in the left chest. He was put to bed by his previous physician during January and February, 1908, having been aspirated four times up to April of that year. About one quart of fluid was procured each time.

His pulse was weak and cough bad (Dec. 3, 1908), although expectoration was trifling. Dr. Cole found complete dulness over the left chest, the heart being pushed to the right; the apex-beat was distinctly to the right of the sternum. The patient was aspirated of between 3 and 4 quarts of bloody fluid; but the little expectoration that was procured contained actinomycetes. Jan. 29, 1909, the left side was still profoundly dull throughout. There was tactile fremitus down to the fifth rib, also voice sounds. The heart apex was under the sternum. This was substantially the condition April 23, 1909. There was no real vesicular murmur even at the apex. There was no fever; pulse and respiration were rapid. The weight had decreased 24 pounds. Yet, the patient was about, attending to business daily and looked like a man only slightly under normal vigor. He grew gradually worse and died Nov. 4, 1909. The left lung was found compressed into the size of a large human fist. The right lung had become extensively invaded, at the apex, by what the microscope showed to be carcinoma.

Case 12.—C., the patient, is a single woman aged 40, who has had tuberculosis and has been coughing more or less for a number of years. She has also had a great deal of nervous debility. Her previous physicians found tubercle bacilli on several occasions.

On my examination made in 1908 her right lung had slightly reduced motion, marked reduction in vesicular murmur, trifling dulness and sharp bronchial breathing at the top, reduced fremitus over the middle and lower portions, trifling bronchial breathing at the top of the left lung. The patient was not expectorating much and it was impossible to procure a good sputum specimen. Her temperature was 1 degree above normal. Hers was regarded as an arrested case of tuberculosis.

After an absence of a year she returned for another examination. She had recently been having fever—to 102 F.—with wheezing, cough and poor appetite. There was now marked consolidation of the lower part of the right lung posteriorly and about the same condition as before in the upper portion. No tubercle bacilli were present in the sputum, but numerous actinomycetes.

The patient had not lost much in weight and her general functions were fairly normal. She had been in very fair health the previous year, except for some irregularities in menstruation. She soon ceased to have fever. The thickening at the base of the right lung disappeared and general improvement was noticeable. Occasionally she had a recurrence of slight fever, with numerous râles throughout the right lung. It was evident that the infection was in the right apex. The actinomycetes mostly disappeared after a few months, and her general health was greatly improved, when she suddenly developed a rather marked case of exophthalmic goiter. This improved after a few months. She is now in fair health, but recently a few actinomycetes were found.

Case 13.—C., a man of 40, widower, an office man from Philadelphia, came under observation May, 1909. His general health was good; his appearance was that of a well man; his general functions as to digestion and general vigor were normal. He had no fever and probably had had none. He had been hoarse more or less for six months and had had a cough with a small amount of expectoration of a thin purulent character, with occasional streaks of blood. The hoarseness was worse in the mornings, better evenings. There had been no difficulty or pain in swallowing. He was only slightly short-winded.

His eastern physicians had repeatedly searched his expectoration for tubercle bacilli and had failed to find any, and one of them had searched for the germs supposed to belong to syphilis, with negative results. He had received free doses of potassium iodid from the last-mentioned physician, who regarded the case as syphilitic (although the patient denied the possibility of it) and reported improvement for a time under the treatment. The patient confirmed this last statement.

Physical examination of the chest (May, 1909) revealed absence of dulness and râles; the slightest possible reduction of vesicular murmur over the upper left chest, and a sort of loud bronchial breathing over both apices, of a character suggesting tracheal narrowing. The larynx was extensively diseased; all the tissues were swollen; the epiglottis was swollen, ulcerous, and cleft rather deeply in its center longitudinally; the vocal cords were swollen and red, and the false cords and arytenoid regions were large and red but apparently not ulcerous. It was impossible to get a good view of the vocal cords and the lining of the trachea. There were two white ulcerous patches on the front of the left half of the soft palate. The sputum contained a few streptococci and many actinomycetes of a typical appearance but no tubercle bacilli.

The patient was advised to have his throat sprayed with an 8 grain water solution of sulphate of copper, and to take ⅓ grain of the copper drug and 6 grains of sajodin, three times a day. He soon disappeared and was not seen again. He died in February, 1910.

Case 14.—T., a married woman, aged 50, was first seen in February, 1909. She had a laparotomy some months previously for gall-bladder symptoms, followed by some amelioration. She had all the physical signs of a moderate infiltration of what appeared to be tuberculosis of the right apex anteriorly. She had slight fever, moderate expectoration and general debility. No tubercle bacilli were found after repeated examinations, and no actinomycetes until June 10, when a single granule was discovered. Afterward, numerous typical ones were found, some of them in clumps. Later, bloody expectoration in small quantity appeared for a short time with extension of dulness and reduced vesicular murmur in the back of the right apex down to the upper part of the central third of the lung. Fever increased with this extension of the disease. The fever subsided simultaneously with the discharge of larger masses of the peculiar germs. This cycle was repeated several times during the year; extension of the disease and fever, the latter subsiding on the discharge of a large mass of bloody pus with terrible odor. The patient died in 1910. The postmortem findings are reported below. This case occurred in the house of one of the cured patients reported above.

Case 15.—D., a widow, 65 years of age, had had a moderate cough for a year or more, with a little daily yellow expectoration. In 1908 I found slight physical signs of thickening in the right lung apex. The general health was good for a person of her age. She was a large woman and had lost little weight; she had been substantially without fever. Early in October, 1909, she had had a slight pulmonary hemorrhage and continued to expectorate blood-flecked and odorless sputa for several weeks. No other symptoms occurred. Repeated examinations of her sputa failed to find either tubercle bacilli or actinomycetes, until after this hemorrhage. Then the ray specimens were found in small numbers, but no tubercle bacilli. Early in December, 1909, she was seized with a flooding pulmonary hemorrhage and died in a few minutes. No necropsy was made.

Case 16.—F., an unmarried man aged 26, a clerk in a chemical and apparatus supply house in Los Angeles for some years, had had cough for several months with a little odorless expectoration, and has lost a few pounds in weight. He has felt a sense of general debility, but has kept at work. There has been less than 1 degree elevation of temperature in the afternoons. Slight dulness, an occasional râle and moderate bronchial breathing have been found at the right apex. Characteristic actinomycetes were found but no tubercle bacilli.

CASE 17.—The patient, Br., in the practice of Dr. Robert Moody of the University of California, at Berkeley, was a single woman, a teacher, 40 years old, with extreme lateral curvature of the spine. Her father had had asthma fifteen years and died of heart disease; one brother died of tuberculosis. The patient had pleurisy in 1903, and the next year, tuberculosis of the right lung. Dr. Moody first saw her in January, 1908. There was a cavity in the right lung; tubercle bacilli and actinomycetes were found in the sputum. Tuberculin was given (1/500 to 1/1000 mg. weekly) till May, 1910, when the tubercle germs disappeared. Streptothrix germs have persisted and the patient was still living a few weeks ago.

The treatment of these cases has been tonic and regulation of functions with iodin in some form and frequently sulphate of copper. The latter was given in doses of ⅓ gr. three times a day when the stomach could bear it, and the iodin in the form of iodid of potassium, or of sodium, and sajodin.

The cases here reported emphasize the fact that pulmonary streptothricosis is not so very uncommon; that most physicians can discover examples if they will only look for them, and that it must be true that a large proportion of the cases of so-called non-tuberculous phthisis are instances of pulmonary streptothricosis of some variety. The number of cases of this sort is considerable and most general practitioners have encountered them and have been puzzled by them.

This whole series proves that it is futile to try to connect the cases with the disease in cattle or in other people. Patient 1 was a farmer, but denied ever having seen a case of lumpy jaw. Patient 3 was a lawyer who took milk from a dairy found to contain some cows afflicted with tuberculosis and fewer cows afflicted with lumpy jaw. The other cases were free of any suggestion as to such an origin of the disease. Case 14 is the only one that appears to have been connected with any other case.

The patients mostly came from widely separated parts of the country and had no connection with each other. Nor was a single case of the lung affection secondary to a lesion elsewhere in the body, and in no instance has the disease appeared secondarily in other organs than the lungs and pleura, save Case 9, in which the skin became involved and recovered.

Dr. Edith Claypole, who has done most of the laboratory work on the specimens, has by means of various devices made a large number of cultures from several cases, and with notable results that are set forth in her notes accompanying this paper. By Gram-stain and otherwise she has been able to demonstrate in the sputum the mycelial threads and rod-segments many days before they appear in masses large enough to give the peculiar radiating appearance so characteristic of the *Streptothrix actinomyces*—indeed, in the early stage she feels able to predict that the larger masses will be found later. This is, I think, a discovery of distinct value. She suggests that any specimen of sputum containing faint blue-staining bacilli in notable numbers, which persistently refuse to grow in ordinary media and are Gram-positive, should be critically searched for the streptothrix with almost a certainty of finding it.

The appearance of the germs, both to the naked eye and magnified, has tallied with the classic description of *Streptothrix actinomyces*, except that there have been no true "clubs," and it has been substantially the same in all the patients. Several authors who have discussed this phase of the subject, notably McFarland, regard the clubbing as merely incidental and unessential in the growth of the germs. This is the correct view, and the clubs are most unusual in the human pulmonary infection,[2] for the reason that being probably a sort of by-product and depending on the character of the host-tissue, the lungs do not favor their growth. Neither do they grow in any of our culture media. The essential elements are the mycelial threads and their fragmentations, rods and granules, and they tend to gather in masses with certain characteristics that have given the name "actinomyces" to some of them.

The presence in most of the cases of bloody expectoration at some period of the disease, and especially the frequent bad odor, indicate true *Streptothrix actinomyces*. But, of course, some other variety of streptothrix might possibly produce all the phenomena noted in these cases, and they may represent more than one variety. That the germs are an incident and not an etiologic factor in the cases described is quite impossible. The causative relation to the disease is as certain for these germs (whatever their classification) as is that of tubercle bacilli for pulmonary tuberculosis. There may, indeed, be a close biologic relation between the streptothrix and the tubercle germs, but if such is the case it does not appear to be so clinically.

Dr. Claypole has written the following note and discussion on the specimens, and on the pathology of the disease:

In the majority of cases the sputum is characteristic and of two types; (1) glairy, mucilaginous, often quite watery; (2) purulent, more or less bloody, more or less—sometimes intensely—fetid. Both types may be found sparingly or in abundance. The second type may only have a characteristic, homogenous, pinkish color, or be deeply blood-stained; it generally has a distinctly bad odor. This odor may belong in some degree to both kinds of sputum, but especially to the purulent form. Of eight cases, not complicated with tuberculosis, three were in Class 1 and five in Class 2.

The small granules, usually the size of a very small pinhead, can be picked out with a needle and put on a slide for examination. They are quite tough and can be washed free of debris by putting them into a small dish of water and squirting them vigorously up and down a pipette. Careful examination of many specimens before and after this treatment shows them to be absolutely unhurt by it; only the pus and epithelial cells clinging to the outside are removed.

Under a low magnification (Reichert objective 1 and ocular 1) the yellow color is marked; to the naked eye the fungus is greyish white. The edge is always darker, even shading into brown; toward the center it grows lighter. From this light, almost homogeneous center, the characteristic radiations arise. Higher magnification (Reichert objective 7 and ocular 1) shows the center to be a mass of pale, radiating threads, the mycelium, and at the edges a mass of threads and cocci. Both mycelium and cocci may be stained with methyl blue, the former frequently being banded light and dark in segments, sometimes granular throughout.

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[2] The following writers are on record as holding that the clubs are non-essential:

Bevan, A. D.: Ann. Surg., 1905, xli, 641.
Hitchins, P. S.: Brit. Med. Jour., 1905, ii, 1168.
Hodenpyl: Med. Rec., 1890, xxxviii, 653.
Levy and Klemperer: Elements of Clinical Bacteriology, 1900, p. 356.
Litton and Levy: Deutsch. med. Wchnschr., 1906, xxxii, 1772.
Lord, F. T.: THE JOURNAL A. M. A., Oct. 8, 1910, p. 1261.
Ruhrah, J.: Ann. Surg., 1899, xxx, No. 4, p. 417; No. 5, p. 605; No. 6, p. 722.
Stokes, W. R.: Am. Jour. Med. Sc., 1904, cxxviii, 861.
Werthen and Olney: Am. Jour. Med. Sc., 1904, cxxviii, 637.
Wood and Eshner: Med. Rec., 1910, lxxvii, 947.
Wynn, W. H.: Brit. Med. Jour., 1908, i, 554.

The following assert that neither granules nor clubs are essential:

Ashton and Norris: THE JOURNAL A. M. A., Sept. 9, 1905, p. 784.
Beracz, R. von: Ann. Surg., 1903, xxxvii, 336.
Caglieri, G. E.: THE JOURNAL A. M. A., Nov. 12, 1898, p. 1173.
Chiari: Ztschr. f. Heilk., 1900, ii.
Hamm: Deutsch. med. Wchnschr., 1906, xxxii, 941.
Letten and Levy: Ztschr. f. Heilk., 1900, ii.
Musser and Gwyn: Tr. Assn. Am. Physicians, 1901, xvi, 208.
Scheele and Petrusky: Deutsch. med. Wchnschr., 1897, xxiii.
Wagner, C.: Surg., Gynec. and Obst., 1910, x, 148.

Culturally, the actinomycetes do not grow usually on plain agar, glycerin and glucose agar, or potato (they do not seem to be more active on one than on the other of these media); if they are present, there are small whitish masses on the surface, which on removal give the characteristic appearance under the microscope. In bouillon the germs grow better.

In Case 14, T., long bacilli are recorded as found in the sputum at first and later the characteristic granules of streptothrix. In all probability these bacilli, so-called, are fragmented mycelium; ultimately the fungus appeared in masses of tangled mycelia rather than in granules, but always some material of this sort was found. In about eight months a cavity appeared at the apex and the lung involvement became more extensive, especially posteriorly.

When death occurred, the emaciation was extreme. The left lung and pericardium were normal; the right was contracted and anteriorly over the third and fourth rib cartilages, the parietal and visceral pleuræ were densely adherent and the bone involvement marked, explaining the neuralgia and substernal pains complained of. When the adhesions were separated the lower part of the pleural cavity was found to contain 8 ounces of most fetid pus. For a few days before death the patient had coughed up quantities of this fetid fluid, at times almost suffocating in it, showing a bronchial communication with the cavity.

The upper lobe of the lung was mottled black and white, was almost solid in consistence, no porous structure remaining; it contained several small cavities from the size of a pea to that of a walnut. The middle lobe was dark red, spongy, with whitish spots, and anteriorly a white, honey-combed area that was adherent to the sternum for a space of some 3 inches. This was evidently the most recent involvement.

The lower lobe was contracted, reddish and somewhat porous. The diaphragmatic pleural surface was much thickened and resembled a pyogenic membrane. The same mycelial masses were found in this fetid pus as had been observed in the sputum. When the lung was cut into, the same granules and mycelial masses were found in the larger bronchial tubes, together with the debris of pus and epithelial cells. There was no evidence of any lymphatic involvement in any of the bronchial or other glands.

The microscopic examination of the tissues demonstrated the growth of the fungus from the earliest stage to the mycelial masses. Sections were made from the consolidated apex, the middle lobe near the adherent portion, the intercostal tissue, the reddish lung near the base and a piece of the thickened inferior pleural surface of the lower lobe. Some sections were stained with hematoxylin and eosin, and others by the Gram-Weigert method.

As shown in the hematoxylin-eosin mounts, the upper lobe consisted of a large amount of fibrous material, much new granulomatous tissues but no alveoli. The bronchial tubes of varying sizes remained more or less full of sputum, and scattered among the granulomatous tissues were giant cells, not like those accompanying tuberculosis, but small, with only from four to eight nuclei. Never was there any sign of caseation; everything was dense and compact. In the other lobes there was some vesicular structure, but the alveoli were full of desquamated epithelial and pus cells.

Throughout the lung patches of new-formed granulomatous tissue, with its accompanying small giant cells, were of frequent occurrence, showing tissue response to some form of irritation. In places a fine fibrillar structure was plainly seen, often apparently in circular spaces, suggesting blood-vessels. This was of especial interest, as will be seen from the revelations made by the application of the Gram-Weigert method to the same set of sections.

In a recent series of lectures by Foulerton in the London *Lancet* the whole subject of streptothricosis is most ably discussed, and the complex morphology clearly demonstrated. The reproduction from the mycelium of rod-segments, very similar in appearance and morphologically equivalent to bacilli, as well as by spores, is an especially illuminating phase of the problem and one which gives an entirely new point of view from which to investigate all the tissues in this disease. The Gram stain shows these small particles in the newly infected areas, when other methods fail to do so.

In this case the point of most recent invasion is the area of the middle lobe adherent to the chest wall. This is the point at which the study logically begins. The tissue is more nearly normal than elsewhere, some exudation into the alveoli and some granulomatous cells are present. In one of the largest bronchioles full of pus cells and other elements of sputum, the most beautiful picture of the method of invasion is found. Rod-segments, staining blackish with Gram stain, literally swarm in one place among the pus cells. High columnar epithelial cells surround this mass of sputum. At one point their integrity is broken, and in among the cells are masses of these black rod-segments en route to the deeper tissues. Again, they are found in the intercellular connective tissue and even to the fibrous tissue surrounding the small blood-vessels. This is of especial interest in view of the fact that in older areas of infection these open spaces with walls apparently like those of vessels are found filled with mycelial threads staining the characteristic blue. The good condition, relatively speaking, of all the tissues entirely negatives the idea that this is a process of discharge into the bronchiole, rather than an invasion of it. Of course, it is a condition of self-infection but it shows how the disease extends, and also accounts for the rather slow manner of extension, that of contiguity, not by infection through the blood-stream.

The development of these rod-segments into the typical mycelial masses is the next point for demonstration. The earliest stage of the growth of the mycelium from the rod-segment could not be determined, the reason for this being indicated in the cultural experiments described later. In the sections of the reddish porous part of the middle lobe, rod-segments are also found in the interalveolar tissue, also small granules of the fungus. There are many granulomatous patches and in them are found areas of interlaced fibrils staining more or less deeply with Gram stain, also masses of fibrillar substance likewise staining blue. Small fragments of mycelium can be found in the exudate in the larger bronchioles over this area also. There occur in the larger bronchial tubes some sections of the tufts of the fungus; these stain deep blue and are very distinct and characteristic. Small scattered fragments of mycelium are found in many parts of the sections.

In the upper lobe no air-spaces remain, fibrous and granulomatous tissue alone are found with some blood-vessels and a few bronchial tubes; in these can be seen fragments of mycelium. The response to the extreme irritation of the parasite is the formation of new tissue, and the air-cells are destroyed. Apparently, the excessive new formation of tissue is unfavorable to the fungoid growth; it disappears. The parasite departs but the function of the lung is destroyed. Further invasion of new, softer tissues presumably occurs with similar results. This total lung destruction probably accounts for the marked short-windedness of most of the patients afflicted with this disease, indicated in physical signs by the so-called extreme fibrosis.

At what point the mycelium begins to form rod-segments is at present undetermined. They may form only when conditions become unfavorable for growth in any special region, or they may be formed in small numbers at all times. The former would be the more probable, however, in view of the larger number found at the place of invasion in the most recently infected point.

It is possible that the masses of mycelium, usually found in the sputum, are not capable of entering new tissues, in fact cannot cause infection; that is, that they must become rod-segments before really being dangerous to the system.

The peculiar manner in which the rod-segments surround the small blood-vessels is worthy of further study. Finding the interlaced mycelial threads apparently in blood-vessels was at first very puzzling, and only after the earlier stage of the process[3] was discovered did it seem possible that the fungus really was in the vessels.

SUMMARY

1. A large amount of granulomatous tissue takes the place of all air-sacs and small bronchioles in the final stage.
2. Marked absence of caseation and very little breaking down save in a pleural cavity.

The in many ways unexpected results obtained from the study of the tissues in this one case of primary streptothricosis of the lung make it most desirable that more should be critically examined to determine if the course of the pathologic changes is always the same or if noteworthy variation occurs.

CULTURAL AND SPUTUM EXPERIMENTS

To investigate more fully the character of the infectious agent responsible for the disease in these cases, a series of cultural experiments were made from Cases 9 and 17.

The contaminations unavoidable in sputum and the very poor growth of the organism on solid media made it impossible to obtain pure cultures without a much longer series of experiments than time allowed. The ordinary streak and plate methods are not suitable, since the secondary forms, growing freely, cover the surface before the streptothrix is started. Consequently bouillon was chosen and contaminating forms, chiefly staphylococci, disregarded. The small granules found in the sputum, consisting of tufts of mycelium, were carefully picked out either with a needle or pipette, washed thoroughly in repeated changes of sterile water and then either crushed or dropped whole into the tubes which were incubated at 37.5 C. and examined daily in hanging drops and smears, the latter stained with methylen-blue by the Gram method.

In the hanging drop the growth of the organism is beautifully shown; in the earliest stage (twelve hours) it apparently consists of a few spores, and from them two or three delicate threads of mycelium; both stained and hanging drop mounts show this clearly. During the second, third and fourth days the small organism grows rapidly, becoming quite a mass of threads, radiating with more or less regularity from the center of growth. By the sixth day small but distinct granules can be seen in the bouillon; these are large enough to pick up and crush on slides to make smears. On agar the growth is but feeble, never in isolated masses, owing to the presence of more rapidly growing organisms, and not recognizable to the naked eye as separate masses. In hanging drops and smears it shows fragmented mycelium and rod-segments in abundance. The little tufts in the bouillon are tangled mycelium beset with many coccus-like spores, strongly Gram-positive.

In the early stages, up to the fourth day, the mycelium proved itself to be very resistant to stains of all kinds, only a few threads becoming colored even after prolonged treatment and none if merely the usual time was allowed. Parallel observations on the hanging drops showed the fungus to be present in abundance. Finally, by the time the small tufts became visible to the naked eye, on the fourth day, the usual staining properties began to appear and by the sixth day successful operations resulted from the standard method. At no time, however, was the organism acid-fast.

The application of the Gram stain to this organism discloses many points in the structure not shown by the ordinary stains. There is a great variation in the diameter of the different threads and as marked a difference in their staining qualities. Some are fine and hair-like, others coarse and thick. Many of the heavy ones stain a deep continuous blue, others are finely granular throughout, some segmented at regular intervals, like long strings of large bacilli, again like strings of streptococci, or in separate organisms, like bacilli; the rod-segments among those that take the Gram stain in whole or part are many that show only the counter stain and even that faintly; some are large, some small; the very young and the old degenerate threads. After becoming familiar with the organism it is easy to trace the same irregularity in staining in the tissues, though here the fragmentation is not a marked phase, save where the formation of rod-segments has occurred. The resistance to stain of the young mycelium also serves to explain the notable absence in the tissues of very young forms growing from the rod-segments. It is a well-known fact that microorganisms in tissues are more difficult to stain than in pus, sputum or cultures. It may be the difficulty in hardening the tissues rapidly enough to fix the organisms. In the case under consideration it would seem to be some qualities in the organisms themselves. Only as they grow old they lose the power and again fail to color typically. The exact conditions under which the rod-segments form are as yet not determined. It is evident that by no means does all mycelium fragment into them. Much of it dies, as evidenced by fine granulation and final lack of stain.

SUMMARY

1. The fungus is found to be markedly pleomorphic, occurring in (a) the classical grain or tuft, in culture and tissue, (b) fragmentations, bacillary, or even smaller, like granules, in tissues and discharges and some culture (solid) media. Very variable in size of mycelium.
2. The very young mycelium is resistant to all stains; the old threads likewise fail to stain.
3. In cultures and tufts the mycelial masses always show large numbers of small Gram-positive organisms (spores). Fine branching mycelium in the very early stage starts from these structures (demonstrated in hanging drops and smears). They are negative to Moeller's method for staining spores of ordinary fission fungi. They were not demonstrated in the tissues.
4. The active infectious agent in tissues is apparently the rod-segment.

To extend the study somewhat further a series of preparations was made from the sputum of many patients, tuberculous and others, as well as from Cases 9 and 17. This was to determine whether the Gram-picture was diagnostic of the disease and whether it appeared in sputum in the absence of microscopic tufts. No tuberculous sputum showed the same results. In Cases 9 and 17 particles of sputum chosen, carefully avoiding any macroscopic piece of the fungus, invariably gave rod-segments and fragmented mycelium. At one

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[3] Pollack, Lohlein and Chiari report organisms in blood-vessels of lung and other tissues.

time when the pus appearance of the sputum was negative in Case 9 the rod-segments and mycelium showed abundantly by Gram stain.

Culture in bouillon always gave positive results in the absence of fungus in the sputum visible to the naked eye. By these two methods moreover, the Gram stain and bouillon culture, a case that was under observation for diagnosis was suspected and proved to be positive to culture. In a few days with severe coughing and profuse expectoration the macroscopic granules appeared, clinching the diagnosis.

If continued observations show these two methods to be absolutely trustworthy it will be possible to make an early and reliable diagnosis for this disease. The simplicity of a bouillon culture and hanging drop examination, together with some Gram-stained films, brings it within the reach of all who are near any sort of laboratory facilities.

Auditorium Building.

RICKETS IN ITS EARLY STAGES AND BEST TREATMENT TO PREVENT DEFORMITIES *

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This subject has not been given much special attention recently, judging from a review of modern medical literature on diseases of children, and especially rickets, but all seemed to have been content with the fact that the disease was due to mal-assimilation with inevitable and unavoidable results and let it go at that.

Rickets is a disease of defective nutrition from mal-assimilation, augmented by the absence of sunshine and fresh air. Some authorities believe rickets due to toxins received by the child through special inheritage, while others contend the toxins are due to alimentation; however, let that be as it may, the disease is essentially a constitutional one and we must treat it as such.

The scrutinizing diagnostician will readily see that the disease is much more common than is generally supposed and will differentiate it by elimination from other diseases in children called something else. There are negatively etiologic factors which must be considered, among which are air, sunshine, hygienic environments, food and age. Like all diseases associated with impaired nutrition, it is less likely to occur among breast-fed children than among those who are deprived of their natural food. For the same reason it is more likely to occur in the latter part of the first year than in the early months, since in so many cases the breast-milk deteriorates in quality after the first six months of lactation and after one year still more so. On the other hand, premature weaning, or bottle-feeding, causes chronic indigestion, characterized by excessive acidity throughout the entire alimentary canal which overcharges the blood with acids and disturbs the ossification of the bones.

The disease exists most frequently in the temperate zone and in crowded unhygienic quarters of cities and especially large ones.

In addition to constitutional rachitic disturbances, the bone changes demand early attention, and marked changes are first noticed in the epiphyseals of the long bones most frequently at about the age of 6 months when the organic bone material exceeds the inorganic, and excessive ossification interferes with the growth of the child resulting in permanent hyperostosis.

The age limit is usually between 6 months and 3 years, and the early symptoms are many, among which, before the marked osseous change occurs, are constipation or diarrhea, gastro-intestinal disorders, night sweats, debility, inactivity, often fever, delayed dentition and rapid dental decay, but not typical Hutchinson teeth, nervousness and often convulsions, enlarged abdomen, large head, enlarged and tender epiphyses. All these symptoms may not be present, however, but there will be enough to enable one to make an easy and timely diagnosis, and as the disease is not necessarily a fatal one, it should be recognized sufficiently early to lessen the ravages and shorten the time of the disease so that no bone deformities may occur, and if they do, whether in the early deformity stage or not, there is no justifiable excuse for not preventing the deformity and correcting what exists.

The general treatment in the early stage should be constitutional in its fullest meaning, augmented by dietetic and hygienic measures, prevention of deformities, manipulation, mechanical and operative measures. Medicines are of minor importance compared to food, sunlight and fresh air; however, iron, arsenic, phosphorus, lactophosphate of lime and cod-liver oil may be given with advantage; but since the disease is self-limited, the object should be to tide the child over this period as quickly and safely as possible, remembering that during the softening stage of the bones faulty positions, muscular action, weight-bearing and atmospheric pressure are the main factors to observe in order to prevent deformities; and we should remember Wolf's law of development and equilibrium, that where there is any deviation from the normal perpendicular axis of the body, no matter in what part of the body the deviation or deformity exists, there will be a compensatory one and the entire body must pay the debt, and if this unnatural position be maintained long, the result will be permanent abnormal growth and deformity as in the case of torticollis, in which the bones of the head become flattened transversely, face distorted, eyes deficient and brain undeveloped; few such individuals live to be over 25 without becoming imbeciles.

The same principle is involved in the spine of the rachitic but to a much more serious degree, because nine out of ten such spinal curvatures are upper right dorsal, making convexity on right and concavity on left, causing the ribs to interfere with the normal functions of the organs of the thoracic cavity, especially the heart, which may result in organic lesions and a shortened life. One might thus specialize indefinitely, but generally speaking, rachitis affects the entire organism and produces marked changes in all bony and cartilaginous tissues by means of cell proliferation, and the atrophy is not due to halisteresis, but to the action of the osteoblasts and perforating canals, producing a deficiency of lime in the bones.

Hence, the proper preventive treatment during the stage of the softening of the bones should be to avoid weight-bearing on spine, arms or legs, and child kept on its back; for if it walks or sits, deformities are sure to occur; so the prone and supine recumbent positions

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

must be maintained until constitutional and hygienic measures have conquered the disease.

It often occurs that cases are not seen by the physician until the disease has advanced far enough to present one or all of the inevitable deformities; but prompt action by an orthopedic surgeon should overcome such by means of gymnastics, manipulation, mechanical appliances, osteoclasis, osteotomy, tenotomy, myotomy, or tendon, nerve or muscle transplantation.

INTESTINAL PARASITES FOUND IN INDIVIDUALS RESIDING IN THE NORTHWEST

FREQUENT PRESENCE OF PROTOZOA IN PATIENTS WHO HAVE NEVER BEEN IN SOUTHERN COUNTRIES

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The feces of 145 patients were examined in this laboratory during the past four and one-half months. Thirty-five of these examinations were made relative to the function of the pancreas, or as controls; the remaining 110 in patients suffering with chronic diarrheas, anemias, or unexplainable abdominal conditions. In sixty-five of these 110 patients one or more of the following intestinal parasites were found; viz., *Amœba, Trichomonas intestinalis, Cercomonas intestinalis, Balantidium coli, Strongyloides intestinalis, Lamblia intestinalis, Ascaris lumbricoides or Trichocephalus dispar.* Thirty-four of the sixty-five patients, in whom these intestinal parasites were found, had never been south of the state of Iowa. Of this latter group, eleven were infected with *Entamœba tetragena* and one with *Entamœba histolytica.*

These findings are so contrary to the generally existing belief that such organisms are rarely seen in persons who have never lived in, nor visited, southern countries, that they have been considered sufficiently important to be brought to the attention of the medical profession. The series, though not a long one, seems sufficient to prove that the prevailing idea, regarding the geographical distribution of such organisms, is incorrect.

The following table shows the results of the findings:

Total number examined	145
Patients examined relative to pancreatic function or as controls, in whom no parasites were found	35
Patients examined suffering with chronic diarrhea, the passage of blood or mucus, anemia or obscure abdominal symptoms	110
Of these 110 patients, intestinal parasites were found in	65
Of these 110 patients, no intestinal parasites were found in	45
Patients showing parasites who had never been in the South or tropics	34
Patients showing parasites who had been in the South or tropics for a short time	7
Patients showing parasites who had lived in the South or tropics	15
Patients showing parasites of whom we have no clear history as to habitat (early cases with incomplete data)	9
Patients showing parasites who are known to have had diarrhea	42
Patients showing parasites who were examined on account of obscure abdominal symptoms, anemias or the passage of blood or mucus	9
Patients showing parasites who presented no symptoms of their presence	3
Patients showing parasites who presented no symptoms other than an abscess of the liver	1
Patients showing parasites who presented no symptoms other than anemia	1
Patients showing parasites in whom we had no history in regard to the above symptoms (early cases with incomplete data)	9

The following table shows the number of times each of the different parasites were seen and the number of time the various combinations of parasites were seen, i. e., in patients in whom more than one species was found.

Patients showing:

	No.
Entamœba tetragena	16
Entamœba coli	11
Entamœba histolytica	9
Small ameba and unclassified ameba	12
Trichomonas intestinalis	32
Cercomonas intestinalis	9
Lamblia intestinalis	4
Strongylaides intestinalis	1
Balantidium coli	1
Ascaris lumbricoides	1
Trichocephalus dispar	1

Patients showing the following combinations of parasites:

	No.
E. histolytica and *E. tetragena*	1
E. histolytica and *Lamblia intestinalis*	1
E. histolytica and *Cercomonas intestinalis*	1
E. histolytica and *Strongyloides intestinalis*	1
E. tetragena and small ameba	1
E. tetragena and *Trichamonas intestinalis*	6
E. tetragena, E. coli, and *Trichomonas intestinalis*	2
E. tetragena, Cercamonas intestinalis and Trichomonos intestinalis	1
E. tetragena, E. coli, Cercomonas intestinalis and Trichomonas intestinalis	1
E. tetragena, Trichomonas intestinalis, Lamblia intestinalis and Ascaris lumbricaides	1
E. coli and *Trichomonas intestinalis*	3
E. coli, small ameba, *Trichomonas intestinalis* and *Cercomonas intestinalis*	1
Trichomonas intestinalis and *Cercomonos intestinalis*	2
Trichomonas intestinalis and *Lamblia intestinalis*	1

The following table shows the number of times each species was found in the patients who had never been in the south or tropics:

	No.
E. cali	6
E. histolytica	1
E. tetragena	11
Trichomonas intestinalis	17
Balantidium coli	1
Lamblia intestina'is	3
Ascaris lumbricoides	1
Unclassified amebas	9
Cercomonas intestinalis	3

It will be seen that *Trichomonas intestinalis* was found more frequently than any other parasite—thirty-two times. *Entamœba tetragena,* a pathogenic ameba, recently separated from *E. histolytica* and *E. coli,* and which has been well described by Charles F. Craig,[1] was found in sixteen patients. Eleven of these are known never to have been in the South, a fact showing that this parasite—a pathogenic ameba—is frequently found in persons who have always lived in the middle Northwest.

A patient who had never been out of the state of Minnesota, and who had suffered with chronic diarrhea for eight or ten years, was found to be infected with four parasites; viz., *Entamœba tetragena, Lamblia intestinalis, Trichomonas intestinalis and Ascaris lumbricoides.* In another patient who had suffered for six months with diarrhea and who was out of Canada for the first time, *Entamœba tetragena and Trichomonas intestinalis* were found. The patient in whom *Balantidium coli* was found had suffered for twelve years with chronic diarrhea and showed a blood-picture of pernicious anemia. He had always lived in Minnesota and had never been in the South.

Eight of the nine patients showing *Entamœba histolytica* gave histories of having been in the South or tropics. The ninth patient had never before been out of the state of South Dakota. In twelve patients, amebas were found which I was unable to classify. Nearly all of these were seen at a date prior to the publication of Craig's paper, mentioned above—a communication which was of much value as an aid in differentiating the several species of amebas.

With two exceptions—*Ascaris lumbricoides* and *Trichocephalus dispar*—all of the parasites found belonged to the protozoa branch; this series of cases thus tending to show that in persons who have always lived in the middle Northwest, protozoa are more frequently found than other intestinal parasites.

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[1] Craig, C. F.: Arch. Int. Med., March 15, 1911, vii, No. 3.

While this work was being done, the pus from the mouths of twelve patients suffering with mild and well-marked cases of purulent gingivitis was examined. In six of these, *Entamœba buccalis* was found and in two, in addition to the amebas, a species of *Trichomonas* was found. Four of these six patients had never been in the South.[2]

Authors differ in their statements relative to the pathogenic features of protozoa. I do not wish to enter into a discussion of these differences of opinion, except in so far as it is necessary to make clear my own views as to why they exist. The frequency with which authors who have done no particular work in this field have copied from others may partly explain these differences. In such instances varying statements are found by them, in the different articles on the subject, and, being unable to throw the weight of their own opinions either one way or the other, through lack of personal work, they are compelled to make indefinite statements regarding the pathogenicity of the parasites under discussion. Such statements are mere conclusions, drawn from the assertions of others, and serve only to complicate matters by adding another indefinite chapter to further confuse subsequent authors. Had all of the published articles pertaining to animal parasites been written by men whose statements were based on their own work, we would, no doubt, by this time possess a far clearer conception of their pathogenic qualities.

It seems that either a negative or a positive statement, made without qualification, that protozoa are pathogenic, would be wrong. There is no doubt that they are seen in the feces of persons who show no symptoms of their presence. However, in such individuals they are generally found in comparatively small numbers. Their mere presence, under such conditions, does not prove that they do not possess pathogenic qualities which, perhaps under different conditions, would become apparent. My own work has certainly strongly indicated the existence of such properties.

Bacteriologists have shown that diphtheria bacilli and pneumococci may frequently be found in the throats of healthy individuals; that typhoid bacilli may be harbored, and transmitted to others, by persons who have never had a recognized attack of typhoid fever. A parallel condition may also be seen in at least one protozoan infection, for it has been long known that all that was necessary to produce an acute outbreak of malarial fever in some apparently healthy southern residents was to send them to the mountains. The *Plasmodium malariæ*, which they had harbored, under the condition in which their host had lived, had not possessed sufficient pathogenic qualities to cause the manifestation of symptoms, but a climatic change, alone, in such cases has been all that was necessary to cause them to show pronounced pathogenicity.

Individual resistance, no doubt, plays an important rôle in the explanation of the fact that the parasites may be found in persons who show no symptoms. Any of us are liable to infection; having acquired such, we may show symptoms immediately or may harbor the parasite, without symptoms, for an indefinite period. This is probably due to the fact that the organism is unable to do more than barely exist and reproduce itself in its host. The cause of this inability, as already mentioned, may be due to high resistance on the part of the host or, as suggested by Musgrave and Clegg, to the non-establishment, on the part of the parasite, of a satisfactory symbiosis with some bacterium or other parasite; a condition which has been found necessary for the growth of these organisms in culture media.

An example of this apparent resistance may be cited in individuals with amebic infections, who have recovered from a typical chronic dysentery. Such patients will often be found to harbor amebas for years and during this period may show no symptoms beyond an occasional short recurrence of the dysentery. Some do not show even this, but, if left untreated, are liable later to develop digestive disturbances and obscure pains along the colon.

Amebas in persons living in cold climates do not, as a rule, produce disturbances so serious as those seen in persons in tropical countries. The patients seen here were generally having from three to eight watery movements a day, with some mucus, but, as a rule, no blood. This, however, is not strange, for we know that persons with this disease who will not improve in tropical countries may receive great benefit by moving to cold climates; also that persons who have suffered for years with this condition generally have less trouble in winter than in summer.

Two reasons probably account for these infections being so frequently overlooked: (1) the fact that it is commonly believed that these parasites are not found in persons living in this climate; their presence not being suspected, examinations for them are not often made; (2) the fact that stools are not always examined by a method by which this group of organisms may be recognized.

The technic by which our examinations have been made is not new but will be described in detail, with the hope that it may assist some who care to go further in this work. It is the same as that which I have used for some years, while doing similar work in Louisiana, and it has been found more satisfactory than any of the other methods.

The patients are given from ½ to 1 ounce of Epsom salts before breakfast on the morning selected for the examination. After breakfast they go to the laboratory where they wait until they desire to have a bowel movement. They are then sent to a toilet where, after voiding urine, they defecate in a commode. This specimen is examined at once. A small drop of the liquid feces, or a small piece of mucus, if obtainable, is placed on a slide, covered with a cover glass and examined on a warm stage, using a 4 mm. (1/6 inch) objective. (These warm stages are easily made from almost any metal, such as copper, zinc, tin, etc., which will transmit heat and is soft enough to permit being cut into the desired shape with shears. They may be used on the ordinary stage of any microscope and are kept warm by means of a small flame from an alcohol lamp or a gas burner.) If the first movement is too solid to permit the making of a satisfactory examination without being diluted, it will be found necessary to have the patient wait for a second or third movement, these being collected in the same manner. The last stools passed will, at times, be found so watery that they are almost useless for examination. Those passed between the first movement and these watery movements will generally be found most suitable. It is best to obtain two or three movements and examine several cover-glass preparations from each.

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[2] These mouth cases are not included in the 145 cases on which this article was written.

Many infected cases are overlooked in both the North nd South, through the fact that a technic similar to he above is not used. Patients are frequently seen ere who have passed through numerous competent ands, but in whom parasites have been overlooked. In early all of these cases, this was accounted for through he fact that they had been asked to send or bring a pecimen for examination. The same mistake occurs n hospital work. In these, specimens are sent to the boratory where they may remain for several hours efore being examined. A report based on an examina- on made after such a delay is valueless in eliminating otozoa. In some such instances they might be found, ut in many cases they would not, for it is almost npossible to recognize and differentiate these organisms fter their characteristic motility has been lost.

I have done nothing toward working out the sources rough which these infections may have been acquired. t is probable that in the summer amebas may exist in orthern water-supplies and that infections occur as in her climates. It is also possible that some infections ay be acquired through uncooked vegetables and fruit hich have been raised in the South and shipped moist the northern markets or by direct transmission rough previously infected persons.

It seems as though the geographical distribution of ese organisms is greater than is generally supposed, d it is probable that careful examinations will show at they frequently exist in countries now thought to almost free from them.

Many points regarding the life habits of these para- tes, their methods of reproduction and the manner in hich they cause symptoms—whether through mechan- al irritation or toxins—remain to be cleared up. A eat field is open to workers who wish to devote their me to the study of some of the problems along this ne.

CONCLUSIONS

1. The common belief that intestinal protozoa are en only in persons who have lived in or visited the uth or tropics is erroneous. They are frequently und in persons who have always lived in the North d, when seen in great numbers, are generally found sociated with chronic diarrheas, obscure abdominal ins or anemias.

2. Many infected cases are probably overlooked: first ause parasites are not suspected and, hence, not ked for: second, because poor technic is used in exam- ing the specimens.

3. Of the animal parasites found in patients who had ver been in the South, protozoa were more frequently n than all the other varieties.

4. *Entamœba tetragena*—a pathogenic ameba recently arated from *E. histolytica* and *E. coli* by Viereck— s often found in persons who had never been in the uth. It is probable that this organism accounts for ny of the chronic diarrheas seen in persons living in s part of the United States.

wish to thank Dr. Louis B. Wilson for his kindness in hav- examined with me many of the specimens in which the gnosis of the particular species of organism was question- e.

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alen on Commercialism.—"The good physician should prac- with disinterestedness, not for money but for the good of nanity. It is not possible to covet riches and at the same e to cultivate worthily medicine, that art so noble; if a n devote himself ardently to one, he will certainly neglect other."

THE RELATIVE VALUE OF PHYSICAL AND FUNCTIONAL SIGNS IN THE MANAGEMENT OF FAILING CIRCULATION *

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The impetus given to the study of pathologic anatomy by the discoveries and theories of Virchow and his pupils influenced clinical medicine so greatly that from that time most of our efforts have been directed toward arriving at a clear diagnosis of the anatomic changes wrought by disease.

Our clinical examination attempts to determine the changes in size and configuration of organs, and by correlating these data with the facts revealed in the history of the patient, we try to arrive at an anatomically correct diagnosis.

Such a conception of our diagnostic aim, and the accompanying neglect of the problems of functional disturbance, could lead only to the therapeutic nihilism which we know followed the triumph of pathologic anatomy. It was seen then that these structural changes could not be cleared away by treatment, except in the few cases in which our remedy deals directly with the cause of the disease. Even surgery, with all its advances, is generally called on to remove the results and not the cause of disease. We must recognize clearly, then, that in the great majority of cases our treatment does not pretend to alter the anatomic changes, but endeavors only to restore the balance of function.

Intelligent treatment, then, should be preceded by an accurate functional diagnosis, which must include a consideration not only of the changes in the organ primarily affected, but of the disturbances set up in the whole body by the failure of that organ to do its share of work. Our neglect of this functional problem has thrown our dependence entirely on the results of our physical examination, so that our conclusions stand or fall with accuracy of the methods employed.

Nowhere in the realm of physical diagnosis can we find more varied or more accurate methods than those which we now use in studying the heart, and their accuracy is due largely to the innumerable autopsy records which have been and can still be of tremendous importance in controlling our findings. It must be remembered, however, that this experience was gained almost entirely in cases of advanced heart disease from which the patient had died as the result of a failure in compensation. Our methods have shown such pronounced and unmistakable changes in these hearts that we now try to discover the beginnings of organic heart disease, or to exclude functional trouble simply by demonstrating slight deviations from our accepted standards. The recent advances in our knowledge of the intricate disturbances that may take place in the heart-muscle have imposed on us the necessity for recognizing these changes also in their incipiency.

Any one who is constantly being called on to say whether a certain pain is anginoid or due to a coronary sclerosis, or whether a little shortness of breath associated with occasional extrasystoles is due to a beginning myodegeneration or to a high diaphragm, will appreciate an inquiry into the accuracy of our methods. After an extended study of these borderline cases, it seems to me that the great majority of physicians over-estimate the value of physical diagnosis and pay too little attention to the condition of the other organs whose welfare depends on an intact circulation. They are too prone to diagnose dilatation or hypertrophy whenever they find an increase in the heart dulness, and the patient is made miserable at the prospect of an incurable disease. Credit should here be given to Romberg who was one of the first to deplore this tendency.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

We were inclined to believe implicitly in the accuracy of percussion in outlining the heart until Moritz' orthodiagraph enabled us to check our figures, and showed that good men can often make mistakes of 4 to 5 cm. on either side of the heart. Fortunately, we now possess a number of methods, foremost among which I would mention Goldscheider's "threshold percussion" which enables us to outline the heart and large vessels with an error of 0.5 to 0.75 cm. on either side. But even after securing this outline and finding it so nearly in accordance with the orthodiagram, we must still consider the following sources of error:

1. Changes in size and position produced by systole and diastole.

2. Changes in the size of the heart due to respiration.

3. Changes in the size of the heart due to pathologic changes within the chest.

4. Changes in the size of the heart produced by pathologic conditions in the abdomen.

5. Changes in the size of the heart depending on the general configuration of the body.

The left border of the heart is hard to locate for several reasons. For instance, since percussion can be directed only perpendicularly to the surface, the curvature of the chest near the apex causes us to encounter the heart-dulness considerably outside the point where it would appear if we could percuss strictly anterior-posteriorly. Thus, the heart appears to be larger and the error varies according to the degree of curvature. In the emphysematous it may be quite considerable. Palpation should help us most at this point, but unfortunately, the apex-beat is liable to be very diffuse in just those cases in which we must differentiate between beginning dilatation and a neurosis. The apex may lift the chest-wall so widely that the outer border of the pulsation will be sometimes several centimeters outside the real heart-border which is identical with the point of maximum impulse, if that can be made out. Again, the intensity of this impulse is often taken as an indication of the force of the heart contraction, while it really depends largely on the position of the heart within the chest.

The orthodiagraph may also fail us at the apex, as the shadow of the heart is likely to be buried here in that of the diaphragm. The efforts of Moritz to overcome this difficulty do not seem to me to have succeeded sufficiently to warrant us in following his deductions.

The orthodiagram gives us a silhouette smaller than the actual diameter of the heart, owing to its oblique position in the chest. The amount of rotation varies but slightly, still, if the greater diameter of the heart becomes more nearly parallel to the anterior chest-wall, the error introduced might be enough to incline our judgment to the diagnosis of an enlarged heart.

The outline of the heart changes with each systole and diastole, especially on the left side where the ventricle diminishes in size 2 to 3 cm. with systole. The right border moves much less as it is formed by the more feeble right auricle. These changes do not appear on percussion, since only the diastolic outline is obtained, but they are seen very plainly with the orthodiagraph.

Respiration affects the right side of the heart markedly in two ways. The negative pressure during inspiration aspirates the blood into the right auricle, while at the same time the diaphragm expresses blood from the abdomen into the thorax. Then expiration reduces the size of the right auricle.

The change in position of the heart which occurs during respiration has a marked influence on the apparent transverse diameter. The base of the heart is more or less fixed by the great vessels, while the apex follows the diaphragm up and down. When it is down, the heart is more nearly vertical in position and the transverse diameter appears to be lessened. At the same time, there is a rotation which further reduces the width of the silhouette. An unequal inflation of the lungs will displace the heart from its position in the mediastinum, and quite frequently this is mistaken for a dilatation.'

Foremost among the pathologic conditions of the chest which must be studied in this connection is kyphoscoliosis. We have all seen the bizarre distortions of the heart outline which are frequently met with in this condition. Doubt often remains as to whether there is a dilatation, especially on the right side, or whether the increased dulness is due purely to a change in position.

An apparent increase in the transverse diameter of the heart is seen occasionally in anemia and chlorosis, in which it is due to an atelectasis of the left lung which allows the heart to be pushed against the anterior chest-wall. The diagnosis of dilatation appears even more justifiable when a mitral murmur is present, but this error may be avoided by determining the position of the diaphragm.

The base of the heart may be lowered by the lengthening of the aorta which takes place in some cases of aneurysm and aortic sclerosis, and a dilatation of the heart chambers is diagnosed to explain the perplexing circulatory symptoms.

There are a number of abdominal conditions which in their symptomatology may closely imitate cardiac disease. They have this in common, that the abdominal cavity is distended, the diaphragm is pushed upward and the heart is forced to take a more nearly horizontal position. This can be seen plainly in ascites or in large ovarian cysts. Such an anomalous position, coupled with occasional irregularities, is frequently seen with uterine myomata. Here, besides the mechanical disturbances, there is liable to be a profound anemia due to constant hemorrhage. A mitral murmur, then, with an apparent increase in the transverse diameter of the heart, and the irregularities seem to render a diagnosis of heart disease most probable, but the complete disappearance of all signs and symptoms on removal of the tumor shows conclusively that the disturbance was purely functional. The same explanation applies to the so-called hypertrophy of pregnancy. Here also we have learned that the apparent heart changes are due to the rise of the pregnant uterus and not to any changes in the heart itself.

A distention of the fundus of the stomach, with its attendant elevation of the left diaphragm, is one of the most common causes of heart symptoms. The numerous extrasystoles, anginoid pains and widening of the heart dulness frequently induce the beginner to diagnose serious heart trouble with its bad prognosis. The determination of the position of the diaphragm enables us to recognize this condition, and relief from all symptoms may be secured in a few days with a suitable diet.

Before deciding on the presence of the dilatation we nust compare the relations of the heart dulness to the hole body. The neglect of this important rule has led o the theory of cardiac hypertrophy at puberty. The horax lags behind the heart in its development at this ime, so that the heart becomes relatively large; the pex beat can often be felt below the fifth interspace utside the mammillary line, and the impulse is very eaving on account of the thinness of the chest-wall. he coexistence of these findings with a juvenile rrhythmia so frequently seen is strongly suggestive f myocardial disease, but the whole condition clears p with the development of the thorax.

The theory of constitutional heart weakness worked ut by Krans is of the greatest importance in this conection. In my experience this condition has been lmost invariably associated with the general asthenia escribed by Stiller. Characteristic of this habitus is e long, narrow thorax with the lower ribs descending lmost vertically, and a very narrow epigastric angle. he abdominal wall is generally relaxed and all the iscera are ptotic. The diaphragm is also lowered so at the shadows of the tenth and even the eleventh bs may appear above it. The influence of this posion on the circulation has been shown so masterfully y Wenckebach that I shall merely refer here to his per. The loss of apical support leaves the heart nging from its basal attachments, and the transverse iameter may be diminished markedly by the more early vertical position. Under these conditions, it is most impossible to be sure of a transverse enlargeent, and I can remember many cases in which I hesited for some time to diagnose a heart lesion.

In obesity, not only is the diaphragm pushed up, with apparent increase in the transverse diameter of the eart, but the uncertainties of percussion are enhanced the greater thickness of the chest-wall.

Thus we see that any attempt to found the differential agnosis between functional and beginning organic art disease on a questionable enlargement is pseudoientific. Since the methods at our disposal are inacrate and do not furnish sufficient data in themselves, must welcome two more factors which can be of eat service in reaching a conclusion—the questions of nction and of probable etiology.

By far the most important evidence in this problem to be derived from a study of the circulatory changes roughout the body, and little signs of failure can be und, in this way, long before the most careful methods n detect anything wrong with the central organ. A ge soft liver associated with severe flatulence and tention of the stomach are usually the first tidings a break in compensation, and edema of the ankles on completes the picture of right-sided failure. Somenes this well-known syndrome is preceded a few days a sudden gain in weight due to interstitial edema thout any other objective sign. This point, while well own, does not seem to have received the attention it serves, but I would emphasize it particularly as it s proved invaluable in my hands.

Pulmonary symptoms are generally the earliest signs enbarrassment of the left side of the heart. Attacks dry cough, ending perhaps in the expectoration of a tle bloody serum, often precede the final attack of lmonary edema by several years. In the more chronic es, atelectatic patches with fine râles at the bases of lungs point to a deficiency of the left ventricle. decrease in the usual large amount of urine is always highly suspicious, and a balance between intake and output will prove a definite retention of fluids.

A factor of the greatest importance and one that must not be overlooked in the differentiation between functional and organic heart trouble, especially in patients over 40 years of age, is the presence of arteriosclerotic changes in the aorta and large vessels. As aids in making our decision may be mentioned the ringing, high-pitched second aortic sound, unequal elevation of the subclavian arteries, pupillary changes and the characteristic radiogram.

The smallest symptom raises our suspicions when coupled with slight rheumatic disturbances. In the absence of any signs of valvular disease, we think of adherent pericardium or a mitral stenosis unaccompanied by a murmur. Especially when there is a history of chorea do we think of rheumatic myocarditis with its nodules in the Tawara system.

A positive Wassermann reaction has sometimes changed my convictions about a doubtful case. I remember particularly a patient whose ailment had for years been treated as functional. This woman, aged 42, had recurring attacks when for days and weeks the normal rhythm would be interrupted by numerous very painful extrasystoles. When every method of treatment had been exhausted in vain, the positive Wassermann was discovered and she became entirely well under specific treatment.

An enlarged thyroid is often overlooked as the cause of severe heart trouble. I refer not only to the cases of hyperthyroidism, but to those cases in which an ordinary goiter located under the sternum interferes with a venous back-flow to such an extent as finally to produce organic disease.

When we come to the treatment of these diseases, we must study still further the functional side of the problem. Leaking valves and an increase in the size of the heart do not call for medication, so long as the heart muscle compensates and maintains a good circulation. It is only when the signs of insufficient circulation begin to appear in various parts of the body that we must interfere.

For purpose of treatment, heart diseases may be divided into two groups; the first includes all cases of rheumatic origin and the other is characterized by a primary progressive disease of the arteries. The common signs of failure in the first group are: râles at the base of the lung posteriorly, a gain in weight, enlargement of the liver and edema of the ankles. It is in these cases that digitalis earns its great popularity, and we must judge of the rate of improvement by the subsidence of the symptoms just described and not by any diminution in the size of the heart. In my experience the finding of narrowed heart dulness is generally the result of autosuggestion. The disappearance of edema, an increase in the total amount of urine, and a slowing of the heart-rate are much more reliable gauges of the heart's condition.

The arterial degenerations of the second group often lead to conditions closely resembling those of the first group. Here, too, there may be a leaking aortic or mitral valve with dilatation and hypertrophy of either ventricle, but the treatment must be along different lines. Not only is the heart diseased in these cases, but there is a deterioration of almost every vital organ following years of deficient blood-supply. This is particularly true of the kidney and the symptoms in these cases are frequently those of slight uremia. The arterial origin of the apparent heart disease is betrayed by the high blood-pressure, headache, gastro-intestinal symptoms and particularly attacks of nocturnal asthma.

Digitalis will only aggravate such cases, and treatment must be directed toward relieving the kidney. Most important then is a salt-free low protein diet, supplemented by the free use of diuretics.

Above all, we must remember that we are dealing not with diseased organs but with sick people, and in studying the physical changes in one part, we must not overlook the secondary changes throughout the whole body.

THE RELATION OF CARDIAC IRREGULARITIES TO TREATMENT *

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In the treatment of heart disease the interest centers chiefly on the symptoms of broken compensation, and to a lesser extent on sensations referable to the heart. Changes in cardiac rate or rhythm may influence either of these. A feeling of palpitation sometimes accompanies tachycardias and marked irregularities; and sensations of heart-jumps or heart-stops are common to those who have extrasystoles. Even though the trouble seems to be nervous, and the general circulation is well maintained, nevertheless, so long as the rate or rhythm of the heart is disturbed a condition is present which fixes the attention of an apprehensive patient and interferes with his recovery.

EFFECTS OF DISTURBED RHYTHM ON THE BLOOD-FLOW

Variations in the cardiac rhythm may, moreover, actually impede the circulation. There is an optimum range for the heart-rate which permits this organ to act at the best advantage, and rates which are much above and much below this are mechanically disadvantageous. Very fast rates interfere with the filling of the heart during diastole, and slow rates are not compensated for by an increased output at each systole. Henderson[1] has shown that for the normal dog the total output from the heart does not increase proportionately to increases of rate above the normal. The shortening of diastole lessens the filling of the heart and while the total output increases fairly rapidly with increases of rate up to 120 beats per minute, increases in rate beyond this are accompanied by rapidly diminishing increases in total output, until beyond still higher rates (150 to 220) there is an actual diminution in the total output. On the other hand, rates below 80 per minute are accompanied by a reduced output which is almost proportional to the reduction in rate. This applies both to continuously rapid and continuously slow rates as well as to occasional variations in rhythm. A missed beat, for example, is not entirely compensated for by an increased expulsion of blood at the next systole, while a series of very rapid contractions are apt to be ineffectual.

Variations in rhythm may also be mechanically disadvantageous for the reason that the auricles and ventricles contract simultaneously. During such simultaneous contractions the auricles cannot empty themselves into the ventricles, but send a reflux wave back into the veins, opposing the flow in these vessels. In paroxysmal tachycardia the heart action may be so rapid that the ventricular systoles coincide with the auricular systoles of the following heart-cycle (Wenckebach's critical heart rate).[2] The same thing may occur when the conduction time between auricles and ventricles is greatly slowed, or when extrasystoles, originating in the ventricles, cause these chambers to contract simultaneously with the auricles. In such cases the auricular contractions oppose the venous flow. In auricular fibrillation the auricles are motionless from the mechanical point of view, and while the mechanical effect of auricular contractions has probably been overrated,[3] still in mitral stenosis the auricles seem to be a factor in maintaining compensation,[4] and their loss of coordinate contractile power must be mechanically disadvantageous. Finally, irregularities may be disadvantageous for the reason that the ventricles contract in an abnormal manner. Electrocardiograms have shown the ventricular extrasystoles commonly pursue an abnormal path in spreading over the ventricular muscle and such extrasystoles frequently produce pulses much smaller than one would anticipate from the duration of the preceding diastoles.

For these reasons it is evident that cardiac irregularities deserve more attention than has usually been accorded to them in the treatment of heart disease. The same heart muscle which could carry on the circulation if it contracted regularly and at a proper rate would be insufficient when contracting irregularly, too frequently, or too slowly. This seems to be the explanation of the signs of insufficiency which may occur during prolonged attacks of paroxysmal tachycardia. A similar insufficiency may develop during paroxysms of auricular fibrillation[5] and disappear when the latter pass off. The occurrence of very numerous extrasystoles may also be accompanied by increased symptoms of insufficiency. In these cases the potential capabilities of the heart probably remain unchanged, but the wasteful manner in which the muscle is made to contract causes the insufficiency.

SCOPE OF DISCUSSION

In discussing the relation of cardiac irregularities to treatment we shall limit ourselves to the commoner and more important forms and shall discuss the relation of drugs both in causing and alleviating these. Unfortunately, it is difficult to transfer the results of animal experiments to man. In the first place, relatively large doses of drugs are commonly used on animals, and "acute" experiments are not strictly comparable to the common therapeutic practice of giving small doses of a drug over a prolonged period of time. In the second place, we are usually dealing, in clinical cases, with an abnormal heart muscle which may be sensitive to small doses or insensitive to relatively large doses of a drug. For these reasons the results of animal experiments must be constantly checked by observations at the bedside and these latter need the most careful scrutiny in order to be reliable.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Henderson, Yandell: Acapnia and Shock: A Principle Underlying the Normal Variations in the Volume of the Blood-Stream and the Deviation from This Principle in Shock, Am. Jour. Physiol., 1909, xxiii, 345.

[2] Wenckebach, K. F.: Ueber eine kritische Frequenz des Herzens bei paroxysmaler Tachykardie, Deutsch. Arch. f. klin. Med., 1910, ci, 402.

[3] Henderson, Yandell: The Volume Curve of the Mammalian Heart and the Significance of This Curve in Respect to the Mechanics of the Heart-Beat and the Filling of the Ventricles, Am. Jour. Physiol., 1906, xvi, 325.

[4] Hirschfelder, Arthur D.: The Volume Curve of the Ventricle in Experimental Mitral Stenosis, and Its Relation to Physical Signs, Bull. Johns Hopkins Hosp., 1908, xix, 319.

[5] Fox, G. H.: The Clinical Significance of Transitory Delirium Cordis, Am. Jour. Med. Sc., 1910, cxl, 815.

VAGUS IRREGULARITIES

The various forms of cardiac irregularities have but ittle in common beyond the fact that some seem to lepend on changes in the heart muscle and others on nervous influences. They must, therefore, be taken up eparately in their relations to treatment.

The irregularities which are due to unusually labile agus control of the heart rate occur most frequently in oung persons, in neurotic individuals, and after infec- ious diseases. They are favored by the use of digitalis.[6] s these irregularities have no significance beyond indi- ating an unusually active vagus control they do not equire treatment and the patient or relatives, if alarmed, hould be reassured. Large doses of atropin will cause heir complete or partial disappearance, with a simul- aneous increase in heart-rate, but the effect is usually nly temporary and the drug is not indicated for thera- eutic purposes.

HEART-BLOCK

Partial block, or an interruption of some but not of ll stimuli traveling from the auricles to the ventricles, as been frequently produced in susceptible individuals v drugs of the digitalis series, viz., digitalis, strophan- hin, squills. For example, in a patient recently at the niversity Hospital the intravenous injection of 1 mg. f strophanthin caused a previously regular heart to how an immediate partial block, with one ventricular to wo or three auricular beats.[7] The mechanism by which igitalis causes partial block in man is not entirely nderstood. Since it stimulates the vagus nerve, and uch stimulation may cause partial block, one may ssume that we are dealing with a pure vagus effect. In e majority of cases, however, a simultaneous slowing the auricles has not occurred, which would seem to dicate that in these hearts the conduction apparatus etween auricles and ventricles was abnormally sensi- ve to digitalis. When the conduction time is already duced, as shown by a lengthened *a-c* interval on the nous pulse, one should be especially cautious in the e of digitalis.

In the treatment of a patient with heart-block, whether rtial or complete, our first endeavor should be to find d to remove the cause. If the patient has been taking rge doses of digitalis or allied drugs these should be nporarily discontinued. Of the various lesions which ay effect the bundle of His, such as tumors, acute lammations, fibrous changes and syphilitic processes, e latter alone are directly amenable to drugs, and in e presence of a positive Wassermann reaction, anti- philitic treatment is urgently indicated. Improvement llowing such treatment has been recorded on several asions.[8] It should be remembered, however, that ocks may disappear spontaneously, especially when y occur in connection with acute infectious diseases.[9] When a complete block does not disappear either spon- neously or as a result of treatment, the circulation y be improved, theoretically at least, either by increas- g the abnormally slow ventricular rate, or by increas- g the efficiency of the individual ventricular contrac- ns. It is known that toxic doses of digitalis may rease the ventricular rate so markedly that it exceeds the auricular rate,[10] and the question naturally arises whether smaller doses might not increase it sufficiently to be of therapeutic value in complete block. Few deliberate attempts[11] to accomplish this are on record, and these have not given striking results. In a case which I reported with Dr. Barringer,[12] large doses of digitalis did not increase the ventricular rate, but they did cause ventricular extrasystoles; and it is possible that the rapid ventricular rate of experimental digitalis poisoning is due to a succession of extrasystoles. If this be true, we can expect no beneficial results to follow an attempt to increase the ventricular rate in patients with complete block by pushing digitalis medication. On the other hand, the slow ventricular action is no contra-indication to the use of this class of drugs, for the latter do not slow automatically beating ventricles. The good results which sometimes follow the use of digitalis in complete block is probably explainable by its effect on the efficiency of the individual muscular contractions.

In partial heart-block digitalis should be used very cautiously if at all, because it tends to increase the block, and this may more than compensate for any beneficial effect it has on the force of the ventricular contractions. In some cases of partial block the irregularity may be overcome by the use of atropin injections. I have seen one case in which atropin stopped the block, but in several other cases the injection of atropin was ineffective.[7]

EXTRASYSTOLES

By extrasystoles we mean cardiac contractions which originate in parts of the heart muscle other than those normally governing its rate. These seem to be due either to abnormal stimuli or to a local condition of increased muscular irritability. Extrasystoles are extremely capricious in their appearance and this makes it very difficult to demonstrate the effects of drugs either as causative or curative factors. In elderly persons they are less apt to disappear completely than in young individuals; probably because in the former they are more often due to chronic myocardial changes, while in the latter they are often due to acute changes or to toxic agents. The abuse of tobacco is generally recognized as an important etiologic factor and I have seen several cases in which extrasystoles disappeared in young individuals after discontinuing tobacco. Tea, coffee, or any condition which increases the general nervousness of an individual may also perhaps increase the irritability of the heart muscle and the tendency to extrasystoles. In large doses digitalis is capable of causing extrasystoles. In smaller doses its effect is not so certain. Wenckebach believes that experimental evidence favors the view that small doses of digitalis lessens cardiac irritability and he has seen extrasystoles disappear in patients to whom small doses of the drug were given. Owing to the capriciousness of extrasystoles I am inclined with Cushny to doubt a direct relation between the drug and the disappearance of extrasystoles and have never been able to convince myself that this effect was produced independently of its effect in lessening the cardiac insufficiency. In two patients I have recorded the occurrence of extrasystoles on long, continuous tracings before and after intravenous injections of 0.001 strophanthin, but I was not able to demonstrate any definite effect of the drug on the irregularity.

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[6] Cushny, Arthur R.: The Therapeutics of Digitalis and Its es, Am. Jour. Med. Sc., 1911, cxli, 469. Wenckebach, K. F.: Effects of Digitalis on the Human Heart, Brit. Med. Jour., ember 19, 1910.

[7] Van Zwaluwenburg, J. G.: Some Observations on Heart- k, Arch. Int. Med., 1911, viii, 141.

[8] Erlanger, Joseph: The Physiology of Heart-Block in Mam- s, with Especial Reference to the Causation of Stokes-Adams ease, Jour. Exper. Med., 1905, vii, No. 6; 1906, viii, No. 1.

[9] Peabody, Francis W.: Heart-Block Associated with Infec- s Diseases, Arch. Int. Med., 1910, v, 252.

[10] Cushny, A. R.: The Action of Substances of the Digitalis Series on the Circulation in Mammals, Jour. Exper. Med., 1897, ii, 233.

[11] Bachmann, George: Complete Auriculoventricular Dissociation Without Syncopal or Epileptiform Attacks, Am. Jour. Med. Sc., 1909, cxxxvii, 342. See also Wenckebach, Note 6.

[12] Hewlett, A. W., and Barringer, T. B.: The Effect of Digitalis on the Ventricular Rate in Man, Arch. Int. Med., 1910, v, 93.

Occasional extrasystoles which are not accompanied by evidence of broken compensation or by nervous symptoms do not, in themselves, require treatment. Possibly drugs will be found which will lessen an abnormal local irritability of the heart muscle. At present, however, we must treat extrasystoles on general principles. In very nervous individuals, the treatment should be directed toward relieving the nervousness. Tea, coffee, and especially tobacco, should be forbidden. Attention should also be directed toward factors which might damage the heart muscle, such as acute or chronic infections, arteriosclerosis, etc. High blood-pressure and cardiac dilatation probably serve as abnormal stimuli to the heart muscle, and improvement in the extrasystoles may occur when these are lessened. On the whole, our treatment of extrasystoles is very unsatisfactory, and, in many cases, they persist in spite of all our efforts.

AURICULAR FIBRILLATION

Auricular fibrillation, which is the most important and most serious form of cardiac irregularity, is characterized clinically by an extreme degree of ventricular irregularity and by an absence of gross auricular contractions. Frequently, it begins as paroxysms of greater or lesser duration which tend later to become permanent. Auricular fibrillation has many points in common with auricular extrasystoles, for both seem to be due to an abnormally irritable condition of the auricular muscle. Both are sometimes seen in the same patient and transitions have been described.[13] While organic myocardial changes are usually assumed to be responsible for auricular fibrillation, there is evidence that nervous or toxic influences may precipitate attacks of this irregularity in susceptible individuals. Cushny and Mackenzie cite cases of this sort from digitalis, and I have reported two cases to which this explanation seems possible, although, in the reports, such a possibility was not discussed. In one, a single injection of strophanthin converted a rapid and regular pulse [auricular tachycardia (?)] into fibrillation which remained permanent.[14] In the other, a case of complete heart-block, large doses of digitalis twice caused the auricular waves to disappear from the tracings and on both occasions they reappeared when the digitalis was discontinued.[12] Attacks of auricular fibrillation may be first seen after operations,[5] and it is possible that changes in the heart muscle produced by the anesthetic may be responsible for their occurrence. Finally, auricular fibrillation is very common in the late stages of exophthalmic goiter, probably on account of some toxic action of the abnormal thyroid secretion on the heart muscle.

In the great majority of cases of auricular fibrillation we are dealing with a permanent condition, which persists in spite of all treatment. Even the paroxysmal form of the irregularity is remarkably difficult to control and we have no certain method of preventing or aborting the paroxysms. For example, in a case recently under observation at the University of Michigan Hospital, the frequent recurrence of the irregularity gave opportunity for testing the effect of many cardiac remedies. None proved very efficacious, though pilocarpin injections sometimes seemed to abort the attack.

Although the efforts to check auricular fibrillation have proved so futile, nevertheless it is in this class of disturbed rhythm that the most brilliant successes have been achieved with drugs of the digitalis group. These do not stop the fibrillation, but they slow the ventricles and render them less irregular. The pulse becomes larger and fuller, diuresis often sets in, the dyspnea lessens, and the swelling of the liver diminishes. In auricular fibrillation a large number of stimuli seem to originate in the auricles, and the ventricular rhythm depends on the number of these which succeed in crossing the bundle of His. Digitalis, by increasing the block at this point, reduces the number crossing and consequently the ventricular rate. Even such a partial regulation with a reduction of the ventricular rate to about 80 is highly advantageous, and may be followed by a most marked improvement in the circulation. When the ventricular rate is already much below 80, as happens occasionally, the value of digitalis is much less certain. Experience has shown that patients with auricular fibrillation and fast ventricular rate vary greatly in their reaction to digitalis medication, young individuals with mitral valve disease being far more favorably influenced than elderly patients with myocardial disease. According to Lewis[15] mitral disease is frequently associated with some damage to the His bundle. This reduces its conductivity, and the further reduction brought about by digitalis is responsible for the beneficial results of this drug in this class of patients. We should not forget, however, that young individuals, in general, are more apt to show a marked vagus control of the heart, and, that, in consequence of this, digitalis is probably more apt to produce vagus effects in young than in old patients.

CONCLUSIONS

Each form of irregularity has its own problems. With regard to treatment these have been in part solved, but for the most part they still await solution. To accomplish this we need more experimental evidence having direct bearing on the use of drugs in cardiac irregularities and we need, especially, studies concerning the effect of drugs on the irritability of the heart muscle, for abnormal irritability seems to play an important part in the causation of extrasystoles and auricular fibrillation. Finally, we need more accurate studies on the effect of cardiac remedies on patients with heart disease, following some such scheme as that recently suggested by Mackenzie.[16] From data thus obtained we may expect to be able to select drugs and to predict their effects with greater precision than has been possible in the past. Nor does it seem improbable that new drugs or new indications for old drugs will be discovered by such careful studies.

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[13] Hewlett, A. W.: Auricular Fibrillation Associated with Auricular Extrasystoles, Heart, 1910, ii, 107.

[14] Hewlett: Heart-Block in the Ventricular Walls, Arch. Int. Med., 1908, ii, 139.

[15] Lewis, T.: The Reaction of the Heart to Digitalis When the Auricle Is Fibrillating, Brit. Med. Jour., 1910, ii, 1670.

[16] Mackenzie, J.: A Scheme for Investigating the Effects of Treatment on the Human Heart, Heart, 1910, ii, 9.

Production of Artificial Life.—The failure of scientists so far to produce "artificial life" is not to be charged against the science of biology. Very few of the attempts to produce "artificial life" have been made by biologists, who realize too well the complexity of the problems involved. The biologists will be satisfied for a number of years to come if they succeed merely in analyzing what goes on in a living cell, in terms of physical and chemical processes. From time to time they will attempt to imitate a structure or a process by means of a working model; but they will not speak of artificial life until they are quite sure of all the conditions that play a part in this most intricate of phenomena.—B. C. Gruenberg in *Scientific American.*

THE EFFECT OF THE DIGESTIVE SECRETIONS ON THE ACTIVITY OF DIGITALIS AND ALLIED DRUGS *

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As is well known, the glucosids in general are comparatively unstable chemical substances and are easily roken down into a sugar and some other substance. A number of factors are operative in splitting up the glucosidal molecule, but chief among them, especially in the presence of heat, are certain enzymes, the alkalies, and the mineral acids.

In view of these facts it is not at all surprising to find hat certain of the digitalis glucosids have been reported o be broken down to a greater or lesser degree, either by he enzymes of the gastric or pancreatic secretion, or by he acids or alkalies added to these enzymes to make hem active. Three researches may be noted as speci-ically showing this deterioration.

In 1896 Deucher observed clincally in cases of heart lisease and dropsical conditions that digitalin verum vas almost invariably much more potent when given ubcutaneously than when given by the mouth. As this lifference was much greater than is common when other lrugs are thus administered he came to the conclusion hat the digitalin was probably changed either in the tomach or in the intestinal tract into partially inert ompounds by the action of the hydrochloric acid of the tomach or by the ferments found in the stomach and ntestine.

In an effort to prove whether this hypothesis was orrect or not Deucher[1] carried out a series of experi-nents in which definite amounts of digitalin verum were ubjected, with certain exceptions, for twenty-four hours o the action of artificial digestive secretions. For the urpose of subsequently determining the changes, if any, hich were produced, frogs were injected with equiv-lent amounts of the digitalin, subjected to artificial igestion, and an undigested control, the time of appear-nce of the systolic stoppage of the exposed hearts being oted as an end reaction. From these experiments he ame to the conclusion that the digitalin was partially roken up into inert compounds by the action chiefly of ilute hydrochloric acid, 0.2 per cent., although the resence of pepsin seemed to accelerate the breaking own to some extent. The pancreatic solution employed y him was found to be inactive.

Deucher further suggested the possibility that the ther glucosids of the digitalis group might be broken p by the action of the digestive agents, but he seems to ave only made experiments with digitalin verum.

In 1907 Löwy[2] supplemented Deucher's work by in-stigating the effect of acid, acid pepsin, and alkalies, n the infusion of digitalis, and on the pure principles elleborein and strophanthin. He found that in the resence of heat, after twenty-four hours, hydrochloric id and acid pepsin solutions reduced the activity of he infusion and of helleborein. He concluded, however, hat the 0.2 per cent. acid at the body temperature alone used the deterioration noted and that the pepsin was ithout effect. Löwy also noted that moderately strong alkali solutions (0.5 per cent.) decreased the activity of the infusion.

The activity of strophanthin was not found to be changed by acid pepsin digestion.

As opposed to this latter view Hatcher,[3] in working with strophanthin, came to the conclusion that both acid peptic and alkaline pancreatic digestion for two hours caused some diminution in the toxicity of the strophanthin. In considering the opposed finding of the two investigators, however, it is to be noted that strophanthin is an indefinite term and it is quite possible that the two observers worked with different strophanthins, one of which was more easily attacked by the digestive agents.

As a fact of considerably more importance, it was found by Hatcher and Bailey[4] that the toxic dose of strophanthin for cats by the stomach was five or six times that by intravenous injection, and after a lengthy series of experiments they came to the conclusion that the lessened activity of the drug when given by the stomach depended only to a small degree on the destructive action of the digestive secretions, and that the chief factor in decreasing its toxicity depended on a delayed absorption.

Findings such as these with digitalin verum, with the infusion, and with strophanthin, raises the very important question of proper dosage of these bodies. With a drug so powerful as digitalis, no therapy can be regarded as safe unless the exact strength of the drug employed is known, and if deterioration goes on in the stomach and intestines before absorption these facts should be known.

To this end a number of further experiments along this line were deemed worth while, not only as confirmatory of the findings above recorded; but also to test the rate of deterioration by making use of an exact assay method for determining the degree of change of the substances in question, after subjecting them to the action of the digestive agents for a time more nearly analogous to the conditions found *in vivo*. These were accordingly tested to determine the degree of deterioration when subjected to the action of hydrochloric acid, with and without the addition of pepsin, and of alkali with pancreatin, and in certain instances of emulsin, a glucosidal-splitting ferment found in bitter almond and other seeds.

For the purpose of assaying the preparation before and after digestion the one-hour frog-heart method was used. This, in brief, consists in determining the least amount of the drug which will just produce permanent systole of the ventricle of the frog *Rana pipiens* at the end of one hour. The drug is injected in solution into the anterior lymph-sac, and a temperature of 22 C. is maintained throughout the experiment, the heart being exposed at the end of one hour.

DIGITOXIN

A control was first established for digitoxin by dissolving a weighed amount in 30 per cent. alcohol. The assay value by the method briefly described above was found to be 0.008 mg. per gram of frog weight.

To test the effect of the gastric secretion on digitoxin, a weighed amount placed in a cylinder was subjected to the action of an artificial gastric juice containing 0.25 per cent. hydrochloric acid and 0.1 per cent. scale pepsin. The undissolved digitoxin was placed in an incubator at 38 for three hours, and was then taken up with enough alcohol to just form complete solution. This solution assayed 0.011 mg. per gram frog weight. A second weighed amount similarly treated assayed after three hours in the incubator, 0.010 mg. per gram frog weight. Eighteen hours later this solution of digitoxin which was kept at room temperature assayed 0.013 mg. per gram frog weight.

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* Read in the Section on Pharmacology and Therapeutics of the merican Medical Association, at the Sixty-Second Annual Session, eld at Los Angeles, June, 1911.

[1] Deucher: Deutsch. Archiv. f. klin. Med., 1896, lvii, 1; 1896-7, iii, 47.

[2] Löwy: Wien. klin. Wchnschr., 1906, xix, 1157.

[3] Hatcher: Am. Jour. Physiol., 1908, xxiii, 303.

[4] Hatcher, R. A., and Bailey, H. C.: Tincture of Strophanthus and Strophanthin, THE JOURNAL A. M. A., Jan. 2, 1909, p. 5.

A weighed amount of digitoxin was then subjected to the action of 0.25 per cent. hydrochloric acid for three hours at 38°. At the end of this time it assayed 0.01 mg. per gram frog weight; at the end of eighteen hours at room temperature it assayed 0.014 mg. This decrease in activity, approximately parallelling that of the acid pepsin digestion, would indicate that the acid alone was the active agent in breaking down the digitoxin molecule, and that the pepsin was inactive.

Pancreatic secretion containing the pancreatin 0.1 per cent. dissolved in 0.15 per cent. sodium carbonate was allowed to act at 38° on weighed amounts of digitoxin for periods of three hours, and also eighteen hours at room temperature. At the end of three hours the assay gave 0.008 mg. per gram frog weight in duplicate experiments, thus showing no decomposition from pancreatic digestion. When subjected to digestion for eighteen hours, however, there was some deterioration, the assay value being 0.010 mg.

FRENCH DIGITALIN

French digitalin, consisting mainly of digitalin verum, was tested, the undigested control assaying 0.012 mg. per gram of frog weight. A weighed amount was subjected to the action of an artificial gastric juice for a period of three hours. It then assayed 0.013 mg. per gram weight. After eighteen hours at room temperature the assay showed further deterioration, 0.016 mg. per gram frog weight being necessary to produce systolic stoppage of the heart. Hydrochloric acid alone was approximately equally effective in causing deterioration as the combined acid and pepsin.

No deterioration was obtained under treatment of weighed amounts of French digitalin with an artificial pancreatic secretion.

DIGITALEIN

Digitalein was assayed, the effective dose being 0.024 mg. per gram of frog weight.

In a weighed amount, 0.25 per cent. hydrochloric acid and 0.1 pepsin were added. After digestion at 38° for three hours the assay showed a deterioration, the amount then necessary to produce systolic stoppage of the heart being 0.032 mg. Hydrochloric acid, 0.25 per cent., without the pepsin caused deterioration so that at the end of three hours at 38°, 0.030 mg. was required to bring the ventricle into permanent systole.

Under artificial pancreatic digestion very little, or no deterioration, was observed. A value of 0.026 mg. was obtained, but owing to incomplete absorption in a large number of assays this result is to be questioned.

Digitalein was tested to determine the effect of emulsin, the glucosid-splitting ferment of bitter almond seeds. The assay value after three hours at 38° gave 0.028 mg. as the amount required to produce systole of the ventricle; thus showing a slight decomposition.

TINCTURE OF DIGITALIS

Having found by the above assays that the chief glucosids found in digitalis were less active after digestion with an artificial gastric juice, experiments were carried out with the tincture. As the glucosids digitoxin, digitalin, and digitalein, are all represented in the tincture, these experiments would also be expected to give analogous results and to be in the nature of duplicates.

The first tincture to be assayed gave a value before digestion of 0.010 c.c. per gram of frog weight. After evaporation of the alcohol, 0.25 per cent. hydrochloric acid and 0.1 per cent. pepsin were added and kept at 38° for three hours. At the end of that time the assay value was found to be 0.014 c.c.

A second tincture assayed 0.008 c.c. per gram of frog weight. An evaporated portion was subjected to artificial gastric digestion for three hours at 38°, and then gave an assay value of 0.012 c.c. After standing eighteen hours at room temperature the assay value was 0.016 c.c.

This tincture was subjected also to the action of an artificial pancreatic juice made up with 0.2 per cent. alkali and 0.1 per cent. pancreatin. In two experiments there was about 25 per cent. deterioration after three hours at 38°. Whether this is invariable cannot be stated, but in view of the fact that none of the glucosids showed deterioration, it may be questioned. It also brings up the point that in the crude tincture, enzymes natural to the digitalis leaf may become especially active with an alkali present, and thus explain the discrepancy in results. This point will be further investigated.

STROPHANTHIN

The discrepancy in the dose of strophanthin is so great by stomach and intravenously that, it was hoped in view of the deterioration with the digitalis glucosids, an investigation of the changes going on under artificial digestion might throw some further light on the question.

The control assay of strophanthin gave a value of 0.00055 mg. per gram of frog weight.

A weighed amount of strophanthin under artificial gastric digestion assayed 0.00065 mg.; thirty-six hours later the assay showed marked deterioration at room temperature, the value being 0.0015 mg. A second weighed sample after three hours' digestion assayed 0.0007 mg., and at the end of twenty-four hours at room temperature, 0.0010 mg. Pancreatic digestion showed much less action on strophanthin. A sample subjected to alkaline pancreatic juice for three hours assayed 0.0006 mg.; twenty-four hours later the assay was still 0.0006 mg. A second sample under pancreatic digestion for three hours showed no deterioration, nor when tested after twenty-four and thirty-six hours at room temperature.

Emulsin had a very slight effect, reducing the activit after three hours in the incubator, to 0.0007 mg. pe gram frog weight.

That strophanthin might also be destroyed in the live is a possible conclusion, but experiments with mince cats' and frogs' livers showed that no decomposition too place after two hours at 38°.

From this series of experiments it is to be noted tha the acid of the gastric secretion invariably causes som diminution in the action of the glucosids of digitalis an strophanthus. It is not believed, however, that an exac determination of the degree of decomposition in practic can be made, for in all probability the rate is somewha more rapid under actual conditions, owing to the motility of the stomach and the comparatively greater dilution of the glucosids. The rate of deterioration, however, appears to be about the same for the various glucosids, about 25 to 35 per cent. in three hours, so tha this fact need not be taken into notice in therapeutics. The further factor, however, of the action of the decomposition products of these glucosids must be considered, and it is possible that certain of the untoward effects of digitalis medication may be due to them. At any rate in so far as is possible it would seem advisable to prevent such decomposition, and it is suggested that this might be done by requiring the official galenical preparations to be neutral, and in practice, by prescribing an alkali along with digitalis. Ignoring the specific irritant action of these bodies on the intestinal tract also, it would seem advisable that the drug should be given between, rather than at meals, when the gastric acidity is at the maximum and such a procedure might possibly not cause undue irritation if a large quantity of fluid were taken at the same time.

SOME FACTORS IN THE TREATMENT OF MYOCARDIAL LESIONS *

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The difficulty of arriving at a positive conclusion as to the exact nature of the tissue changes existing in the cardiac muscle of patients presenting undoubted evidences of heart disease makes it prudent to discuss the following cases under a clinical title rather than one based on morbid anatomy, for few, if any, can distinguish between the signs of chronic myocarditis and those of degeneration, or can say when the molecular disturbance consequent on febrile or other intoxication ends and the congestion with small-cell infiltration of a myocarditis begins. It is true that the physician draws his own mental picture of the changes in each case, but he will have difficulty in describing it in words that will stand the criticism of his audience.

The teachings of Dr. James MacKenzie and other members of the English school have done much to increase our knowledge regarding diseases of the heart, and have given additional impetus to original research in this particular branch of medicine, but, up to the present time, this advance does not appear to be accompanied by any corresponding progress in methods of treatment. It may be an erroneous impression on my part, but it would appear as if the tendency were to give exclusive attention to remedies which influence the mechanism of the heart and to neglect or to discuss superfically treatment that might alleviate or arrest changes in the cardiac muscle itself. Only too often do cases present themselves in which all treatment seems to have ceased after a successful or unsuccessful effort has been made to whip a heart into compensation by means of some member of the digitalis group, and although in many instances this is the result of the patient ceasing to present himself for advice just so soon as he feels well enough to attend to his daily vocation, nevertheless this would be very greatly modified if from the commencement the patient were made to understand that after his apparent recovery it would be necessary for him to follow certain rules of life or to continue some particular line of medication if he wished to retain his restored health.

My object in considering "some factors in the treatment of myocardial lesions" is to emphasize the benefits that very often accrue from the systematic and persistent use of these remedies, generally described as alteratives, which in some direct, but imperfectly understood manner, influence the nutrition of the myocardium. I have no new agents to suggest; all of them are familiar to every practitioner, but in the majority of books they are mentioned so cursorily in comparison with the prolonged discussions on digitalis, strophanthus and squills that very often their value is underestimated, no fair trial is given them and consequently many cases that would have been benefited by their early and persistent administration are allowed to go along unchecked until the patient becomes a chronic sufferer, to whom death comes as a merciful relief.

When we are brought in contact with a weak myocardium the first endeavor is clearly to depict the case, to decide whether the condition is associated with a valvular lesion, as in combined endocarditis and myocarditis, or if it is secondary to a valvular lesion, as in failed compensation; to satisfy ourselves whether it is due to lack of nutrition, as in aortic and coronary disease and anemia, or is the result of toxins such as we find in influenza, syphilis, uterine fibroids, habitual constipation or disordered metabolism. Is it not possible that, while it is fully realized how much all the organs of the body depend on cardiac efficiency for their functional activity, it is not so constantly borne in mind that disturbance in any part of the body may have a deleterious influence on the heart? I mention this because much of the recent literature on disease of the circulatory system conveys the impression that individual study of diseases of the heart is liable to lead to the same results as specialization in the study of other organs; it narrows the clinical horizon; and while this may not be fraught with much danger to the man who is treating only the organs of special sense, it is absolutely inadmissible to the internist who is dealing with viscera which are so mutually dependent on one another for the normal performance of their functions.

One of the first criticisms that might be made regarding the use of such constitutional remedies as the iodids in the treatment of myocardial disorders is the fact that very frequently their administration is not continued for a sufficient length of time to obtain results. In cases of syphilis the physician does not hesitate to keep his patient taking these remedies for weeks, or, it may be, months, without any interruption; but in the treatment of myocardial inefficiency he very frequently stops after ten days or two weeks because he has not obtained the same brilliant results that so often follow the use of digitalis for the same length of time; he seems to argue that because digitalis often restores compensation in a case of valvular disease within two weeks, therefore, the iodids, if they are going to be of any service, must in the same length of time restore to full activity muscular fibers which have been poisoned and in which the toxic process is still going on; he seems to forget that he is not dealing with a cardiac stimulant, but that some form of malnutrition or imperfect elimination has to be corrected before the muscle can recover so as fully to respond to stimulation, and it is this correction that the iodids accomplish.

The following case was one that impressed me very much with the benefits that may sometimes arise from the prolonged use of iodids:

Case 1.—Mr. A. W. consulted me in August, 1904. For some weeks he had suffered from dyspnea on exertion and hardly a night passed without an attack of cardiac asthma, so that latterly he dreaded going to bed and always slept in an armchair. He was of spare build, had led a good life,

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smoked not more than five cigars daily, and denied all luetic history. Examination showed the blood-vessels moderately thickened, the area of cardiac dulness normal, sounds weak but otherwise normal, the liver tender and the area of hepatic dulness increased. All other organs were normal. The patient's physician told me that he had already given him, at different times, digitalis, strychnin and nitroglycerin, but without any more than evanescent relief and that the conditions were growing worse. Now he was given proto-iodid of mercury for ten days and then a reliable preparation of digitalis with the idea that the state of the liver had probably prevented its beneficial effects on the former occasion. The patient experienced considerable relief so that he could spend his nights in bed, but his rest was very much disturbed and he was far from well.

About the end of September I discontinued the digitalis, ordered 10 gr. of potassium iodid three times daily, told the patient to continue this for two weeks and then report his progress. On October 3 an accident occurred that completely incapacitated me for work during the next four months, but at the end of that time the patient came to my office, saying that he did not wish to consult me about himself as he was better than he had been for years and his friends remarked on his improved appearance; he only desired to congratulate me on my escape and make sure that I was alive, as he might want me again. In response to an inquiry about his own condition he said that after taking the last medicine, which was the iodid, he came to report according to his instructions but could not see me on account of my sickness; he therefore on his own responsibility continued taking the iodod and was still taking it at that time, from the middle of September, 1904, to February, 1905, and, he added, "Doctor, I never felt better than I do now and I am afraid to stop it." He is now 73 years of age, attends to business regularly and has occasional attacks of cardiac weakness, generally following a cold or some other slight indisposition, but never approaching his former seizures in severity.

Case 2.—Mr. K., aged 58, first consulted me Sept. 7, 1906. He complained of a sensation of oppression over the sternum and pain in the left forearm induced by the least exertion. He had suffered more or less since an attack of influenza five years previously but had been very sick since April 18, 1906, so that he could not walk one block without making some pretext that would enable him to stand still for a few moments. The cardiac apex was in the fifth space, half an inch beyond the nipple line, the mitral sound was impure, a systolic murmur could be heard over the aorta with a spluttering second sound, the blood-vessels were thickened, and an arcus senilis was well marked; the liver was large, distinctly palpable but very slightly tender. There was no luetic history. Already the patient had received nitroglycerin, digitalis and caffein without benefit. At once 10 gr. of potassium iodid three times daily were ordered for him, and every other night he received a pill containing blue mass and rhubarb compound. At the end of five days he said that the pain and oppression were very much less both in frequency and severity, also that he could walk for some distance with ease, and as he lived over one hundred miles from San Francisco and business affairs demanded his presence, he decided to return home and come to San Francisco every few days, making a round trip of over two hundred miles to report his condition. Twelve days later he was very much better, had been absolutely free from pain during the previous week, although he had walked as many as ten blocks without resting, the area of heart dulness had become normal, the sounds were much clearer, and the liver was also improved. October 1 he complained of feeling very much depressed and as he had been taking potash continually for more than three weeks I thought that possibly it might be responsible for those feelings and consequently substituted the proto-iodid of mercury for it, but at the end of ten days he felt just as poorly, and a mixture containing arsenic and nitroglycerin was prescribed. This also failed and he was put back on potassium iodid with such happy results that late in November he started on a pleasure trip through British Columbia and Alaska. He continued taking his iodid all this time and did not discontinue it until the end of April, 1907. He gained 20 pounds in weight.

I did not hear from him again until Sept. 23, 1907, when he came to me from some "springs," where he had been spending a short holiday with friends, who advised him to take a hot mineral bath for the purpose of breaking up a cold; but while in the bath he experienced a sudden onset of severe cardiac oppression which still continued in a milder degree and from which he never fully recovered, although examination did not reveal any change. Under treatment with cardiac stimulants, vasodilators and iodids given at different times he improved so that during the remaining two and a half years of his life he was able to attend to his business and make at least two trips from California to New York and other cities, but he never got back to the buoyant condition of health he enjoyed before taking the hot mineral bath. The last time that I heard from him was late in 1909, when he was having repeated attacks of cardiac asthma, and early in 1910 I was notified that he had died at his own home in the country, but that an autopsy could not be obtained.

Not only must the prolonged administration of these remedies be insisted on, but the dosage has to be taken into consideration in some patients on account of their idiosyncrasy regarding iodids.

Case 3.—The patient, Mr. C., was a man aged 47, with grey hair, weighing 257 pounds. Exertion produced angina pain in the chest and right arm, which was most severe in the right wrist; heart area was increased nearly 1 inch to the left of the nipple line. There were no cardiac murmurs but the aortic sound was accentuated and impure; the liver was large and tender, and there were tender nodes at the level of the fifth and seventh dorsal vertebræ to the right of the spinal column. The patient had been sick for four months before I saw him on Sept. 16, 1907. His diet was restricted and consecutively he received proto-iodid of mercury, arsenic and nitroglycerin, all of which afforded him some, but not very much, relief. November 6 he was given his first dose of iodid which very soon produced iodism and the remedy was discontinued for a few days and then given in a saturated solution with the instructions that he should begin with small doses and gradually increase the amount; but various trials showed his inability to take more than four drops of the saturated solution twice daily without producing coryza and pain in his jaws. This seemed such a useless dose that my inclination was to abandon the use of the drug, but the patient asked permission to continue it, as he felt much better during its administration. In April, 1908, he left San Francisco and returned in the following July when he told me that during his absence he had been a member of a prospecting party, working at an elevation of 4,500 feet, and that he had been able to do chores around the camp and carry buckets of water along the trails without suffering any inconvenience. I saw him last in the end of 1909, when he told me that he had always kept his iodid "on tap" and took it in the same small doses for a few weeks at a time whenever he felt that he was losing ground. I mention this case simply to illustrate the fact that good results may be obtained from the protracted use of small doses when the patient shows an idiosyncrasy regarding the drug, my previous opinion having been that even under such conditions small doses were useless.

In children similar good results follow the prolonged administration of the syrup of the iodid of iron. Among other cases there are two boys, members of different families, who have been under my observation for the last three years with weak heart muscles, so that every few months their hearts would dilate, murmurs of muscular incompetence would develop at the mitral orifice the patients would be put to bed and kept on different preparations of iron, arsenic and digitalis until compensation was restored, and then after a time history would repeat itself. Since they were given the iodid o iron their condition has improved immensely, in regard both to their hearts and to their general health.

A sufficient number of cases have been mentioned t illustrate the point for which I am contending, but i might be well to mention some features that were common to all of them. They all showed evidences of weak myocardium and hepatic enlargement without signs of ocal edema or general dropsy; the question of acquired or inherited syphilis was thoroughly exploited with uniormly negative results; improvement took place in the older patients with diseased blood-vessels as well as in he boys whose arteries were healthy; all of them gained weight during the treatment. These facts suggest the hought that the cardiac disturbance was part of a constitutional disorder, and that there was just as little chance of relieving the patients by treatment directed to the heart alone as there would be of curing a diabetic eczema by means of no other agency than a local application.

It is impossible to do more than theorize regarding he *modus operandi* of the iodids because our knowledge of alteratives, the physiology of the lymphatic system and the relation of both to general metabolic processes is still very scanty. It may be that where there is some disturbance of metabolism, resulting either from the ntroduction of toxins into the body or some other cause, secondary injurious products are formed in amounts which the liver and other glands are incapable of destroying or eliminating, and that the iodids promote heir elimination in a manner similar to that in which hey eliminate the products of the syphilitic poison. What toxins cause the trouble in these cases it is impossible to say, because, just as specific toxins manifest heir affinity for different tissues, it is only natural to conclude that the resulting or secondary toxins will exhibit a corresponding variation; but some recent work n metabolism prompts the suggestion that accumulation of lactic acid in the tissues, either as the result of its excessive production or defective destruction and elimination, is responsible for a considerable proportion of he cases of myocardial distress. The following are the premises on which the hypothesis is based.

TOXIC EFFECT OF LACTIC ACID ON THE HEART

Martin Flack[1] states that "if a frog's ventricle is placed in a weak solution of lactic acid (1 in 10,000 normal saline solution) the contractions become less and ess, so that finally the ventricle stops in a state of complete relaxation"; and Bachmann[2] perfused rabbits' hearts with solutions of lactic acid and obtained increased rate with greatly diminished force of contracion and a simultaneous dilatation of the coronary arteries, a fact that would indicate lactic acid to be a paralyzing agent for all muscles of the cardiovascular system: neither did it require a strong solution; but even amounts so small as those occasionally found in the blood of a normal rabbit had some paralyzing effect.

THE SOURCE OF LACTIC ACID IN THE HUMAN BODY

Lactic acid is produced in the human body in the process of metabolism and also as a result of muscular exertion. Ryffel[3] demonstrates conclusively that lactic acid is formed from glucose as well as from other carbohydrates and possibly to a lesser extent from proteids, and quotes Magnus Levy's suggestion that lactic acid may be an intermediate stage in the transformation of carbohydrate to the higher fatty acids, which is known to take place in the body in the formation of fat from carbohydrate. He also mentions the observations of different investigators which tend to show that increased consumption of glucose in muscles is accompanied by a corresponding increase in the formation of lactic acids. This last fact is of interest in relation to the production of lactic acid in muscular tissues as a result of their activity, and especially in connection with the particular organ now under consideration, because, while most observations have been made on the muscles of animals, Prof. Hugh A. Stewart[4] has shown that dextrose is consumed in the human heart. Two and a half hours after the death of a patient he excised the heart and perfused it with a solution of dextrose, with the result that in ten minutes the whole heart was beating strongly; it continued to beat until the perfusion was stopped, more than two hours later, and the washings tested for the amount of dextrose. The analysis showed that the human heart, like that of other animals, is capable of breaking down the dextrose of the perfusing fluid. Locke and Rosenheim,[5] working on the rabbit's isolated heart, had previously shown that the consumption of dextrose depended on some definite relation between the potassium and calcium salts in the perfusing fluid, and concluded that the calcium salt is especially necessary for the conversion of chemical changes into mechanical work.

THE NORMAL FATE OF LACTIC ACID IN THE HUMAN BODY

As lactic acid is a cardiovascular poison normally produced within the body, it is important that we should know how it is destroyed before it is present in such quantity as to produce its toxic effects. Normally the great bulk of lactic acid is destroyed in the tissues by various processes. Embden and Salomon have shown that some of it may be retransformed into glucose by a process of condensation, and, as we have already seen, some of it may become fat. Furthermore, Stoklasa obtained from muscle and blood two anaerobic ferments, one which converted glucose into lactic acid and another which changed the lactic acid into alcohol and carbon dioxid. Lastly, experimentally it was demonstrated that excised "muscle kept in air or nitrogen showed a gradual increase of lactic acid, the rate of which depended on the temperature, until finally irritability was lost, when there was no further increase of lactic acid. If, however, the muscle was kept in oxygen there was practically no such increase at physiologic temperatures, and the loss of irritability was indefinitely postponed." From these and similar observations it was concluded that an adequate supply of oxygen not only prevents the accumulation of lactic acid, but even enables the muscle to destroy preformed lactic acid. This may be due to a direct oxidation of the acid, or it may be the result of the action of the oxygen on the alcohol, which we saw was one of the products of anaerobic fermentation, so that by removal of this product further anaerobic decomposition of the lactic acid is facilitated.

Ryffel settled the question regarding the relation between muscular exertion and the formation of lactic acid in the human subject by observing:

> The lactic acid in urine from competitors in a twenty-four-hour track-walking race was in no case above 6.5 mg. per hour, but found relatively large quantities in that passed after violent exercise—430 mg. after 0.36 mile, 818 mg. after 0.6 mile, running as fast as possible around a track 33 laps to the mile. The lactic acid in the blood, taken from a vein in the forearm immediately after the exercise, was also increased

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[1] Flack, Martin; Advances in Physiology, Longmans, Green & Co., London, 1909.

[2] Bachmann: Zentralbl. f. Physiol., 1907, xx, 801.

[3] Ryffel: Lactic Acid in Metabolism, Quart. Jour. Med., January, 1910, p. 229.

[4] Stewart, H. A.: Jour. Exper. Med., January, 1910.

[5] Locke and Rosenheim: Jour. of Physiol., 1907, xxxvi, 205.

> in one case from 12.5 mg. at rest to 70.8 mg. per 100 c.c. Excess of lactic acid disappeared from the urine in about thirty minutes after stopping, but in forty-five minutes the lactic acid of the blood was not quite reduced to normal (15.9 mg. per 100 c.c.).

He concludes that the important factor in the accumulation of lactic acid from muscular work "is the relation between the activity of the muscles and their supply of oxygen."

> At rest the muscles are fully supplied with oxygen by the circulation. This is also practically the case with limited activity, but, when the activity is great, the oxygen supply, although increased, is not sufficient to prevent the formation of excess of lactic acid, which makes its way into the blood, and, if in sufficient concentration, is excreted by the kidneys. Lactic acid, moreover, is quickly oxidized by the tissues, so that the return to the normal at rest is fairly rapid, occupying less than one hour after short periods of violent activity.

The importance of this work in relation to myocardial disorders is more fully recognized when we notice the different conditions that may lead to accumulation of lactic acid in the tissues; these are: (1) Increased and *rapid* formation of lactic acid by violent muscular activity; (2) inadequate supply of oxygen to the tissues; (3) absence or diminution of the lactic acid destroying ferment in the tissues; (4) absorption of lactic acid from the alimentary canal; (5) excessive supply of carbohydrate food. Possibly the last three are all closely related because there is experimental evidence to show that lactic acid is both formed and destroyed in the liver, just as in the muscles of the body. We also saw that it might accumulate in the tissues if there were not enough oxygen supplied to facilitate its destruction, and so, in like manner, since the transformation of carbohydrates is a function of the liver cell, it is easy to conceive that as the result of either excessive carbohydrate supply or diminished hepatic activity lactic acid may accumulate during the process of transforming carbohydrates to fat.

The summary of these different observations that I have presented is that, so far as they relate to the heart, the muscles of the whole cardiovascular system are poisoned by a very slight increase in the amount of lactic acid in the tissues; that this excess may be produced by perfectly physiologic processes, such as violent exertion, and when respiration in the same length of time cannot supply an equivalent increase of oxygen for the destruction of the acid, accumulation takes place. Or the excess and accumulation may be due to defective metabolism arising from a variety of causes already mentioned.

These observations show that the myocardial changes found in people who have been subjected to hard muscular exertion, are not necessarily secondary to those found in the coronary circulation, but that both may be due to a common toxin; they indicate where we may look for the cause of the disturbance when treating cases such as those mentioned in an earlier part of this paper; and, lastly, they give us the opportunity of adopting a line of treatment, both medicinal and dietetic, which promises better results than that now generally followed.

I do not wish to be understood as asserting that lactic acid is the only or most active product of metabolism in producing cardiovascular disturbance; my only object was to call attention to the great work that is being done by the physiologic and pathologic chemists to aid us in the treatment of the diseases now under consideration; at present the whole subject, so far as its application to the treatment of heart disease is concerned, is in the embryonic stage, but to me it carries much promise for the future. Everyone engaged in the practice of our profession must at one time or another have felt how eminently unsatisfactory are our present methods of treatment, how, in the majority of cases, our most brilliant results are only temporary improvements and short postponements of the inevitable day, and, as the patient leaves the consulting room, there remains behind him the feeling that we have never really reached a basis on which reasonable hopes for a cure may be established. With a growing knowledge of the chemistry of normal and abnormal metabolism it is probable that much of this will be changed, and that, especially among our younger patients, much will be done to restore a debilitated heart to its full vigor and also to prevent many of the cardio-vascular changes consequent on infections and malnutrition.

Another matter of interest is the use of the calcium salts in the treatment of myocardial weakness during prolonged or severe pyrexia, such as we find in pneumonia or the continued fevers. Early in 1908, Sir Lauder Brunton advised the use of calcium chlorid, in doses of from five to ten grains every four hours, for the purpose of maintaining the heart's action when failure was imminent in an elderly woman who was suffering from an influenza pneumonia. He based the advice on his knowledge that calcium chlorid is a constituent of Ringer's solution, which is used for perfusing isolated hearts during physiologic experiments. Many years ago Dr. Ringer observed that when the frog's heart was perfused with a sodium chlorid solution in distilled water the heart's action was not sustained so long as when the solution was made with water drawn from the ordinary faucet, and on examination found that the latter contains calcium salts, which, of course, were removed during the process of distillation, and since that time it has been generally recognized that the sodium chlorid solution will stimulate the heart to activity, but that the addition of calcium is absolutely necessary if it be desired to continue the contractions for any length of time.

Since that time Locke and Rosenheim, as has already been mentioned, have given the explanation of the phenomenon by showing that in the perfused heart "the consumption of dextrose is dependent on a certain concentration and balance of the calcium and potassium in the perfusion fluid, and they conclude that these salts, more especially calcium, are necessary for the conversion of the chemical changes into mechanical work." During the last three years I have followed Sir Lauder Brunton's suggestions in the treatment of pneumonia and also typhoid fever and have been most favorably impressed with the results, possibly from the fact that the administration of the calcium was commenced early in the course of the disease and continued until the beginning of convalescence with the hope of maintaining the heart's action rather than of reestablishing it when failure had commenced.

I must offer an apology for submitting a line of treatment that at the present time is so problematical. It is true that, like the blind man whose sight was subsequently fully restored, we now see things dimly, "men as trees walking"; but possibly the day is not far distant when we shall have a broader and a fuller vision. At any rate, the object of this paper will be served if it directs the attention of physicians, situated similarly to yself, to the work that is being done in behalf of treatient by those who devote themselves to the elucidation f problems in metabolism; and it may be that the latter entlemen will be stimulated to further endeavor by the nowledge that their work is appreciated and waited for y the clinician, as well as by the thought that, in the ords of Robert Burns, "A chiel's amang you takin' otes, and faith he'll prent 'em."

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SCHMOLL, KERR, HEWLETT AND HALE

Dr. William B. Snow, New York: It seems to me that in he study of cardiovascular derangements it is of first imporance to consider the causes and their correction. It cannot e doubted by the clinician that the origin of these troubles s largely toxic. That the conditions originate in the alimenary canal through overfeeding, errors of digestion and an mperfect metabolism—particularly the first—seems to have een demonstrated. In my judgment the study of heart esions should be along the same lines as the study of so-called heumatic conditions, recognizing as causes the toxic effects f overfeeding, poor digestion and impaired metabolism. The egulation of diet to the demands of exercise and mainteance of body weight is, therefore, of first importance in heir management. Each case is a clinical study in itself; he symptom-complex presenting is rarely the same in all articulars in any two cases. The treatment cannot be imited to the employment of drugs. Dietetic regulation and he employment of physical agents which tend to restore noral functions are always indicated. In my experience I have ound no agent so effective in eliminating the various conitions of toxemia as the radiant light bath, or prolonged pplication of radiant light to the body with the incandescent amps of high candle-power. The effect of radiant light on etabolism is remarkable in bringing about normal metablism. As hypertension is more often the cause of arterial egeneration than any other and as hypertension is caused y toxemia, the indications are two: the relief of hyperension and the relief of the cause of hypertension—d'Arsonalization for the former, and the regulation of the diet ith the institution of habits of exercise for the other.

Dr. Boardman Reed, Alhambra, Cal.: I feel that the mportance of a thorough study of the drugs we have been aving cannot be overrated and yet my experience is that, as ractical clinicians, we need to know more about the effect f diet and exercise and baths and all that sort of thing. That s, we can do a good deal more with these hygienic and physal measures than we can with drugs. We cannot know too much about drugs, but we need to know and use more the ther line of treatment, according to my own experience. I o not think we realize enough the importance of diet. I ully agree with Dr. Snow in regard to what he said about vereating. I am sure that overeating and overdrinking cause ore arteriosclerosis and cardiac affections than any other ause, among Americans, at least. I suppose that among the orking-class, syphilis and muscular strain produce as much, ut among the middle-class Americans overeating is a chief ause of vascular trouble, and I feel that we cannot emphaize that fact and apply the knowledge too much in our ractice.

Dr. Ray Lyman Wilbur, San Francisco: I consider the oints that Dr. Schmoll makes in regard to functional testng of the heart, aside from physical findings, well taken. have seen a number of cases of young girls who had been ept in bed because they apparently had enlarged hearts nd cardiac murmurs. They often had deviation in the shape f the thorax and in the position of the diaphragm, and I hink they belong to the class of transient murmurs so comon in young girls. Friedreich Müller says 30 per cent. of oung girls present cardiac murmurs, unassociated with disase processes, and the physician is apt, when finding such a urmur, if nervousness is associated with it, to imagine that e child is in a much worse condition than it really is. I have watched some such patients for a number of years and the cases have all cleared up when there was no previous history of rheumatism. From the standpoint of practical treatment I have had more satisfaction from potassium iodid, as recommended by Dr. Kerr, than from almost anything else administered in various heart conditions, particularly in patients with attacks of acute dyspnea without edema, usually neurotic individuals without a syphilitic history. Whether the administration of potassium iodid has an effect on the thyroid, because of which we get some effect on the heart, I do not know, but I do know that clinically I have found it of great value in the class of cases which Dr. Kerr describes.

THE TREATMENT OF GASTRIC ULCER

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The chief indication in all cases of gastric ulcer is rest and protection of the affected part, but here one is brought face to face with an opposite indication in the necessity of nourishing a patient who has already been brought low by a reduced diet, poor digestion, and hemorrhage.

Which of these indications should receive the greatest consideration must depend on the condition of the individual patient. Herein lies the explanation for a certain number of failures which occur when one follows one of the accepted plans of treatment as outlined by rules and tables. One must be governed by principles rather than rules, and in every instance the patient, as well as the case, must be considered.

When there has been recent hemorrhage the patient should be kept absolutely quiet in bed, not even rising to empty the bowels or bladder. Food by mouth should be reduced to a minimum or absolutely forbidden, according to the severity of the case. Under these circumstances an attempt should be made to nourish the patient by enemas and this method should be followed as long as tolerated. But one should not be misled with regard to the amount of nourishment the patient is receiving. Practically, it is not possible to maintain the patient's nutrition by enemas alone but they are of help in the early stage. The following are examples of some of the nutrient enemas which have been found satisfactory:

	Gm.	Calories
V. Leube—		
Finely scraped meat..........	50 (1⅔ oz.)	40
Raw pancreas, chopped........	50 (1⅔ oz.)	85
Rubbed up with enough water to make..................	250 (8⅔ oz.)	..
		125
Forscheimer—		
Peptonized milk	200 (7 oz.)	80
Eggs	2	150
Brandy	30 (1 oz.)	100
		330
Eggs	3	225
Milk	300 (10 oz.)	195
Common salt	3 (45 grains)	...
		420
Boas—		
Yolks of two eggs............	...	116
Milk	250 (8⅔ oz.)	160
		276

A method of feeding introduced by Einhorn[1] and termed duodenal alimentation should be mentioned. He uses a long, small, soft rubber tube, having a small metallic capsule at one end. This is passed into the stomach and allowed to remain until the capsule passes into the duodenum. The other end is made fast by means of adhesive plaster or string, and liquid food is introduced directly into the duodenum. The tube is allowed to remain in position for from ten to fourteen days. In Einhorn's hands, this enabled him to feed and maintain the weight of patients who could not otherwise retain food.

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[1] Einhorn: Med. Rec., 1910, lxxviii, 92.

All of the diet-lists given have the common feature of beginning with a minimum quantity of soft or liquid food, gradually increasing over a period of from two to four weeks till the normal quantity is again reached. They all have the disadvantage of being tables; that is, it is naturally suggested that there is some advantage in the particular proportions in which the various substances are given, rather than in the principle on which they are based. Diet-lists are given in every text-book dealing with this subject and need not be repeated here.

The more recent Lenhartz diet is based on the physiologic fact that the stomach, even when empty, is not at rest. Lenhartz thinks it is therefore unnecessary to forbid all food by mouth; on the contrary, since the body has suffered a loss of its protein, the cell-building material, both through insufficient supply and through hemorrhage, it is highly necessary to replace this, and he finds eggs especially suited for this purpose. In addition, egg albumin has the power of combining with a maximum quantity of hydrochloric acid, thus protecting the damaged mucosa from digestion. He objects to the Laube and Penzoldt diets on account of the excessive quantity of fluid they contain.

There has been a warm discussion over the respective merits of the different diets. Some reliable observers report, after the use of the Lenhartz diet, a prompt relief of pain, fewer recurrences of hemorrhages, a gain in weight, and a shorter period of confinement to bed. Others report unfavorable results, no less an authority than Ewald[2] expressing decided disapproval.

If there is no agreement as to details, however, there are certain basic principles so obvious that all acknowledge their importance, and these principles, rather than arbitrary rules, should govern us in selecting a diet, for, after all, unless the diet is adjusted to suit the case rather than the disease, the treatment will be unsatisfactory. All food should be given in a finely divided form, in order to avoid unnecessary mechanical action and possible injury to the ulcerated surface.

Its chemical composition should be such that it does not offer an excessive physiologic stimulus; that is, it should tend to reduce the acidity rather than to increase it. Over this one point there has been much discussion, some arguing in favor of a rich protein diet on the ground that it will neutralize the largest amount of hydrochloric acid, others against protein diet because it is a natural stimulus to the secretion of hydrochloric acid. In fact, it is of more importance in what form the food is given and what particular variety of protein is used. Except when given cold for the purpose of counteracting nausea, the food should be just a degree or two warmer than the body.

It should be of high caloric value; that is, it should be as nutritious as possible, but not bulky, and in order to avoid distention it should be given in small quantities, frequently repeated. Little salt should be used in the preparation of the food or at table, because it acts in two ways to increase the secretion of hydrochloric acid, first, as a condiment and second, by contributing one of the principal elements for its formation.[3]

In the light of these obvious requirements of the damaged stomach, consider for a moment the well-known diets. Leube uses, in the first and second ten-day period, meat broth and bouillon; in the third period, scraped raw ham and half-raw beefsteak, and in the fourth, red roast beef.

Penzoldt used meat broth and bouillon in the first, second and third ten-day periods, and in the third, raw beef-sausage was allowed. Bouillon was allowed in the fourth period. Lenhartz allows raw chopped meat after the sixth day, and raw ham after the tenth day.

Now, it is a well-recognized fact of physiology that meat extract acting through the pyloric glands is a natural physiologic stimulus to the secretion of hydrochloric acid.[4] Raw meat not only contains more extractives but is less easily digested than cooked meat,[5] and has no advantage unless we desire to increase the secretions of the stomach, which is not the case in gastric ulcer. The nutrient value of the meat extract varies greatly, but it is given by Strauss as from 4 to 12 calories per 100 c.c.; while 100 c.c. of milk containing 3⅓ per cent. of cream has 65 calories; the same quantity containing 10 per cent. of cream has 124 calories.

From these facts it is certainly clear that raw meat, especially cured meat such as scraped ham, as well as bouillon, meat broth and rich meat soups, are unsuitable ingredients for diet in cases of gastric ulcer, for here a diet is needed which is easily digested, leaves the stomach promptly, and does not tend to increase the hydrochloric acid.

In this connection it should be remembered that milk, cream, unsalted butter, and olive oil should be used to as great an extent as possible, on account of their higher nutrient value, liquid form and, last but not least, because the fats tend to reduce the acidity. They leave the stomach promptly and tend to reduce the pyloric spasm which is often present when the ulcer is situated in that region.

Therefore, when the feeding by mouth is resumed, the diet should consist of milk with from 3 to 10 per cent. of cream, thoroughly cooked porridge and oatmeal, rice-meal, corn-meal, with milk, cream and sugar added to taste. Raw or very soft boiled eggs, crackers, buttered toast or milk toast to be added later. Puree of peas, potatoes and poached eggs, junket flavored with fruit juices and custards are also suitable.

Malted milk and the various concentrated prepared foods can be added to give variety to the diet. Pea-soup, sago, tapioca, minced chicken, tender fresh fish, brains and sweetbreads should be added later. The quantity taken at one meal should never exceed 250 gm., or 8 ounces. The temperature should not be above 38 or 39 C. (101-102 F.); that is, warm but not hot.

The medical treatment is directed to reducing the acidity, relieving pain and pylorospasm, and possibly toward exerting some direct influence on the ulcer itself. As constipation is usually present, it must be taken into consideration and the treatment modified accordingly.

The alkalies certainly reduce the acidity by combining with the excess of hydrochloric acid. They should therefore be given in large doses about an hour after meals, and repeated if necessary whenever pain occurs. The following prescriptions are used and recommended by men of wide experience:

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[2] Ewald: Deutsch. med. Wchnschr., 1908, ix, 361.

[3] Cohnheim, O.: Die Physiologie des Verdauung und Ernährung, Berlin, 1908, p. 345

[4] Cohnheim, O.: Die Physiologie des Verdauung und Ernährung, Berlin, 1908, p. 54.

[5] Schmidt, Adolf: Diagnose und Therapie chronischer Diarrhoen, Samml. Zwangl. Abhandlungen a. d. Geb. d. Verdaungs u. Stoffechs-Kr., ii, No, 1, p. 29.

Matthes of Cologne:

℞	Gm. or c.c.	
ntusi radicis rhei	150	℥ v
Sodii bicarbonatis	6	ʒ jss
Olei menthæ piperitæ	3	♏ xlv

Misce S. A teaspoonful twice daily.

Ewald:

℞	Gm. or c.c.	
Magnesiæ ustæ (magnesii oxidi)		
Sodii carbonatis		
Potassii carbonatis āā	5	gr. lxxv
Pulveris radicis rhei	10	ʒ ijss
Sacchari lactis	25	ʒ vi

Misce S. Half a teaspoonful every hour.

The following are intended to relieve both pyloric spasm and hyperacidity:

Elsner:

℞	Gm. or c.c.	
Extracti belladonnæ	0.1	gr. jss
Sodii bicarbonatis		
Magnesii phosphatis āā	10	ʒ ijss

Misce S. A teaspoonful three times a day.

Trousseau:

℞	Gm. or c.c.	
Extracti belladonnæ	3	
Foliorum belladonnæ āā	0.33	gr. v
Extracti gentianæ q. s.		
Fiant pilulæ, No. XXX		

Misce S. One pill before breakfast. Increase slowly to ive pills.

Cohnheim:

℞	Gm. or c.c.	
Tincturæ belladonnæ	5	gr. lxxv
Olei amygdalæ dulcis (olei amygdalæ expressi)	30	℥ i
Vitellum ovi unius		
Aquam destillatam ad	200	℥ vi ʒ v
Fiat emulsum		

Misce S. Two teaspoonfuls three times a day.

Cohnheim uses the alkalies as follows: Where there s diarrhea, calcium salts; that is, calcium carbonate and calcium phosphate. Where there is constipation, magnesia usta or magnesia ammonia phosphate. Under normal conditions, sodium phosphate, sodium bicarbonate, and sodium citrate.

For direct effect on the ulcer, bismuth subnitrate and nitrate of silver still hold an important place. Cohnheim uses bismuth subnitrate for chronic ulcers in old people, and nitrate of silver in acute cases as follows:

℞	Gm. or c.c.	
Argenti nitratis	0.5	gr. viii
Aquæ destillatæ	200 (dark bottle)	gr. viii

Misce S. One teaspoonful (porcelain spoon), in wine-glass of distilled water, one-fourth or one-half hour before eating.

Dilute solutions of silver nitrate and ferric chlorid have been used to irrigate the stomach with the intention of influencing the ulcer directly. But when it is remembered how soon these solutions become greatly diluted or neutralized, and also that it is never known how near to perforation any ulcer may be, when one considers the distention of the stomach and the retching which frequently occurs while the stomach-tube is being passed, all will agree that this is a method of questionable utility.

External local applications are recommended by practically all authorities; cold in case of hemorrhage and during acute exacerbations, and hot in chronic cases.

All the German specialists recommend and use the balneologic treatment in cases of ulcer. When possible, the patient is sent to one of the well-known watering places, or, if this is for any reason, such as lack of means, impracticable, the waters or salts are used in the home treatment. For robust individuals the Carlsbad water or salts are used, while for those who are thin and anemic, Vichy is recommended. The Germans assert that these waters and salts owe their beneficial effects to their specific action on the glandular tissue of the alimentary tract, while some American writers maintain that the salts simply neutralize the acids present in the stomach.

In addition to these special measures directed to the ulcer, other general treatment should be applied to the constitutional condition. The results obtained by medical treatment vary greatly in different series of statistics collected by different observers. Their value is impaired by the fact that all are not observed for the same length of time, and there are a number of cases in certain series unaccounted for, the termination of which is unknown. The table of results of treatment by various men, the figures for which were collected from various sources, show how widely results of medical treatment differ:

TABLE OF RESULTS OF TREATMENT

Statistics by	Patients No.	Cured %	Improved %	Relapsed %	Died %
Sears	183	22.9	59.0	8.0	7.0
Friedenwald	287	66.0	28.0	....	1.0
Bulstrode	500	....	82.0	40.0	....
Russel	47	42.0	44.7	....	....
Schultze	291	89.0	....	....	....
Subsequently	157	53.0	23.0	15.4	7.0
Lenhartz	...	....	....	....	2.3
V. Leube	...	90.0	6.0	....	2.5
Warren	...	34.0	....	43.0	10.0

Pyloric stenosis, 10 per cent.; carcinomata, 3 per cent.

The mortality is variously estimated (in percentages) as follows:

Musser	8
Regal	from 8 to 10
Lebert	from 8 to 10
Welch	15
Leube	25
Debove and Reynolds	50

Of this last series (Debove and Reynolds), thirteen deaths were due to perforation, five to hemorrhage, twenty to intercurrent tuberculosis, five to inanition, and seven to various causes. These statistics are uniform in one respect: they indicate that at present the result of medical treatment of ulcer of the stomach is decidedly unsatisfactory.

Until the pathogenesis of gastric ulcer is made clear, and a treatment based on etiology is possible, our principal hope for better results must rest on earlier diagnosis. This will be possible when we cease to depend on subjective symptoms for diagnosis and learn to use more universally the tests for occult blood in the feces.

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Hookworm Disease.—In regard to the many bizarre symptoms that have been ascribed to the hookworm, a remark by Dr. Byrd, assistant health officer of Florida, is apropos. "The safest rule to follow is: In all cases of anemia that cannot otherwise be satisfactorily accounted for, examine for hookworms. Don't be thrown off guard looking for dryness of hair and skin, which may be as moist as your own; protrusion of the abdomen, which may be straight as a bean pole; history of ground itch, which you may or may not get; and any other of the hundred-and-one symptoms with which the literature is teeming, but examine the stool at once for eggs and settle this question." And it may be added, after the eggs are found, be sure from blood examination, count of parasites, or improvements of symptoms after treatment that the real trouble is the hookworm before closing the case.—H. J. Nichols in *Medical Record.*

THE DUST MENACE AND MUNICIPAL DISEASES *

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Among the causes of what may not inappropriately be termed municipal diseases infection, irritation and neurovascular tension play a peculiarly predominant part—most of them an obvious part; some, however, are subtle in their workings. To specify three concrete elements corresponding to and mainly responsible for or contributory to these etiologic processes, there are dust, smoke and unnecessary noise; and the one that looms largest in municipal morbidity and mortality is undoubtedly the widespread prevalence of an irritating as well as infecting dust contamination of our city atmosphere. This dust menace and nuisance is preventable, not only in the streets, as is now demonstrated in a few large cities, but likewise in our living and working places, in houses, cars, stores, factories, shops, offices, stations, theaters and churches; in fact, there is a vicious circle here in that street-dust is blown, swept and tracked into habitations, to be swept back into the streets again. Much house-dust pollution would be avoided if the original street-dust were removed or allayed. Says Dr. George A. Soper of New York: "There is something incongruous about a board of health conducting a crusade against smoke and noise and at the same time allowing the streets to be filthy with dust and dirt."

In biographic and occasional references to Benjamin Franklin, it is the usual thing to have pointed out to us his many talents and rare common sense as well as his courageous patriotism and eminent public service. It is, however, perhaps as entertaining and interesting as it is instructive and exemplary to read in the "Autobiography" of his study and efforts relative to dirty, dusty streets in Philadelphia and London, as far back as a century and a half ago. Here as elsewhere does he reveal the master mind in originality and acuity of perception, versatility of faculty, and prompt practicality of action. The dust evil was a seriously annoying problem to him as a citizen if not as a sanitarian; to him dust was at least noisomely offensive if not infective. He writes of his proposal to Dr. Fothergill of London—whom he commends as "a great promoter of useful projects"—that "for the more effectual cleaning and keeping clean of the streets of London and Westminster," contracts be let to have the dust swept up in dry seasons, especially before the shops and windows of the houses are open, and that the gathered heaps of refuse be carried away in close-covered carts. Could Franklin view the methods and results in London, Toronto, Berlin and some other cities to-day, his only regret might be that it had taken so long to inaugurate the improvement; and that so many cities still drag along, apparently contented and unable to cope with a distressing, dust-polluted atmosphere, even worse than in his own day, by reason of the aggravations of modern speed traffic. He concludes:

> Some may think these trifling matters not worth minding or relating; but when they consider that though dust blown into the eyes of a single person, or into a single shop on a windy day, is but of small importance, yet the great number of the instances in a populous city and its frequent repetitions give it weight and consequence, perhaps they will not censure very severely those who bestow some attention to affairs of this seemingly low nature.

Now that for about seven years street-dust as an element in the propagation of disease, especially in large cities, has received such marked and spreading recognition, the problem of street as well as house cleanliness is a live and urgent one. Modern civilization, being mainly materialistic and commercialistic, is responsible for the creation of a multifarious, mixed, material refuse: street-dust is such a pernicious and persistent menace to the public health because it bodies itself forth as veritable synthetic pulverized poison composed of various more or less palpable particles of mechanical, chemical and bacteriologic substances, both irritating and infecting when inhaled.

As long ago as 1870, Tichborne and Tyndall showed that most of the particles of fine dust suspended in city atmosphere are composed of organic matter, and bacteriology has since shown that the invisible part of visible dust, that is, its germ content, is the dangerous element that calls for a drastic and determined movement for the suppression and removal of the menace everywhere. This applies mainly to cities.

Country road dust is composed principally of ground-up rock and is a comparatively clean dirt, irritating to the mucous membranes but relatively innocuous as to pathogenic organisms. Besides, the task of dust-allaying must obviously for some time to come remain a municipal one, excepting in those suburban and more populous, much-trafficked and prosperous outlying communities where even now many miles of macadamized and Telford roads are oiled, tarred, or sprinkled with water.

Apart, however, from the modicum of mineral dust arising from the wear and tear of street pavements by horse, wagon and railway-car traffic, municipal dust represents the accumulation of débris of various kinds, animal and vegetable, such as dried sputum of human origin, horse and dog droppings and slobberings, dead and disintegrated insects, scattered garbage and house sweepings, loaded vehicle losses, smoke and soot—in short, mainly an organic combination which in warm, wet weather is seething with rottenness; and in dry weather is mostly blown into our houses, noses and clothing by gusty winds, or sucked up as noxious, stifling clouds by motor cars while they speed and trolley cars while they are running or braking for a stop.

To the average pedestrian, dust is hardly more than an annoyance; hence arises the large opportunity and high duty of men in our profession to educate the public to the dangers of dust; to show that it is not simply an irritant to the eyes, nose and throat, but a serious carrier of infection by inhalation and swallowing; that the pus-producing germs, so abundant in such dust, may and do infect and produce purulent conjunctivitis, boils and carbuncles, and the graver purulent catarrhs of the nasal, faucial and bronchial tissues.

That most of the communicable diseases of the respiratory tract are produced and transmitted by dust is doubtless true. For years we have had before us the deadly relation of the dust evil to tuberculosis. Were that the only danger, surely the awful prevalence and mortality-rate of the "great white plague" would alone justify the fight for street cleanliness and a declaration of independence against dust distributers. But when one adds to this the host of other dust-borne diseases, catarrhal, tonsillar, bronchial, influenzal, pneumonic, rheumatic, cutaneous, the need for efficient public service in remedying and removing the evil becomes intensely imperative and the demand inexorable for right results.

Epidemics of purulent catarrh, tonsillitis of severe type, influenza, bronchitis, sore eyes, boils, have fre-

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* Read before the American Climatological Association, Montreal, Canada, June 14, 1911.

quently and commonly been associated with, or have closely followed, prolonged meteorologic periods of dry, gusty weather, when it was too cold to sprinkle the dirty streets properly, or when the city authorities have been too careless in beginning the cleaning and sprinkling of streets early in the season.

Dust particles are necessary nuclei for the formation of fogs (as experimentally shown by Carl Barus) and the suspension of atmospheric moisture; and thus a twofold unhygienic relation of dust should be brought to mind. In the first place, an excessive amount of municipal dust, attracting to itself a corresponding amount of moisture, actually renders the sensible humidity of the city air more unbearable and debilitating generally. Secondly, conceding "that pathogenic organisms are adherent to particles of dust of various kinds, and that their retention of virulence depends on the amount of hygroscopic moisture with which they are associated," as Harrington points out, the more they are protected by such hygroscopic dust particles, the longer they will sustain the viability to which such moisture is essential, especially in warmer temperatures.

It is a needful thing in public health teaching to dispel the notion—the obsession it has almost become—as to "catching cold." Truly, most of the so-called "colds" are dust infections gotten in places where people congregate and traffic circulates freely, as in street cars, theaters, department stores, moving picture shows, halls, etc. As Woods Hutchinson has aptly put it, "colds" might rather be called "fouls." Human agency is principally at fault in polluting the air with disease-bearing dust, and human agency and energy must be solicited and directed to arrest, subdue and prevent its production and propagation. The so-called air-borne diseases of great cities are really synonymous with dust-borne. Instead of bad air in the vague sense, let us speak of dusty air in the definite sense; instead of the Italian malaria, the Greek derivative *konisaria* (*konis*, dust; *aer*, air).

One of the most significant discoveries of recent times in clinical medicine is the not infrequent causative relation of follicular tonsillitis to the early development of rheumatic, endocarditic and pericarditic complications and sequelæ. On first thought it may seem like a startling and incredible statement to make that dust may at times infect the tonsils, and through these portals cause the most serious and malignant involvements of joint and heart structures; and yet sufficient medical literature and my careful study of several cases demonstrate clearly that the links of the pathologic process do connect.

Dust, then, is not by any means or in the main a mere nuisance and source of public discomfort, but perforce a menace and direct public danger of deadly potentiality.

Further still, as a habitually inhaled mechanical and sometimes chemical irritant alone, dust predisposes the upper air passages to later if not occasional associated bacterial implantation because of the production of a catarrhal soil of ready receptivity and decreased local vital resistance; the germs are not only invited, but embraced and encouraged to stay, multiply and penetrate to the innermost portions of a body which is at the same time somewhat generally debilitated and vulnerable. Here again comes forth a vicious circle. The more dusty the air of our cities, and the more consequent catarrhal irritation, the more sputum, and the more spitting promiscuously in public; and the more people spit the more infectious and dangerous the dust becomes.

The street-cleaning problem cannot be dissociated from the problem of the enforcement of anti-spitting laws. People with nasopharyngeal and bronchial catarrhs must expectorate somewhere; and for many years to come they will do so on our highways. It is practically difficult and a great hindrance to progress in this matter of preventing or lessening expectoration on our streets as long as inadequate and inefficient means and methods of street-cleaning and dust-allaying fail to control or suppress the dust evil.

As the anti-dust campaign, in Philadelphia at least, got its first impetus from the point of view of the prevention of tuberculosis, a special reference to the relation of dust to this widespread disease may be made with propriety. First, the constant inhalation of all kinds of irritating dust makes the invasion of the tubercle bacillus easy. This is well known not only as regards occupational mineral and organic dust, but particularly in respect to municipal street-dust and house-dust of ordinarily constant prevalence. General and local predisposition are coupled in that the environment conduces to the former equally with the latter. Secondly, although less commonly, direct infection with the tubercle bacillus from street-dust may occur from recently expectorated tuberculous sputum that has dried rapidly under a strong wind on a cloudy day; but habitual infections from house-dust are, of course, the usual modes. Thirdly, mixed infections with the common dust germs of pus formation, the staphylococci and streptococci, may occur as well as with the bacilli of pneumonia and influenza. It is to these that we must lay the great burden of the aggravations, complications and fatal terminations of our tuberculous patients. A simple, curable, early case becomes difficult or impossible to jugulate because of a mixed dust infection, and consequent extensive and progressive caseation and cavitation. How many hopeful, more or less curable, tuberculous patients have run a rapidly fatal course because of the daily inhalation of a foul street-dust will never be known.

Says Jacob A. Riis: "All things come to those who wait—and fight for them." The history of the agitation against the dust menace in Philadelphia, and the results obtained there to-day, while yet far from satisfactory, show that educative repetition of the facts and remedies at hand will bring about substantial improvement, and often sooner than expected, a quite rapid progress to still better conditions. In 1903, while president of the Pennsylvania Society for the Prevention of Tuberculosis, I inaugurated a campaign of publicity against the dust evil, particularly as related to the dirty streets and cars. For two years more the attention of the public was called to the dangers of dust, and an endeavor made to have the proper municipal authorities adopt and practice modern means and methods of street-cleaning and dust-allaying. The Philadelphia Rapid Transit Co. (which operates all the trolley-cars in the city) responded to the agitation by abolishing the foul, dusty plush cushions. The city officials were inclined to resent interference with their inertia and indifference, but the criticisms began to tell to the extent that sporadic attempts at better cleaning and sprinkling of streets were made at irregular intervals.

In January, 1909, as chairman of the legislative committee of the society, I took up the work with renewed vigor. Attention was again called to the disease-predisposing and infecting dangers attaching to the actually filthy condition of the streets, and to the stupid, ill-timed, incompetent ways of attempting to clean them; a dry dabbling method of sweeping, in spots at that, with no preliminary thorough sprinkling or flushing of the asphalt pavement, and this done in daytime in the most frequented streets, causing clouds of dust to be raised to annoy and to endanger thousands of pedestrians. Also the heaps of sweepings, even when moist, were allowed to remain for hours and become dried by the sun and the wind, and usually scattered about again by air-gusts and automobiles. Public opinion began to recognize that such slipshod, lackadaisical inefficiency was due to an inexcusable irresponsibility, if not a shameless cupidity on the part of officials and contractors who could thus disregard public health.

Simultaneously I issued circular letters of queries to the mayors of some twenty-five cities of America and Europe as to the methods and results of cleaning, dust-reducing, and keeping clean the streets of their respective jurisdictions. The replies from the principal cities were tabulated and afforded a basis for a comparative study of the situation, and the results were published in the spring months of 1910 in a series of twelve articles in a few of the newspapers of Philadelphia, mostly in the *Public Ledger*. The cities reporting were twenty-one, including Philadelphia, and stated the requirements of ordinances, what was actually done and how, and with what degree of satisfaction and sanitary safety, according to official opinion. To enumerate the cities alphabetically, there were Baltimore, Buffalo, Birmingham (England), Berlin (Germany), Budapest (Hungary), Cleveland, Denver, Detroit, Dublin (Ireland), Leipsic (Germany), London (England), Minneapolis, New Orleans, New York, Paris (France), St. Louis, Stuttgart (Germany), Toronto (Canada), Vienna (Austria), and Washington, D. C. I was able to supplement these reports by personal observation in some of these cities and in Munich, Germany. To summarize:

1. In a majority of the cities where results were satisfactory, the principal cleaning was done at night, or completed before 6 o'clock in the morning.
2. Thorough sprinkling preceded sweeping. Sprinkling was also done two to four times daily in dry (non-freezing) weather to lay prevalent dust.
3. Flushing wagons or flushing from curb to curb with hose is the method used in preference to sprinkling and machine sweeping in the best cleaned cities. Indeed, sprinkling is seldom necessary where the streets are thus virtually washed two or three times weekly.
4. Hand sweeping by blockmen in day-time is always preceded by wetting with a hand sprinkler.
5. Piles of dirt are immediately removed while wet or damp in covered wagons.
6. Last, but by no means least—and the method which in my judgment is destined before long to supersede all others in street cleaning—is the dustless operation of dust and dirt removal by automobile vacuum street-cleaners, on the principle of vacuum housecleaning which is now rapidly taking the place of the old dirty, dust-raising broom and feather-duster. Recent tests of these street machines have developed the fact that in one hour as much surface can be actually cleaned as was imperfectly gone over with dusty accompaniments by horse-drawn sweepers in six hours.

It was pointed out by contrast that in Philadelphia and some other cities it was adding insult to injury to attempt to clean the streets by methods that aggravated instead of mitigated the dust evil, discomfort and danger. Sprinkling before sweeping was specified in contract but never carried out. Hence the criticism was urged that not only better means and methods needed to be adopted, but more systematic and adequate inspection and supervision of the work done and the methods specified, and a more efficient management generally by the city street-cleaning officials, whether the work was done by the government or by contractors. Otherwise, it was futile and farcical to expect a lessening of the menace of dust. The blame for dirty streets should not be placed entirely on the day laborer who may shirk his job. He is only following an example higher up.

The people were appealed to in these articles, and a public protest sought. If they were insistent and persistent in their demands for clean streets, the city government would be equally insistent in its demand on the contractors. The public was reminded that streets are the ventilating flues of cities, and as a result house ventilation depends much on the purity and quality of street air; whereas, dirty, dusty streets become above-ground air sewers instead of pure air channels.

It soon became evident that a dust-infected people was becoming discontented, and that a city healthful was of greater importance than a city beautiful; in fact, that civic cleanliness made for civic beauty and art. Taxpayers began to realize that they were not receiving an equity of public sanitary safety.

Education has been telling, and the street-cleaning authorities have been seeing a great light in Philadelphia. The methods have improved; the work is more efficiently done; flushing wagons have recently been introduced with effectiveness, but of course too few as yet, and capable of attending to no more than a half dozen of the busy down-town streets. A steady, strong fan-shaped column of water is driven laterally by the pressure of a gas-engine on the rear of the wagon so that all débris is flushed into the gutters from the middle and sides of the streets; the wagons are horse-drawn, passing in pairs, one a little in advance of the other; the streams of water being directed in opposite directions.

It is a hopeful sign of the awakening of the public to demands for civic cleanliness, that officialdom is beginning to respond in a readier performance of its duty and responsibility in safeguarding the public health and incidentally safeguarding respect for law, order and government. To avoid an insurrection of the citizenship, there must needs be a resurrection of statesmanship.

2035 Walnut Street.

BANTI'S SYMPTOM-COMPLEX

WITH REPORT OF A CASE *

J. F. HULTGEN, M.D.

CHICAGO

Patient.—A. H., aged 35, druggist, was admitted to the Englewood Hospital, Nov. 3, 1910. He is a patient of Dr. Charles Piper, through whose kindness I am allowed to study this case.

History.—Sick, or sickly, a good deal; always delicate and pale, but without history of any definite disease until eight years ago, when he contracted syphilis, for which he was treated as well as his rather free habits would permit. Three years ago he consulted Dr. Belfield, who observed the splenomegaly, and advised further energetic antiluetic therapy. The patient used tobacco moderately, and alcohol to excess at intervals; denied any drug addiction.

Examination.—Patient was a thin, icteroid, emaciated, sickly-looking man, with large abdomen, very pale visible mucous membranes and without fever. With all these objective symptoms, he seemed rather optimistic. He complained of great weakness, but no pain, vomiting, nausea, or headache. Appetite was poor; patient had diarrhea for last two or three days before admission; no hemorrhage at any time. Fingers and tongue were tremulous; speech showed some stuttering. Tongue moist, slightly furred; gums pale, yet intact. Pupillary reflexes were negative; patellars exaggerated. Quinquaud's sign present. The lungs, joints, glands and throat were negative. The heart showed a small bruit over the apex; systolic, short, not transmitted to the left; no cardiac hypertrophy, no arrhythmia. Pulse 84, of rather low tension; no basal pulmonary congestion; no edema of the legs. The abdomen was prominent, walls thin; skin smooth, but not discolored. There was a distinct bulging of the left hypochondrium, and moderate prominence of the right upper abdomen. Movable dulness; succussion thrill and ballottement of upper abdominal organs left no doubt as to the presence of a large amount of free fluid in the belly cavity. The spleen was very large, hard, moderately movable and slightly tender; its free border felt distinctly notchy. It extended to a full hand's breadth below the left costal border. The upper splenic border was at its normal level, and the organ showed no sign of ptosis. The liver was distinctly enlarged; its edge was rather dull and a trifle irregular; it was not tender to ordinary pressure. There was no special tenderness over the gall-bladder.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The urine showed no bile, no albumin, no sugar; distinct reaction for urobilin.

The blood: reds, 2,100,000; distinct poikilocytosis; no polychromatophilia, no nucleated reds. Hemoglobin, 45 per cent. (Tallquist). Whites: 2,600. Differential: polynuclears 77.8 per cent., small mononuclears 15.7 per cent., large mononuclears 4.5 per cent., eosinophils 2 per cent.

Course.—The patient gradually gained in appetite, strength and appearance. His weight began to improve slowly, hand in hand with the recession of the ascites and the diminution in size of the spleen and liver. Moderate subicterus remained. His progress may be traced graphically in Chart 1. The treatment consisted in mixed mercury and iodid of potassium medication. In April three successive doses of sodium cacodylate were given by intramuscular injection, but this arsenic therapy was abandoned because of the marked intolerance to it. Mr. A. H. had been able to attend to light professional duties and his condition on May 18, 1911, showed the following symptoms: "Subicteric, yet pale, rather thin; tremulous lips and fingers. Eats and sleeps fairly well, but tires easily and lacks ambition. No headache, no eye or ear troubles; no hemorrhages, and no pains. Ascites greatly diminished, liver and spleen just palpable. Urine shows urobilin, no bile, no albumin, no sugar; microscopically negative. Wassermann reaction (Dr. Mefford) positive.

"Blood: reds, 3,600,000; moderate poikilocytosis, no nucleated reds, no polychromatophilia; hemoglobin 90 per cent. (Tallquist). Whites, 5,300. Differential: polynuclears 57.6 per cent., small mononuclears 37.7 per cent., large mononuclears 3.8 per cent., eosinophils 0.9 per cent. No abnormal cells."

Patient was planning how he could earn more money, and a few days later he entered on a new occupation, which required considerable physical and mental exertion. After a week, his condition had aggravated again; a rather severe gastro-enteritis (*Brechdurchfall*) occurred, a slight exacerbation of the icterus without acholic stools, and fever, rather rapid pulse and severe headache. The blood-curves show the deterioration of his hematopoietic system. A few nucleated red blood-cells appeared and the poikilocytosis increased (see Chart 1). Three weeks afterward he was again improving.

INTERPRETATION OF THE ANAMNESTIC, CLINICAL AND HEMATOLOGIC FINDINGS IN THIS CASE

A man who always had been frail and sickly, without any history of purpura or of hemorrhage, contracted syphilis eight years ago and was treated for it in the usual way. His splenomegaly was recognized two years ago (Dr. Belfield). There is no history of any antecedent marked icterus. The patient's habits readily suggested alcoholic cirrhosis as a primary diagnosis, and a cursory physical examination seemed to confirm it. Repeated, careful blood-counts, however, led to further examinations, and to the recognition of a symptom-complex characteristic of splenic anemia.[1] A brief review of the clinical, pathologic and hematologic data of such cases shows at once the scarcity of diagnostic criteria.[2] Yet on serious reflection it seems to me that the splenomegaly is the central figure in the clinical picture of these anemias, and that the name of Banti's symptom-complex fits the disease better, and emphasizes better Banti's splenogenic[3] theory than any other. By this I mean to accept in their widest meaning Dock and Warthin's,[4] and Warthin's[5] finding of phlebosclerosis, and calcareous degeneration of the splenic and portal veins, which they explain as following a primary thrombosis of these blood-vessels. Theirs is the merit to have called attention to the rôle of splenic and portal phlebosclerosis as an etiologic factor in this symptom-complex, but they fail to suggest an antecedent endophlebitis as the initial lesion in this vicious circle. This seems to me more probably the case, since in the first ten days of typhoid fevers there is an almost identical blood-picture with splenomegaly, and some oligocythemia. The early generalized endothelia-cell hyperplasia, according to Mallory one of the characteristics of typhoid fever pathology, accounts for the frequent phlebothromboses occurring in these affections. The toxin-laden venous blood irritates the endothelial cells of the walls of the veins, and thus conduces to thrombosis, venous stasis, passive hyperemia, irritation of the reticulum, or stroma, or both, with subsequent disturbance of the splenic functions. The question as to whether in splenic anemia the plastic or the lytic functions of the spleen[6] are

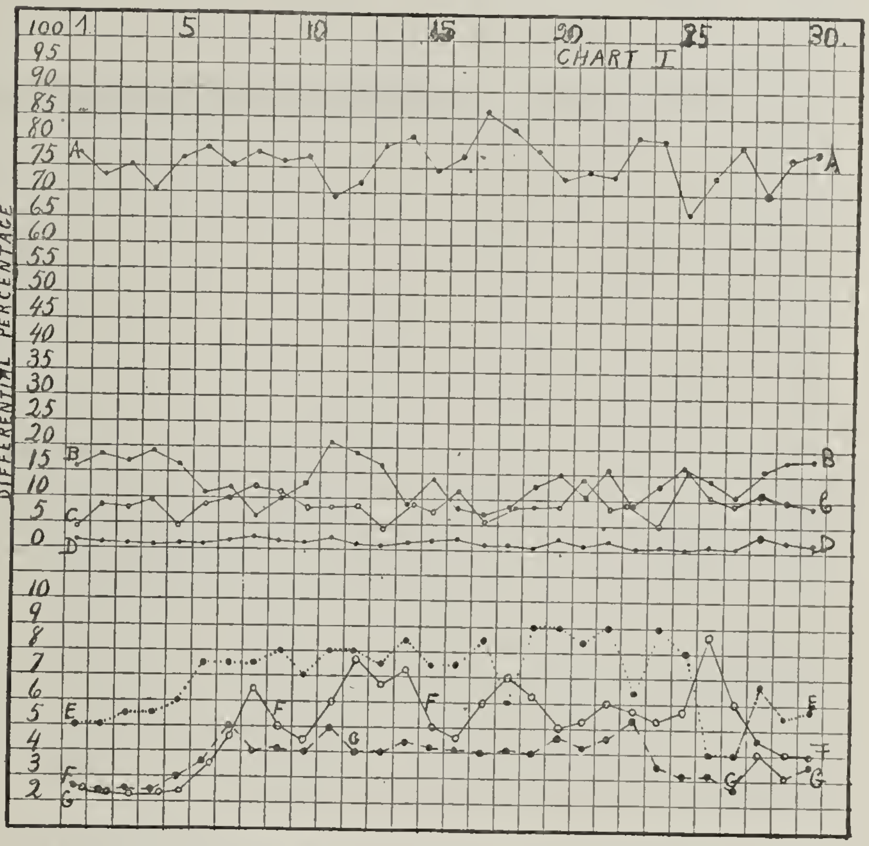

Fig. 1.—Chart showing blood-picture of splenic anemia. Thirty consecutive counts in one case. A indicates polynuclears; B, small mononuclears; C, large mononuclears; D, eosinophils; E, hemoglobin; F, total whites; G, total reds. The column to the left indicates differential percentages. Note (1) the constant parallelism between the curves of hemoglobin, white blood-cells and red blood-cells; (2) the very frequent synchronous movements, and (3) the uniformity of each curve in both charts.

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[1] Hunter, W. K.: Infantile Splenic Anemia, Lancet, Jan. 23, 1909, p. 226.

[2] Aschenheim, E.: Toxic Hemolytic Icterus with Splenomegaly, Folia hematologia, Berlin, Feb. 28, 1911, xl.

[3] Grawitz: In Schwalbe's Lehrbuch der Greisen Krankheiten, Berlin, 1909, p. 144.

[4] Dock and Warthin: Am. Jour. Med. Sc., 1904, cxxvii, 24.

[5] Warthin, A. S.: Relation of Thrombophlebitis of the Portal and Splenic Veins to Splenic Anemia and Banti's Disease, Internat. Clin., 1910, iv, 188.

[6] Arneth, J.: Diagnose und Therapie der Anemien, Würzburg, 1905, p. 113.

individually or jointly involved cannot be settled as yet, but the study of the foregoing shows that the curves of the red blood-corpuscles, of the hemoglobin, and of the total leukocytes show distinctly parallel and mostly synchronous movements. This, I can interpret, not as signs of hematolysis, but of a slow or bradyplastic hematopoiesis, as a disturbance of the entire blood-forming system. The splenomegaly is due to an active irritative inflammation of Malpighian bodies and of the stroma. Bradyhematopoiesis is, in my opinion, the underlying hematologic basis of the Banti symptom-complex. It is sluggish production of blood, due to antecedent impoverishment of the blood-forming tissues, especially of the spleen, that we have to deal with here, not an anhematopoiesis as Auburtin[7] thinks. Splenic anemia is not an objectionable term, Naegeli's[8] and others' opinion notwithstanding; it designates a symptom-complex which is more closely akin to pernicious anemia[9] than to leukemia.

The fact that splenic endophlebitis in my case is of luetic nature, as in that of Willy Schmidt's,[10] or of kala-azar spirochetic origin, as in Marchand's case,[1] should in no way prevent us from considering the splenomegalic anemia as a clinical entity, just as a nephritis retains its identity no matter what its etiology may have been. It is hardly probable that splenic anemia may be a dormant leukemia.[12] On the contrary, I believe it to be the last stage of an extinct leukemia, hence its lack of permanent recuperability, and its striking rarity in children. My charts show that at no time during the course of splenic anemia does the blood become normal in all of its ingredients; either the erythrocytes, leukocytes or the hemoglobin are subnormal, singly or together (see charts). Reasoning *a priori*, Banti's disease must be rare in childhood, on account of the resiliency of the hematopoietic system in children. In fact, Weil and Clerc never saw a case of this in a child.[13] The same hematopathic cause would produce in a child an anemia infantum pseudoleukemica of von Jaksch. If, then, the Banti symptom occurs so rarely or not at all in childhood, it is well to add that a von Jaksch anemia in a child is the equivalent of a splenic anemia in the adult for reasons detailed above. It must, however, be kept in mind that a strict clinical or hematologic separation from another of primary blood-diseases is often impossible. Their relation is often close and plainly evident, as can be seen from the following short classification of the generalized primary affections of the hematopoietic system. These I have divided according to their essential hematology, and subdivided according to their etiology and clinical course.

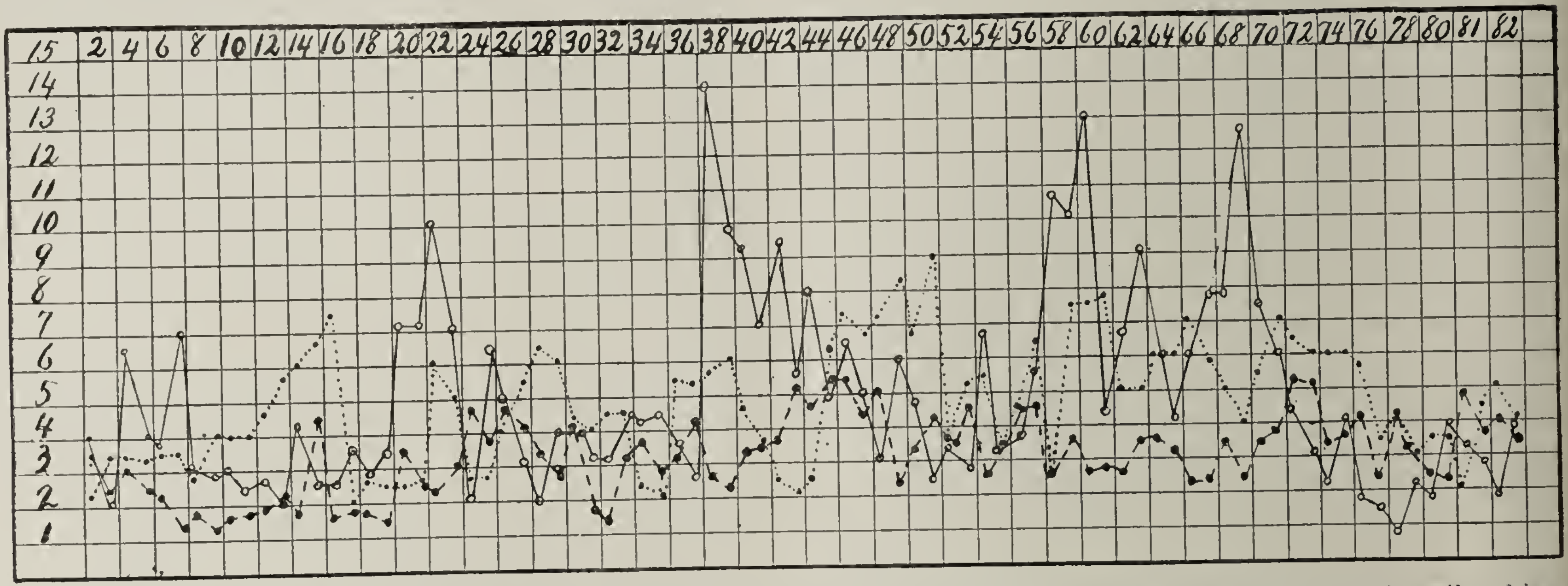

Fig. 2.—Chart showing eighty-two hemoglobin, total red and white counts determined from the literature. Line of small and large solid dots indicates hemoglobin; in percentage units broken line with solid dots, total red blood-cells, in million units; solid line with hollow dots, total white blood-cells, in thousand units. Notice that the blood-picture of Banti's symptom-complex remains pathologic throughout, in one or more of its ingredients.

CLASSIFICATION

1. Polycythemias: With splenomegaly.
   Without splenomegaly.
   - *a.* Idiopathic, primary (Vaquez).
   - *b.* Secondary.
2. Anemias.
   - *a.* Idiopathic, primary, essential (Addison).
     Plastic.
     Hyperplastic.
     Aplastic.
   - *b.* Secondary, pernicious, progressive (Biermer).
     Plastic.
     Hyperplastic.
     Aplastic.
3. Ictero-anemias.
   - *a.* Acquired, hemolytic (Widal).
   - *b.* Congenital (Minkowski-Chauffard).
   - *c.* Congenital,[14] family-type (Gaucher).
4. Splenic anemias (Griesinger).
   - *a.* Primary, splenomegalic or Banti's disease.
   - *b.* Secondary, splenomegalic, kala-azar malarial, syphilitic, etc.
   - *c.* Leukanemia (v. Leube), combining the features of pernicious anemia and leukemia, alternately or conjointly.
5. Pseudoleukemias (Cohnheim) or aleukemias.
   - *a.* Anemia infantile, pseudoleukemic (v. Jaksch).
   - *b.* Lymphatic, idiopathic, pseudoleukemia or Hodgkin's disease.
   - *c.* Secondary, tuberculous, lymphatic pseudo-leukemia or Sternberg's disease.

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[7] Auburtin, Charles: Les anémies par anhématopoièse, Semaine méd., March, 1910, p. 337.

[8] Naegeli, O.: Diagnostik des Blutes und der Blut-Krankheiten, 1908, p. 395.

[9] Hill, R. A. P.: Splenic Anemia and Hemochromatosis, St. Barth. Hosp. Rep., London, 1909, liv, 43.

[10] Schmidt, Willy: Banti's Diseases with Heredo-Syphilis, München. med. Wchnschr., March 21, 1911, No. 12.

[11] Masuda, Niro: A Case of Banti's Disease, etc., Med. Klin., Jan. 15, 1911, p. 104.

[12] Hirschfeld, H.: Banti's Disease, Deutsch. Klin., 1909, p. 324.

[13] Weil and Clerc, in Hutinel's Maladies des Enfants, Paris, 1909, p. 411.

[14] Brill, Mandelbaum and Libman: Primary Splenomegaly of the Gaucher Type, Am. Jour. Med. Sc., 1909, cxxxvii, 84.

6. Leukemias (Virchow).
    a. Lymphocytic: Small.
        Large, or Rieder form.
    b. Myelocytic.
    c. Polynuclear.
    d. Mixed.
    e. Chloroma: Lymphocytic.
        Myelocytic.

The above classification of primary blood-diseases is intended to give a general comprehensive view of the generic relationship between all of them. It will also show the central position of splenic anemias, between those primary blood-affections involving the erythrocytes exclusively, mainly or partially, and those involving the leukopoietic tissues, such as the leukemias and pseudoleukemia. It is evident that the spleen plays an active rôle here[15] and not a neutral one. In point of frequency, Banti's disease holds a middle place as can be learned from my statistics, from cases seen in consultation or in my private practice from October, 1904, to June 20, 1911. Of thirty-nine cases of primary hematopathic diseases, there were thirteen of pernicious anemia, eight of splenic anemia, eight of leukemia, six of infantile pseudoleukemic anemia (von Jaksch), two cases of acquired hemolytic icterus, one case of Sternberg "peculiar" lymphatic tubercular pseudoleukemia, and one case of leukanemia. About 20 per cent., or eight out of thirty-nine primary blood-affections in my practice were of the Banti symptom-complex.

Its course is of intermittent character, as first observed by Strumpell.[16]

The diagnosis rests on the presence of the splenomegaly, the anemia with leukopenia, and the ascites. Any case with hematologic findings leaning repeatedly toward leukemia should not be included under splenic anemia. The prognosis as to life in Banti's symptom-complex is fair when the blood-picture occupies and retains its central position, but becomes rapidly bad in the proportion as it recedes from its center to one or the other extreme.

The therapy of splenic anemia, to judge from my case, should be conservative, although Sutherland and Burghard, as well as Banti,[17] were in favor of splenectomy. The undoubtedly generic nature of this symptom-complex calls for further study of the mechanism of the various hematopathic findings. The parallelism and synchronicity of the erythrocytic, leukocytic and hemoglobin curves, the absolute fatality of the disease, the intermittent and very chronic course of the affection argue not for an infectious process, but for a cause organic and anatomic in nature, and of unknown origin.

5037 South Ashland Avenue.

Any Old School Will Do.—The following letter sent to a physician connected with a medical school, was published in the *Rush Alumni Association Bulletin:*

> Dear Sir:—Pleas send me the names of all the medical colleges in Chicago. I am practicing medicine under the twenty year law that is I had been practicing twenty years when the law was passed for all Dr to hold a deploma only those who had been practicing twenty years. it is not necessary that I should have a deploma but still I would like to have one before I die. I feel like I have some money to spair. My home is in .... whar men dont accumulate money very fast.
>
> A deploma from any school will do me for I wont practice mouch more I only want it through curiosity and to take back home with me and I trust that you will let me hear from you and any favor you can show me will be appreciated and well paid for.

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[15] Lewis, M. J.: Splenic Anemia, Splenectomy, Recovery, etc., Am. Jour. Med. Sc., August, 1908, p. 157.

[16] Mossler: Pseudoleukemia Splenica, in Ziemssen's Handbuch der speziellen Pathologie und Therapie, 1878, viii, 110.

[17] Sutherland and Burghard: Treatment of Splenic Anemia by Splenectomy, Proc. Roy. Soc. of Medicine, January, 1911, iv, 58.

THE PATHOGENESIS OF CARDIAC HYPERTROPHY AND MYOCARDITIS *

LEO LOEB, M.D., and MOYER S. FLEISHER, M.D.
ST. LOUIS

In several former papers[1] we described a simple method which permitted us with great certainty to produce a combination of hypertrophic and myocarditic changes within a relatively short time in the heart of the rabbit. At the same time we suggested an explanation of these phenomena without, however, going into any detailed discussion regarding the basis for our theoretical conceptions. Inasmuch as it appears to us that the principle underlying our explanation of the phenomena observed in the rabbit may, perhaps, be extended to the pathology of the heart in man, we believe that a somewhat more detailed discussion of our theory might be of advantage.

The method employed by us in the production of hypertrophic and myocarditic changes in the heart of rabbits was, briefly, as follows: We injected into the ear-vein of a rabbit a single small dose of epinephrin (0.2 c.c.) preceded by spartein sulphate or caffein sodium benzoate. We found macroscopic changes in the heart muscle a few days after the injection, which, however, were most marked ten to fourteen days after the injection. Shortly after the injection slight interstitial edema was found in the heart, and somewhat later the muscle fibers showed slight increase in size. Several days after the injection, the muscle fibers were distinctly increased in size and their nuclei were also larger; the connective tissue between the muscle fibers was increased in quantity.

In the next few days the changes became more pronounced. The separation of the muscle fibers due to edema was now marked. In places we found degenerative changes in the muscle fibers; some of the fibers appeared to have been dissolved, only a thin ring of muscle substance surrounding the nucleus; the striations were now indistinct in the fibers.

About two weeks after the injection the changes had reached their maximum. The connective tissue increase was diffuse. The degenerative changes in the muscle proper had become more extensive. Besides a larger number of the muscle fibers and their nuclei were increased in size, and frequently double nuclei were seen in the muscle cells.

From this period onward the changes became less marked, both macroscopically and microscopically. The hypertrophy of the muscle fibers and muscle nuclei gradually disappeared; the degenerative changes were no longer apparent. Finally, twenty weeks after the injection, small islands of fibrous tissue which had supplanted the degenerated muscle fibers were the only remaining evidences of the hypertrophy of the heart and myocarditis.

The explanation which we offered was based on certain experiments carried out on striated muscle by several investigators.

Ranke,[2] who studied the influence of tetanic contraction on muscles, found that muscles tetanized by either strychnin or a galvanic current showed an increased content of water. This larger percentage of water he considered to be due to increased imbibition and decreased resistance to the passage of water into the muscle. This change in the water content of the muscle was supposed to be due to an increase in dissociated products within the cells caused by the activity of the muscle.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Department of Pathology of the Barnard Free Skin and Cancer Hospital.

[1] Fleisher and Loeb: Arch. Int. Med., February, 1909; 1910, vi, 427; Centralbl. f. Path., 1909, xx, 104; The Journal A. M. A., 1909, liii, 1561.

[2] Ranke: Tetanus, Leipsic, 1865.

Cooke[3] later found that in tetanized muscles, in muscles fatigued by carrying a load, or even muscles which had been exposed to a single electric shock, the osmotic pressure was increased, such muscles taking up water from a solution hypertonic to normal resting muscles. This author further showed that this increase in osmotic pressure was not due to the electric stimulation as such, nor was the taking up of water due to the stretching of the interstitial spaces.

Fletcher[4] obtained results which, in the main, were similar to those of Cooke. He found that fatigue increased the osmotic pressure of muscles, but his findings differed from those of Cooke, as far as the subsequent curve representing the movement of water into the muscle and the influence of various strengths of solutions on the rate at which fluid was taken up were concerned.

In regard to the principal fact, namely, the taking up of water by fatigued muscles, and in regard to the increased osmotic pressure of fatigued muscles, the three authors mentioned were in agreement. On the basis of these facts and other observations which had proved that the growth of plant cells depends on an increase in turgor, and that also the growth of cells in lower animals depends on an increased taking up of water, J. Loeb[5] explained the hypertrophy of muscles resulting from increased work as due to the taking up of water following catabolic processes in the muscle leading to an increase in osmotic pressure. He also suggested that hypertrophy under pathologic conditions, in which no increased activity had preceded the hypertrophy, might be explained in a similar manner.

We assumed that as a result of the excessive work done by the heart muscle following the injection, the osmotic pressure of the muscle and consequently the movement of water into the muscle fibers was increased. After the period immediately following the injection, the conditions in the experiments performed with striated muscles *in vitro* differ from the conditions prevailing in our experiment. In the former case, the muscle was kept *in vitro* under abnormal conditions and the fatigued muscle no longer performed any work. In our experiments the muscle remained in the body, was perfused with normal blood and continued to perform work. These differences might explain the further changes found in our experiments.

We must assume that the continued work of a muscle that has taken up an abnormal amount of water may lead to further taking up of water and to processes of vacuolization and solution in some muscle fibers. This excessive effect may, therefore, lead to degenerative changes. The primary interstitial edema and perhaps the stretching of connective tissue fibers may lead to the early increase of interstitial tissue, which we found—the later increase in connective tissue being secondary to the parenchymatous changes in the muscle fibers. The increase in connective tissue and consequent shrinking of the fibrous tissue causes pressure on the muscle fibers and may thus lead to secondary parenchymatous changes in the latter.

Before we proceed further, let us consider in what other way it might be possible to explain the facts observed by us experimentally. First, it might be assumed that epinephrin causes changes in the heart, not through its action on the heart muscle, but by causing a contraction of the coronary vessels, thus indirectly interfering with the nourishment of the myocardium. Some facts might be cited in favor of such an interpretation. In the first place, it is well known that epinephrin causes a constriction of small arteries. It is also an established fact that a partial or complete occlusion of the coronary vessels produces degenerative and fibrous changes in the heart muscle. Plausible as this explanation may appear, it does not seem to us to be tenable. In the first place, the experimental evidence points very strongly to the conclusion that epinephrin does not cause a constriction of the coronary vessels.

Schaefer,[6] who studied the outflow of blood from the coronaries, was unable to demonstrate any influence of epinephrin on these vessels. Langendorff[7] found that this drug caused dilatation of cut-out strips of the coronary vessels of sheep and his results were confirmed by Pal;[8] DeBonnis and Susanna[9] also confirmed these results. They found dilatation of strips of coronary vessels in the majority of their experiments, in a few experiments, however, no influence of epinephrin being evident. Wiggers,[10] who studied the rate of outflow of blood from the coronaries in the resting heart, concluded that epinephrin caused contraction of the coronary vessels. Bond[11] and Campbell,[12] however, have been unable to demonstrate a constricting influence of this drug on the coronary vessels.

In view of the results of the large majority of these investigators, it is very probable that epinephrin does not cause a constriction of the coronary vessels, and that accordingly, it cannot interfere with the nutrition of the cardiac musculature.

We may, therefore, conclude that epinephrin does not cause a constriction of the coronary vessels, and that there exists no basis for the assumption that epinephrin produces myocarditis through its action on the coronary vessels. There are other facts which likewise seem to us to preclude such an interpretation. In the first place, whenever myocarditic lesions exist as a result of occlusion of the coronaries, the region near the apex is affected much more frequently than the base, while the lesions caused by epinephrin are almost exclusively found at the base of the ventricle.

Furthermore, the character of the lesion does not seem to us to be compatible with such an origin. After an acute occlusion of the coronary arteries infarct-like changes are found; at a later period fibrous tissue takes the place of the injury; while in our experiments the primary changes consisted in an increase in volume of the fibers and in the number of muscle nuclei accompanied by an increase of connective tissue.

A direct toxic action of epinephrin on the heart muscle has also to be considered as a possible explanation, especially as it is very probable that the necroses found in the media of the aorta after numerous injections of epinephrin are due to a direct toxic action on the media of the vessel, and, indeed, one of us[13] upheld such an interpretation on a former occasion. Especially might such an interpretation appeal to us in cases in which, after repeated injections of epinephrin, degenerative changes are found both in the aorta and heart. Here it might be held that a toxic action has been exerted on both organs. Nevertheless, it seems to us that this explanation is not applicable in the case of our experiments, in which, after one single injection of epinephrin, marked changes were found in the heart muscle.

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[3] Cooke: Jour. Physiol. 1898, xxiii, 137.
[4] Fletcher: Jour. Physiol., 1904, xxx, 414.
[5] Loeb, J.: Arch. f. d. ges. Physiol., 1894, 106, 270.
[6] Schaefer: Arch. d. sc. Biol., Suppl. Festschr. f. Pawlow, 1904, 251; Centralbl. f. Physiol., 1904, xviii, 817.
[7] Langendorff: Centralbl. f. Physiol., 1907, xxi, 551.
[8] Pal: Wien. med. Wchnschr., 1909, 109, p. 138.
[9] DeBonnis and Susanna: Centralbl. f. Physiol., 1909, xxxiii, 139.
[10] Wiggers: Am. Jour. Physiol., 1909, xxiv, 391.
[11] Bond: Jour. Exper. Med., 1910, xii, 575.
[12] Campbell: Quart. Jour. Exper. Physiol., 1911, iv, 1.
[13] Loeb and Githens: Am. Jour. Med. Sc., 1905, cxxx, 658

Again, the situation of the lesion at a place where the muscle fibers are exposed to the greatest strain after injection of epinephrin, as well as the character of the lesion in which degenerative processes in the parenchyma are not the principal changes, seem to us to make such an explanation unsatisfactory, although we do not wish to exclude a direct toxic action of epinephrin as a contributing factor. It seems to us, therefore, that in the case of the experimental lesions of the rabbit, the theory advanced by us is the most satisfactory.

We conclude, then, that mechanical strain with its physico-chemical sequels is responsible for both the cardiac hypertrophy and myocarditic changes in the rabbit's heart.

Let us now briefly consider how far our observations and theoretical considerations are applicable to certain pathologic conditions found in man. Here, also, we find a combination of hypertrophy of the heart muscle and interstitial changes, especially increase in connective tissue in a similar manner as in the experimental lesions of the rabbit. Sometimes, the hypertrophy represents by far the more important change; at other times, the connective tissue increase is quite marked. Accordingly, these conditions are designated as hypertrophy of the heart muscle and as chronic myocarditis. In most cases, a combination seems to be present, and it is doubtful whether a sharp division between these two conditions can be maintained.

The same combination of changes is found in the experimental lesions of the heart of the rabbit. Here are noted, just as in the human heart, certain nodular areas of connective tissue overgrowth, especially at somewhat later stages, at a time when the acute lesions have retrogressed to a great extent. In the rabbit's heart we find this condition as the result of strain. The same holds good, to a great extent, in the case of the human heart. We find these changes in persons in whom the heart has to do excessive work in order to overcome increased resistance as in cases of valvular lesions, arteriosclerosis, kidney lesions. It is also possible that in cases in which, under the influence of bacterial or non-bacterial poisons, apparently a dilatation of the heart is primary, the subsequent hypertrophic and myocarditic changes owe their origin to the increase in work to which such hearts are subject in consequence of the dilatation.

There exist, however, some differences between the conditions found in the rabbit's heart and in hypertrophy and myocarditis in man. In the former, the parenchymatous degenerative changes in the muscle cells are more prominent than in the latter. This difference is, perhaps, due to the acuteness of the change in the heart and to the excessive strain, extending over a brief period only in the rabbit, while in man the strain is more chronic, extending over a long period and is usually less at any given time. In the latter we might, therefore, expect the hypertrophic and interstitial changes to prevail. We have, however, seen that also in the case of the rabbit the degenerative parenchymatous changes disappear relatively rapidly, leaving merely some fibrous bands. We may, therefore, assume that in man degenerative parenchymatous changes which perhaps existed at given times—and such changes are occasionally found in cases of hypertrophy—will heal within a brief period of time, leaving behind fibrous nodular bands.

Some pathologists ascribe the cardiac hypertrophy proper to the increased strain, while they interpret the interstitial changes as invariably due to the malnutrition of the muscle, caused by partial or complete occlusion of the coronary vessels. We have shown that in the case of the rabbit's heart in which changes are found similar to those in the human heart, the occlusion of the coronary vessels cannot be held responsible for the myocarditic changes. There we have a uniform cause leading to both hypertrophy and myocarditis. It seems to us that these facts suggest a similar uniform pathogenesis in many cases in which hypertrophy of the heart and myocarditis are combined in man. This, of course, does not exclude the possibility that in other cases partial occlusion of the coronary vessels is responsible for myocarditic changes, nor does it exclude the possibility that toxic substances may likewise cause myocarditic changes.

We believe that attention ought to be drawn to the similarity existing between the experimental lesions in the rabbit's heart and a large class of lesions found in the human heart, and that a similar pathogenesis may be suggested for both sets of conditions, the cardiac hypertrophy and the myocarditic changes.

DIFFUSE SEPTIC PERITONITIS FROM APPENDICITIS

STATISTICS OF 194 CASES

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To November, 1910, there came under my care 194 patients with diffuse septic peritonitis from appendicitis of whom 138 recovered, a recovery percentage of 71, and fifty-six died, a mortality percentage of 29. In this series there were at times as many as fifteen consecutive cases without a death. All patients were operated on except six who were actually moribund. An attempt has been made through a study of the 188 cases with operations to reach some conclusion as to the value of the different methods of treatment in diffuse septic peritonitis following appendicitis. It is interesting to note that in eighty-three cases in which treatment consisted of the administration of fluids by mouth, saline enemas every three or four hours, with the Fowler position, sixty patients recovered, a recovery percentage of 72.3, and twenty-three patients died, a mortality percentage of 27.7. In a series of thirty-nine patients treated by the elevated head and trunk position, the administration of fluids by mouth and nothing by rectum, thirty patients recovered, a recovery percentage of 76.9, and nine died, a mortality percentage of 23.1. Combining the statistics in these two series we have a series of 112 cases in which the elevated head and trunk position was used and fluids were given by mouth; eighty-three of the patients received enemas and thirty-nine nothing by rectum. Of these patients thirty-two died, showing a recovery percentage of 72. Comparing these three sets of figures it would seem that the administration of fluids by rectum had little if any influence on the after-course.

In fifty-eight cases in which the so-called ideal treatment was employed, that is, the Fowler position, nothing by mouth and Murphy proctoclysis, thirty-nine patients recovered, a recovery percentage of 65.5, and nineteen died, a mortality percentage of 34.5. Comparing the cases (in all of which the patients were treated by the elevated head and trunk position) in which nothing was given by mouth and those in which fluids were administered irrespective of what the rectal treatment was, there were seventy-two patients who had nothing by mouth, of whom forty-eight recovered, a recovery percentage of 66⅔, while of 122 patients who were given fluids ninety recovered, a recovery percentage of 73.5.

Statistics, if valuable at all, are only valuable when a large number of cases treated along certain lines are considered. These cases were all cases of diffuse septic peritonitis from appendicitis in which on opening the abdomen there was an immediate spurt of pus under tension, not from a localized abscess, but from a general diffusion of the infected fluid. The patients were sick for variable lengths of time. There is but one certain conclusion that can be drawn from the consideration of these cases, and that is that the mortality is much less than was the case before the elevated head and trunk position was employed. As regards additions to this treatment, such as the withholding of all nourishment by mouth or the giving of saline per rectum, these statistics would seem to show that such additions to the original treatment are immaterial. Yet in spite of this apparently logical conclusion I believe that the ideal treatment, i. e., the Fowler position, the keeping of the stomach empty by withholding all nourishment, or if the stomach fills through retroperistalsis, by lavage with siphoning dry of the stomach, and the administration of saline by the Murphy method of proctoclysis, should be carried out in the majority of cases. In addition I would suggest that a culture be taken at each operation and a vaccine be immediately prepared and given. In two cases recently in which this was done both showing infection by colon bacillus the results seemed to be better than in cases not so treated. This, of course, will require further confirmation. It can be stated with certainty, however, that the result does not depend on the treatment, except that the elevated head and trunk posture has proved efficacious, but to a great extent on the virulence of the infection and the period of time it has been at work.

The element of time plays the most important rôle and is the chief reason why statistics vary when apparently the same method of treatment has been carried out, though the virulence of the infection must also be considered.

In this series of 188 cases of operation in which the duration of the attacks was made a matter of record the following table has been compiled showing the recovery percentage in relation to the duration of the attack. The first column of percentages indicates the recovery percentage in all cases up to the end of the period marked in the first column of the table; the second column of percentages shows the recovery percentage for patients operated on in the period indicated in the first column of the table, i. e., in the first forty-eight hours, eighty-five patients were operated on, fifteen of these in the first twenty-four-hours period, showing a recovery percentage of over 81, while the omission of these fifteen cases gives a recovery percentage of over 77 for those patients operated on in the second twenty-four hours.

RECOVERY IN CASES CLASSIFIED ACCORDING TO PERIOD OF OPERATION

Period of Operation	Number of Cases	Recovered	Recovery % in All Cases	Recovery % for the Period
24 hours	15	15		100
48 hours	85	69	81+	77+
72 hours	122	96	78+	72+
96 hours	153	117	76+	67+
120 hours	174	126	72+	42+
144 hours	177	128	72+	66+
1 week	181	130	71+	50
8 days	182	131	71+	100
10 days	183	131	71+	0
12 days	184	131	71+	0
2 weeks	187	133	71+	66+
3 weeks	188	133	70+	0

301 DeKalb Avenue.

A SOURCE OF ERROR IN THE TEST FOR OCCULT BLOOD IN THE FECES *

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Since the recognition of the frequent occurrence of duodenal and gastric ulceration and the subsequent change in many of our views concerning what was formerly referred to as "gastric" and "intestinal" indigestion, the test for occult blood in the feces is more commonly used and has proved its value in aiding to differentiate various digestive disorders. Owing to the prevailing custom of using either the turpentine-guaic or the peroxid-of-hydrogen-guaic test for the presence of occult blood, it seems of importance to point out any possible and probable source of error in the interpretation of the color reaction as found in the chemical examination for blood in the feces.

It is well known that the ingestion of bloody meat, of iron as a medicine and of certain starchy foods will sometimes give a slight color reaction when testing for occult blood, but I have never read or heard mentioned a source of error that I recently discovered. During the examination of a patient suspected of having a duodenal ulcer, the patient made the statement that he was passing blood by the bowel. There was but slight evidence of any local bowel irritation and little in the patient's history to point to the presence of a duodenal ulcer. A specimen of the feces was obtained and superficially it did appear that there was blood mixed with the stool. The guaic-turpentine test gave a deep blue color, but a microscopic examination of the liquid feces failed to reveal any blood-cells although the deepness of the color reaction in the chemical test indicated a quantity of blood. A careful microscopic examination of the feces revealed the presence of minute portions of material that resembled blood but which proved to be watermelon pulp.

It then occurred to me that the coloring matter of the melon pulp might give the characteristic chemical test for blood and an experiment proved this to be true. It was also found that the expressed juice of the melon gave a similar color reaction but in the latter experiment the color did not prove to be so dark a blue as when the pulp of the melon was used.

As watermelon is so common an article of food during the heated season, there must be many persons, both invalids as well as healthy individuals, who, if their feces were subjected to a chemical test for blood, would give a definite blue-color reaction because of the coloring matter of this fruit.

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* From the laboratories of the Out-Patient Department, Jefferson Medical College.

DEEP PERINEURAL INJECTIONS OF BETA-EUCAIN SOLUTIONS IN SCIATICA

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It is not my wish, in reporting these few cases, to claim any originality in the treatment of sciatica with beta-eucain solutions, as a complete report of similar cases has been made by D'Orsay Hecht.[1] Also J. Lange[2] reports marvelous results in eleven cases, and it was his method that I followed as closely as possible in the few cases that I have to report. The technic which was used in the first case reported below was used in all the following cases, so I shall avoid repetition.

Case 1.—Jan. 10, 1906, I was called to J. D., an Austrian laborer, aged 28; he said he had been suffering from sciatica for about six months. When first seen he was unable to walk; he had been bedridden for two months. I had him removed to Trinity Hospital and, with Dr. Arthur Hoyer, who was then intern, injected 100 c.c. of a solution, made by dissolving 2¼ gr. of beta-eucain in 100 c.c. of normal salt solution. The injection was made—after rendering the parts aseptic—at the gluteal fold, midway between the tuberosity of the ischium and the great trochanter, using a large 50 c.c. syringe and a good, stout needle about 3 inches in length. The needle was passed upward and slightly inward, and on depositing a few drops of the solution the parts became deadened to the pain of the needle on its way to the great sciatic nerve. As the point of the needle reached the nerve there was a distinct shudder or twitch of the leg, indicating that we were in the right path, also there was resistance to the point of the needle as it passed through the outer sheath of the nerve. Then we deposited slowly the contents of the syringe, after which we unscrewed the barrel from the needle and, leaving the needle *in situ*, refilled the barrel, attached it again to the needle and deposited the other 50 c.c.

The result was surprising; the patient, who had been in bed for two months, afraid to move for fear of the excruciating pain accompanying motion, rose from the operating table and walked in a sprightly manner from the fifth floor to the third floor of the hospital. He did not go back to bed again but walked around the ward with the other convalescent patients; but after three days he began to complain of pain in the calf of the leg again. Five days after the first treatment, we repeated the treatment with the same good result. He left the hospital a few days after the last treatment and reported to me twice a week for nearly two months. I have seen him at different intervals since and he has had no return of his sciatica.

I have been able to get only five other patients to submit to the treatment, three of whom were cured, or have had no return of sciatica for a year following the treatment, nor up to the present, as far as I know. The two remaining patients were benefited at the time, but would not submit to a second injection. In all the cases here reported the patients had been suffering from one week to six months.

Case 2.—Adam M., aged 29, tanner, suffering from sciatica for five weeks; two weeks in bed. Feb. 20, 1907, I injected 100 c.c. of beta-eucain, solution 1 to 1,000, into great sciatic nerve. Relief was instantaneous and patient got out of bed the same day; relapse set in about two weeks later. I repeated the treatment with resulting cure.

Case 3.—W. T., colored waiter, aged 48. March 15, 1908, injected 100 c.c. of the solution, as described, into sciatica nerve. The patient was relieved of the pain instantaneously, but did not have the use of the left leg for about three days. After considerable massage he was able to move around. This case alarmed me for a while, as I thought the patient had developed paralysis after the injection. His pain returned when he recovered the use of his leg. I repeated the treatment and while he complained for a time of being "weak" in the left leg, he had no return of the sciatica. I have seen him a number of times since and he has had no trouble with his legs.

Case 4.—A. G., aged 42, laborer; lived in a very cold house; slept between two feather beds. I was called to this patient Feb. 20, 1910, and found him with an acute case of sciatica. I used the injection on him Feb. 21, and was obliged to repeat at weekly intervals four times before I got a cure. He would get relief for two or three days, but the pain would return. I also had to resort to the hypodermic several times in this case.

Case 5.—H. H., brewery hand, aged about 40; called at my office, Nov. 20, 1910, with sciatica of two months' standing. I injected 100 c.c. solution beta-eucain; the patient stated that his pain was relieved instantly. He left the office and I have not seen him since; I do not know if he had any return or not.

Case 6.—P. O., laborer, called at the office, March 16, 1911, suffering from sciatica. I used 100 c.c. beta-eucain solution. He obtained some relief, but returned March 21, saying that he was worse than ever. He refused a second injection and asked for medicine. I gave him aspirin and codein, but have not heard of him since.

I believe, with Dr. M. R. Barker, that sciatica is at first a neuralgia, but later becomes a neuritis, with adhesions between the nerve-sheath and the nerve-substance; this brings about a contraction and thickening of the nerve-sheath; so when a large quantity of solution is forced into the nerve there is an expansion of the sheath and a breaking up of the adhesions. In addition, we have the anesthetic effect of the beta-eucain.

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[1] Hecht, D'Orsay: The Journal A. M. A., Feb. 6, 1909, p. 144.

[2] Lange, J.: München. med. Wchnschr., Dec. 27, 1904

A NEW TONSIL HEMOSTAT

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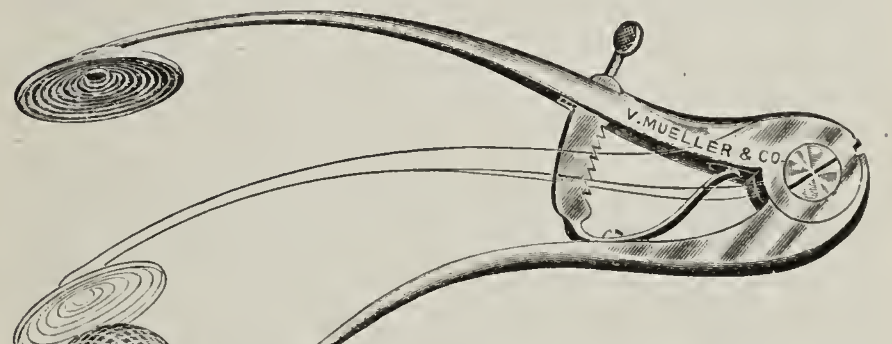
The free hemorrhage that occurs in tonsillectomy under general anesthesia suggests the routine use of mechanical hemostasis, as logically indicated to prevent needless loss of blood in all cases and to secure a nearly bloodless field while the second gland and the adenoid are excised.



A new tonsil hemostat.

The accompanying illustration shows a tonsil hemostat which I have devised and found most satisfactory in every respect after experimenting with several instruments already on the market. This contrivance is best used in pairs, though each instrument is applied on either side of the throat with equal facility. Several layers of gauze are attached to the bulbous extremity of the inner arm; the outside arm carries a disk for counter pressure. The spring ratchet makes adjustment easy for removal or for inserting the instrument, and when both hemostats are in place, excision of the adenoids is not interfered with because the arms are formed to follow the buccal curve. Removal of these instruments one at a time enables the operator to handle any persistent hemorrhage that may follow, by use of long hemostatic forceps for torsion or ligation when needful.

A NEW CONCEPTION OF IMMUNITY

ITS APPLICATION TO THE CULTIVATION OF PROTOZOA AND BACTERIA FROM THE BLOOD AND TO THERAPEUTIC MEASURES *

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Lysis of protoplasm, either protozoal or bacterial, by the body fluids depends on two substances: (1) amboceptor, which is generally specific, but may sometimes be common, and (2) complement, which is common with reference to antigen, but is more or less specific with reference to the source of amboceptor. This complement in man's serum is more active with specific amboceptors in man's serum than with specific amboceptors in the serum of other animals.

When a foreign protoplasmic substance, protozoal or bacterial, is introduced into the tissues of man, specific amboceptors develop and may be demonstrated in the body fluids, especially in the blood-serum. These amboceptors are capable of dissolving large quantities of the same kind of protoplasm in the presence of sufficient complement, but are inactive in the absence of complement. Amboceptors are not destroyed by moderate heat (56 C) or by considerable age.

Complement acts with specific amboceptors to dissolve and destroy large quantities of protoplasm in the presence of specific amboceptors against the particular protoplasm, but it is inactive in the absence of such amboceptors. Human complement capable of acting with human amboceptor to produce lysis, though generally supposed to require at least moderate heat to inactivate or destroy it, as a matter of fact is destroyed by any temperature above normal body temperature (37 C) and with a rapidity depending on the temperature. A temperature at 40 C. (104 F.) destroys the complement in human serum in from fifteen to thirty minutes, and prevents lysis regardless of the amount of amboceptor employed.

Freshly drawn human blood contains little or no complement capable of acting with human amboceptors, but under favorable conditions it develops at a variable rate and in varying quantities depending especially on the temperature at which the blood is kept. The most favorable temperature is considerably below body temperature. No human specific complement develops at ordinary fever heat, 38 to 40 C. (101 to 104 F.), such as obtains locally and often generally in most inflammations. Bacteriolysis or protozoalysis, by far the most important of the known protective processes of the body fluids of man through which the specific infecting organism should be destroyed, is thus prevented by the local or general temperature regardless of the amount of amboceptor present.

In the event that human complement has developed in a blood (which it does under favorable conditions within a few hours), it increases in amount for a time. Then it again disappears in from thirty to seventy-two hours according to various conditions.

When an individual is infected with the malarial plasmodium, *Spirochæta pallida*, the bacillus of typhoid, etc., his blood soon contains large amounts of amboceptor against the infecting organism. If such blood is drawn and employed as a blood-culture in the usual manner and at a temperature at or below 37 C., complement develops within a few hours and acting with the specific amboceptor destroys the organism and prevents successful cultivation. This is the explanation for the many negative typhoid blood-cultures in the latter part of the disease when much amboceptor is present, while cultures in the first few days are generally successful. This may be obviated to some extent by employing special media like bile, which prevents the development of complement. The same result can be obtained by placing the culture immediately at a temperature that will prevent the formation of complement and yet not high enough to destroy the organism. Theoretically and practically, so far as my experiments indicate, blood-cultures will be positive at any time when the organism is present in the blood.

Applying the principles set forth above I have been able to keep alive and to cultivate without difficulty the three common forms of malarial plasmodia—*Plasmodium vivax*, *Plasmodium malariæ* and *Plasmodium falciparum*. They have been repeatedly transplanted successfully. Up to the present writing, cultures have lived in citrated blood for over two weeks. The viability of my cultures has been confirmed by a number of my confrères here.

It is my opinion that the other blood-inhabiting protozoa and bacteria may be grown without difficulty provided these principles are followed and appropriate technic is employed. In the case of malarial plasmodia a special technic, apparently necessary, is that strict anaerobic conditions must be maintained throughout. This, however, is no doubt essential for the satisfactory cultivation of most pathogenic protozoa. Citrated or defibrinated blood is the most successful medium I have found for the cultivation of malarial parasites.

Applying this theory to therapeutic measures we have reversed conditions and we then desire to favor the formation and activity of complement. We may take as a favorable illustration an ordinary infected abscess. As a result of the bacterial toxin, inflammation ensues with its accompanying hyperemia and swelling due to exudation of serum and usually leukocytes. The latter engulf the bacteria but are unable to destroy them for lack of complement, which cannot develop because of the local elevation of temperature.

Finally, sufficient necrosis occurs to give rise to a macroscopic cavity filled with pus. This may continue to increase in amount and the bacteria live and multiply in it. If such pus is withdrawn and some normal serum rich in complement is added it promptly becomes sterile, provided the matter is in sufficiently fine division so that the complement supplied and amboceptor already present in the pus can reach all the bacteria present. If the pus contains some serum that has recently exuded from the tissues and if it is placed at proper temperature, complement develops and can be demonstrated by appropriate test. If on the other hand the pus has been in the cavity many days and at high temperature it will have passed the age at which it can develop complement under any condition. If such old pus is withdrawn and the cavity allowed to refill with new pus fresh from the living tissues, and provided the temperature is kept below the inactivating temperature for human complement, then large amounts of complement develop and the bacteria are destroyed by the combined action of amboceptor and complement. Such new pus withdrawn and kept at appropriate temperature develops an enormous amount of complement—in fact much more than would an equal amount of blood—probably because of the increased number of leukocytes, the probable source of complement.

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* Study 3, from the Laboratory of Tropical Medicine and Hygiene, under the direction of Dr. Creighton Wellman, Tulane University of Louisiana.

It should be stated here that complement will develop at quite low temperatures, but that the activity of human amboceptor and complement is much reduced at a temperature of 23 C. (73 F.) or less. Thus the very process it is desired to favor may be materially interfered with by too much cold.

We seem to have herein an explanation for the good derived from cold applications to inflammations, even to the effect of high and incidentally cool climates in tuberculosis of the lungs. The temperature of the diseased foci is lowered by the constant inhalation of cold air.

The possibilities along the lines suggested are so great and the work necessary for the evolution of technic adapted to each of the many problems, both cultural and therapeutic, that will be suggested from time to time and in which this theory plays a part so extensive that one worker will be unable to do any considerable part, and I therefore hope that others will take up this line of experimentation and confirm or contradict the opinions here expressed.

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ABSENCE OF APPENDIX

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NEW YORK

History.—Miss X., aged 22, has for the past three years suffered from attacks of nausea after meals with occasional vomiting spells; at times the nausea has existed irrespective of the ingestion of food. Associated with this condition she has had epigastric pain and obstinate constipation. Menstruation has been painful since its inception. She has been treated for the above conditions by several able physicians who have tried all the usual antidyspeptic remedies without avail. Symptoms and signs included slight epigastric pain on deep pressure; distinct pain over the region of the appendix on pressure. A diagnosis of chronic appendicitis with epigastric symptoms and constipation preponderating.

Operation.—Numerous adhesions in the region of the caput cecum were at once encountered, i. e., between the cecum, colon, and right lateral parietal peritoneum; between the small intestine and the large bowel, especially in the region of the ileocecal juncture. These adhesions extended well up the ascending colon; they were freely broken down, necessitating suture of the intestinal peritoneum at several points. The anterior band of the colon was followed to the usual seat of the appendix, but no appendix was found. The case was thought to be one of unusual location of the organ, or of adhesions hiding it; the search was therefore continued in a most sweeping way, the mesocolon was split, and the retrocolonic space searched for a distance of 4 inches above the caput cecum; the ascending colon and the transverse colon were followed as far as the splenic flexure, the sigmoid flexure was examined, and still no sign of an appendix; there were no diverticula; the right tube and ovary were involved in the adhesions. An hour had passed, and since it was felt that the search had been a complete one, the wound was closed.

For years I have taught that the failure to find the appendix was the fault of the operator, and that a careful search, backed by anatomic knowledge and experience, would in all cases discover it. I still hold that, in the very large majority of cases, this is true. I am constrained to admit that, in this case, however, after many hundreds of operations, I have met with an actual case of congenital absence of the appendix vermiformis. During the operation I had in mind the possibility of the organ being obliterated by former inflammation causing a fibroid degeneration, and its place taken by cicatrical tissue, a condition sometimes called fibrosis; of this there was no evidence. The operation, to date, has relieved the patient of all of her symptoms. This is no doubt due to the relief of the drag of the adhesions caused by an old perityphlitis.

80 Madison Avenue.

STRANGULATED PEDUNCULATED SUBSEROUS FIBROID COMPLICATING PREGNANCY AT FOUR AND ONE-HALF MONTHS

OPERATION, RECOVERY WITH DELIVERY OF CHILD AT TERM *

E. M. LAZARD, M.D.
LOS ANGELES

The coexistence of fibroids of the uterus and pregnancy was formerly considered to be a rarity. By some, the occurrence of fibroids was thought to be an expression of disappointed destiny on the part of the uterus, a morbid activity of a functionally inactive organ. Again, the sterility was looked on as the result of the presence of the fibroids. One author, Carstens,[1] explains the early sterility and late impregnation as being due to a correction of a malposition of the uterus by the developing fibroids, thus allowing conception to take place. The coexistence of these two conditions, fibroids and pregnancy, is not so rare as was formerly supposed, as one finds quite an abundance of these cases reported in the past few years. So, that while functionally inactive uteri may have a greater tendency to fibroid development it would seem that the presence of the fibroid, unless it be of the submucous variety, is not, *per se*, antagonistic to the occurrence of conception. C. P. Noble[2] in an exhaustive article on the complications and degenerations of fibroids with a review of some 7,000 cases, refers to the effect of pregnancy and labor on the tumors, and the possibility of such accidents as "twisted pedicle, necrosis and infection of the tumor," occurring. Mann[3] reports ten cases of pregnancy associated with fibroid and quotes Pinard's report in 1905, of eighty-four fibroids in 13,917 labors and Stratz's report from Schroeder's clinic of 20,000 cases of pregnancy in which there were twelve operated on because of fibroid complication.

In discussing the accidents which might occur in a case of pregnancy and fibroid, Mann says:

> Three conditions must be differentiated: bursting of a pus tube, necrosis of a tumor and twisting of a pedicle. Necrosis generally occurs post abortum or post partum, but occasionally is met with in pregnancy. Twisting of a pedicle of a fibroid is certainly rare and must be extremely so in connection with pregnancy. I have met with two cases of twisting of the pedicle of the fibroid but in neither case was pregnancy possible.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Carstens, J. H.: Fibroid Tumors Complicating Pregnancy. A Short History and Report of All Recorded Cases up to January, 1908, Am. Jour. Obst., March, 1909.

[2] Noble, C. P.: Fibroid Tumors of the Uterus, THE JOURNAL A. M. A., Dec. 8, 1906, p. 1881.

[3] Mann, M. D.: Fibroid Tumors of the Uterus in Pregnancy, Labor and Puerperal State, Am. Jour. Obst., June, 1907.

Schauta,[4] in a thorough study of the records of his obstetric and gynecologic clinics from 1891 to 1908, reviews some 111,000 cases in which the coexistence of pregnancy and fibroids occurred in the proportion of seven to ten thousand. In 60 per cent. of the cases of advanced pregnancy, the delivery was normal; in only two cases was interference necessary because of mechanical difficulties. From these various reports and from the fact that the vast majority of cases of pregnancy complicated by fibroids go to term without any accident happening so that they remain unrecognized and unreported, it would appear that the existence of the fibroids is not so inimical to conception as has been supposed. The coexistence of the two conditions, therefore, has ceased to be of interest as a pathologic rarity, but has taken on a very great practical interest from the accidents which may occur in these cases during the course of pregnancy, labor and the puerperal period.

The effect of the presence of the fibroids on the course of pregnancy, once it has occurred, varies with the number, kind and location of the fibroids. Submucous fibroids and deep-seated intramural fibroids by their effect on the endometrium may cause early abortion, placenta prævia or adherent placenta. Noble has reported some cases of tubal pregnancy which were apparently caused by a pressure of a fibroid on the opening of the tube, thus preventing the entrance of the ovum into the uterus. The labor and the puerperal period may be very markedly and deleteriously affected by the presence of the tumor. Fibroids in the lower uterine segment or pedunculated growths from the corpus hanging down into the true pelvis may either so obstruct the entrance to the pelvis as to make the delivery mechanically impossible or cause such a malposition of the presenting part as to make it very difficult. Retention of the placenta and post-partum hemorrhage are also much more common than ordinary, the former because of the changes in the endometrium and the latter because of interference with proper contraction and retraction of the uterine muscle by the presence of the fibroid in the uterine wall. The puerperium may also be complicated by the occurrence of necrosis of the fibroid and sepsis due to the pressure to which the tumor has been subjected during the delivery; this being especially liable to occur in those cases in which forceps delivery has been done. Mumford[5] reports a case of post-partum infection of a fibroid with peritonitis and recovery after hysterectomy.

The effects of the pregnancy on the fibroid are usually the cause of operative interference during pregnancy. These tumors rapidly increase in size during pregnancy, the increase being due to actual growth rather than to edema according to Mann; while Schauta and a number of others ascribe the increase in size rather to the edema. By pressure symptoms, these rapidly growing tumors may demand operative interference before the presence of the pregnancy is suspected.

Quite a number of cases are reported in which operation was performed for multiple fibroids and the pregnancy only discovered at the time of operation. An interesting case is reported by Spaeth,[6] who operated with a diagnosis of torsion of a pedunculated tumor and found an interstitial fibroid which had caused a torsion of the pregnant uterus through 180 degrees, the fibroid which was in the right wall of the uterus being found in the left side of the pelvis. Interstitial tumors may, during the course of pregnancy, be extruded from the uterine wall and become subserous. Submucous tumors may be extruded from the uterus and be the cause of abortion. Gangrene of the tumor during pregnancy is caused either by pressure of the developing uterus on an incarcerated tumor with red degeneration of its substance or by direct interference with its blood-supply by torsion of the pedicle. Taylor[7] reports the case of a patient whom he operated on because of constant and increasing pain and from whom he removed a pedunculated fibroid and two sessile subserous tumors. The pregnancy went on to term with normal delivery. The microscopic report of the pedunculated fibroid showed it to be "a necrotic fibromyoma, suggesting that the blood-supply had been interfered with." He states, however, that there was no torsion of the pedicle so that the changes were probably due to the constant and increasing pressure on the tumor itself.

Torsion of the pedicle of a subserous fibroid during pregnancy seems to be exceedingly rare as stated by Mann. In a careful search of all literature at my command, I can only find the report of three cases of this accident, with a possible fourth. This last one is a reference by McMurty,[8] who says, "Subperitoneal fibromyoma which has become pedunculated has been observed with a twisted pedicle and consequent necrosis, as a result of the increased mobility incident to its ascent from the pelvis to the abdomen." As he does not give the case report, it is impossible to state as to whether it is one of the three, the reports of which I have been able to find. The first two cases are referred to by Olshausen and Veit[9] in their text-book on obstetrics, one of which was Cappie's case in which gangrene of the fibroids led to the death of the patient from peritonitis, and Kleinhans' case in which the tumor was removed during pregnancy and the patient recovered and was delivered at term. The third reported case was that of Barrows[10] who in an article on uterine fibroids complicating pregnancy, describes as his tenth case a pedunculated fibroid, twice the size of a fetal head which had crowded the pregnant uterus down into the pelvis and which had numerous adhesions. He operated with a diagnosis of torsion of an ovarian cyst and removed the fibroid which was becoming gangrenous, the circulation having been shut off by two twists in the pedicle. The patient aborted a fifth-month pregnancy two days after the operation and then had an uninterrupted convalescence.

In view of the extreme rarity of this complication as evidenced by the very few cases reported, among the hundreds of operations for the various accidents in which pregnancy and uterine fibroids coexisted, I thought it would be of interest to report in detail the following case of strangulation by torsion of a pedunculated subserous fibroid complicating a four and a half months' pregnancy.

History.—On the morning of April 15, 1910, I was called to see Mrs. G., who gave the following history: She had had the ordinary diseases of childhood. The year before she had been under a doctor's care for what she said was heart trouble. She said her heart beat too many times. She first menstruated at 13 years of age, was always regular, periods recurring every twenty-four days, the flow was scanty, and she had no pain. There never was any intermenstrual bleeding. She had been married five years. She had never used any preventive measures against conception and had never conceived until this time. Her last period had been about Jan. 1, 1910. Since that time she had had the usual symptoms of a beginning pregnancy. About March 1, 1910, she first noticed a lump in the right lower abdomen which could be moved about rather freely. She consulted her women friends, who assured her it was the baby's head, and that it was all right. I afterward learned that she complained of pain in her right side from the beginning of pregnancy. Before she was aware of her pregnant condition she had consulted a doctor who told her she had a "water ball tumor" which should be removed. April 14, 1910, about 2 o'clock a. m., she got up to urinate and was taken with a sudden, severe, sharp pain in the lower right abdomen, which almost caused her to faint. She had to have her husband help her back to bed. She remained in bed all that day and the pain eased considerably, but the following day it was worse again.

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[4] Schauta, F.: Myom und Geburt, Wien. med. Wchnschr., 1909, Nos. 40, 41 and 42.

[5] Mumford, J. G.: Pregnancy, Uterine Myomata and Peritonitis, Boston Med. and Surg. Jour., Aug. 26, 1909.

[6] Spaeth, F.: Myomotomie in der Schwangerschaft, Wegen Achsendrehung des Uterus, Deutsch. med. Wchnschr., March 5, 1908

[7] Taylor, F. E.: A Case of Myomectomy During Pregnancy, Clin. Jour., April 27, 1910.

[8] McMurty, L.: Treatment of Fibroid Tumors of Uterus Complicated by Pregnancy, Surg., Gynec. and Obst., March, 1908.

[9] Olshausen-Veit: Reference to Cases of Capple and Kleinhans, Text-Book of Obstetrics, p. 600.

[10] Barrows, C. C.: Uterine Fibroids Complicating Pregnancy, Am. Jour. Surg., 1908, xxii, 100.

Examination.—The patient was flat in bed, her temperature 98.6, pulse 115 to 120. On examination of the abdomen the pregnant uterus was felt about three fingers' breadth above the symphysis pubis and deflected somewhat to the left side. On the right side of the abdomen, extending from the pubis to McBurney's point was a well-defined mass, which at first felt like a fetal extremity at term; it had a distinct notch in it. The mass was extremely tender, especially at McBurney's point. On account of the extreme tenderness it could not be distinctly outlined from the uterus. On vaginal examination, the cervix was found softened, the os closed, the uterus enlarged to the size of about four and one-half months' pregnancy; Hegar's and Braxton-Hicks' signs could be elicited. High on the right side of the cervix was felt a sharp edge of a mass. Diagnosis was made of a four and one-half months' pregnancy complicated by either an extra-uterine pregnancy, appendicitis, pus tube, ovarian cyst with torsion of the pedicle or a pedunculated fibroid with torsion of pedicle. Patient was sent to the hospital for further observation and probable operation.

April 15, at 5 p. m. temperature was 99.2, pulse 120. The mass in the right lower abdomen was apparently a trifle larger and considerably more painful; the patient was obliged to sit up in bed with legs drawn up to get any relief from pain.

Diagnosis.—Appendicitis was excluded because of definite outline and firm consistency of the mass, of its having been freely movable during first two months of pregnancy and because of a lack of previous symptoms which would indicate appendicular trouble. Pus tube was also excluded because of distinct outline of tumor, its density and previous mobility; extra-uterine pregnancy was also excluded for the same reasons and because of term of pregnancy, four and one-half months, rupture would probably have taken place earlier, besides which normal pregnancy was unquestionably present. Probable diagnosis made of a strangulated pedunculated extra-uterine tumor complicating pregnancy. As to the nature of the tumor, subserous pedunculated fibroid was not considered probable because of absence of previous symptoms of fibroids and because of rarity of these tumors giving trouble of this kind during pregnancy. It was thought that the tumor was an ovarian cyst with a torsion of the pedicle because of previous physical signs and also because of diagnosis of the doctor who saw her two months previously. Operation was urged because of undoubted symptoms of strangulation. Dr. W. W. Richardson was called in consultation and agreed with the diagnosis of extra-uterine tumor and concurred as to the advisability of operation. It was decided to wait until the next day as the family was averse to operative interference. April 16, 1910, condition remained about the same as the previous day, the pain possibly being somewhat increased. The patient and family were again urged as to the necessity of the operation and at their request Dr. E. C. Moore was called in consultation. He agreed with the probable diagnosis of ovarian cyst with torsion of the pedicle. Operation was consented to and was performed at 2 p. m., April 16, 1910.

Operation.—With the patient under anesthesia the tumor mass could be definitely separated from the pregnant uterus. Incision was made in the median line of the abdomen. After opening the abdomen the hand was passed down to the tumor which felt very much of the size and shape and consistency of a kidney. The tumor which had no adhesions and was freely movable in the abdomen was easily delivered out of the wound and found to be a pedunculated, subserous fibroid with torsion of the pedicle. The pedicle was attached to the right lateral wall of the pregnant uterus and was a narrow, long strand of tissue, which was twisted on itself to the size of small twine. The tumor was quite dark in appearance. A catgut suture was passed through and around the pedicle and the tumor was removed. The stump of the pedicle was sewed over with catgut. A small interstitial fibroid about the size of a quarter was found in the anterior wall of the uterus between the tubal insertions. The tumor did not project beyond the surface of the uterus and as it was in a place where it would do no harm during pregnancy and labor and as its removal might cause an abortion, it was not disturbed. The abdomen was closed with a continuous catgut suture of the peritoneum; figure-of-eight silkworm-gut sutures through skin, fascia and muscle; a continuous catgut (No. 2 doubled) approximation of fascia; and a few silkworm-gut approximation sutures of the skin. Time of operation, forty minutes.

May 1, 1910: The convalescence was uneventful, except for a high pulse, 90 to 110, which continued up to the time of her discharge from the hospital. On the fourth day after operation, April 20, the patient felt fetal movements for the first time. The sutures were removed on the tenth day, the wound showing primary union throughout.

Course of Pregnancy and Labor.—The patient was fitted with an abdominal supporter. Throughout the course of pregnancy the patient was very nervous, the pulse remaining constantly from 90 to 100, there was a mitral regurgitant murmur at the apex of the heart, a distinct enlargement of the thyroid gland with other symptoms of hyperthyroidism. The small fibroid increased considerably in size and projected from the surface of the uterus immediately under the cicatrix to such an extent as to be discovered by the patient herself. The cicatrix remained firm but widened somewhat with the advance of pregnancy and became deeply pigmented throughout its course. The urine showed a trace of sugar throughout pregnancy.

Sept. 9, 1910, 6 p. m. the patient started in labor, the second stage beginning about 2 a. m. September 10; at 5 a. m. the pains were recurring about every three minutes and were good uterine contractions. As the patient was very nervous and would not help, the pains were ineffective and there had been no advance for about two hours. Median forceps were applied and a male child delivered without any difficulty. The child was in good condition. Delivery of the placenta occurred one-half hour later and the uterine contraction was good. There was no postpartum hemorrhage. The puerperal period was uneventful. The involution of the uterus was good and at the examination some four weeks after delivery, the small fibroid in the anterior wall of the uterus was not palpable.

611 Lissner Building.

ABSTRACT OF DISCUSSION

Dr. J. S. Baer, Camden, N. J.: I have never had experience with cases of torsion of the pedicle of a fibroid, but I can recall five cases of fibroid tumor complicating pregnancy, and I was especially interested in the conclusion of the paper showing that this tumor had apparently atrophied. In the five cases I speak of there was some difficulty in the delivery. Each case became a forceps case and in each the tumor was not to be distinguished a year afterwards. I want to congratulate Dr. Lazard on the outcome of his case and on the excellence of his report of it. I had another case of fibroid in the posterior wall of the uterus low down in a pregnant woman at term in which a Cesarean section was necessary to deliver the child. I cannot tell anything about the outcome of that tumor because the patient died from pneumonia in about six days, but the child is still living. It has been my experience that all these patients bleed more than usual during delivery.

Therapeutics

ANESTHESIA AND ANESTHETICS

While narcotics have been used from very ancient times, the production of complete unconsciousness for surgical or other procedures is of comparatively recent date.

The properties of many anesthetics, even those now most commonly used, were academically known long before their practical use was demonstrated. Over half a century elapsed between Sir Humphrey Davy's suggestion (1798) that nitrous oxid gas be used to control pain during surgical operations and Horace Wells' demonstration (1844) of its use in dentistry. The exhilarating and anesthetic properties of sulphuric ether were matters of common knowledge long before the public demonstration of their surgical application by Morton and Jackson at the Massachusetts General Hospital in 1846, and even before its tardily recorded use in surgery by Long, of Georgia, in 1842. By 1847 ether was used for surgical anesthetization throughout the civilized world. The anesthetic properties of chloroform, discovered in 1831, seem to have escaped attention until 1847, when J. Y. Simpson, of Edinburgh, used it in operations and introduced it to the profession. Chloroform soon, doubtless on account of its more readily producing anesthesia, more swiftly and with a smaller amount of the drug, became the most generally used anesthetic throughout Europe, and it was used more frequently than ether up to twenty years ago, when ether began to displace chloroform on account of the number of deaths which occurred under chloroform anesthesia.

From the time of the discovery of ether and chloroform, various other preparations and mixtures have been used. Some have been used and recommended; some fell into immediate disuse, while others retained for a shorter or longer time a certain amount of popularity. Nitrous oxid gas, soon after its anesthetic properties were declared by Horace Wells, became more and more popular and more and more generally used for short surgical operations and by all dentists for the extraction of teeth.

With our present knowledge of practical anesthesia, it is not justifiable to depend on any one anesthetic exclusively. The safest anesthetic for a given patient must be decided by the physician in charge, but as a general rule it may be declared that nitrous oxid should be used only for very short operations; that in general ether is a safer anesthetic than chloroform, but that the safety of any anesthetic lies largely with the skill of the anesthetizer. It should also be remembered that some individuals are more shocked by observing even a minor operation under a local anesthetic than they are by the administration of an anesthetic, while with others it may be the reverse. There can be no question that under general anesthesia the surgeon and his assistants are not hurried and undoubtedly do more careful work, especially in preparing and arranging the tissues for the most perfect possible healing. On the other hand, it has now long been demonstrated that even one simple etherization carries with it a certain amount of shock and a certain amount of disturbance, more or less serious, of the internal organs, especially the heart and kidneys. Therefore, repeated anesthetizations, even with ether, are to be deplored, unless such anesthesias are widely separated by time. Also, there is no question that after an anesthesia the patient is in more danger of outside infection as well as from auto-infection, perhaps, from the part that is diseased.

Ether and chloroform seem to produce anesthesia by their action on the central nervous system, somewhat similarly to the action of alcohol. Briefly, they cause a progressive paresis from the higher nerve centers of the brain to the spinal cord centers [illegible] reflex centers, to finally the medullary centers, the vital centers. While in general the reflex centers of the genital region and rectum and eye reflexes are the last to become paralyzed in complete anesthesia, it will often be found that the part of the body which is to be operated on, or the part of the body on which the patient had his mind fixed before he was anesthetized, is the part which is the longest sensitive to pain.

It has been asserted that anesthesia is caused by a solution of the fatty constituents of the nerve cells. All fatty solvents seem to be anesthetic if they enter the cell, and the anesthetic power has seemed to be proportional to their ability to dissolve fat. It requires a certain amount of a solvent of the anesthetic in the blood-serum to affect nerve cells in this way, and this varies with the temperature of the animal and of the blood. The concentration of ether in serum necessary for complete anesthesia has been shown to be 1 part to 400, and of chloroform 1 part to 5,000 or 6,000. It has been thought that the rapid recovery which occurs when the anesthetic is removed shows that the fatty constituents are not taken out of the cell, but merely dissolved within it.

Almost all anesthetics are more soluble in lecithin and cholesterin than in water. This is suggested as the reason that the drug accumulates in the nerve cells. As chloroform has a greater ability to combine with lecithin and cholesterin, it thus becomes the stronger anesthetic. By the same action ether and chloroform may combine with the lecithin and cholesterin of the red blood-cells as well as of the nerve cells. This combination with the blood-cell constituents and the nerve constituents also must be very weak; as soon as the ether or chloroform vapor in the lungs is diminished and the anesthetic stopped, the drug immediately begins to excrete from the blood into the alveolar spaces and is exhaled.

AETHER, U. S. P.

Genitive, Aetheris

Description.—Ether $(C_2H_5)_2O$, is a clear, colorless liquid with a specific gravity of about 0.72. It is volatile and inflammable, and, when its vapor is mixed with air, is explosive. It has a sweetish taste and odor.

Local Action.—When it is poured on the skin a sensation of cold is produced by its evaporation, and if this action is produced or hastened, as by an atomizer, the surface may be frozen. If, however, the vapor is prevented from escaping, irritation results, and even vesication may be caused. The vapor of ether is slightly irritant to the conjunctivæ and to mucous membranes.

Systemic Action.—When taken internally it causes transient stimulation of the central nervous system and of the heart. The primary action is not dissimilar to that of alcohol. Its progressive action on the nervous system is to cause paralysis, first of the higher centers, then the spinal cord, and last the medullary centers. Such action, however, is not quite uniform, and it should be remembered that in profound anesthesia the last reflexes to disappear are of the rectum, genital organs and cornea.

The respiratory center is affected both directly and indirectly. At first, owing to the irritation of the mucous membranes of the nose and throat, there is a reflex slowing and occasionally a temporary inhibition of respiration. This may be accompanied by a spasm of the glottis. Such a disturbance need not be caused if the anesthetic is given slowly. Soon, if the anesthesia is forced, or gradually when it is given carefully, the nerves of the throat become numb and the respiration then becomes regular and slower. In other words, the struggling, gasping and irregular respiration can generally be avoided by the proper administration of the anesthetic. If the operation is prolonged, and with some patients even with a small amount of ether, the respiratory center becomes depressed, the respirations more and more shallow and slower and slower until death may occur by failure of the respiratory center.

Circulation.—The effect on the circulation caused by inhalations of ether is greatly modified by the action of the ether on the respiratory center. In other words, the heart may be very quickly much disturbed, if the respiration is disturbed. If the respiration is regular, the heart is for some time not much disturbed. From irritation of the throat and nostrils the heart may be, at first, reflexly slowed until the irritability of these nerves is dulled. If there is cerebral excitement or nervous excitation the heart becomes more rapid. It also becomes more rapid if there is sudden peripheral dilatation of the arterioles. Soon, however, as the surgical degree of the anesthesia is reached, the heart slows and the pulse becomes full and regular, and remains so throughout the anesthesia, unless a condition of shock occurs. In this condition the surface of the body becomes pale, heat is rapidly lost, more or less vasodilatation and paralysis occurs, the heart becomes rapid and may suddenly fail. In too profound anesthesia, or in insufficient anesthesia when sudden pain may cause pneumogastric inhibition, or in diseased heart conditions, such as chronic myocarditis or when there is disease of the coronary arteries, sudden heart death may occur during ether. Theoretically, however, in normal conditions, ether should give its notice of dangerous paralysis developing by primary impairment of the function of the respiratory center.

In circulatory weakness during anesthesia treatment of the vasomotor paresis is just as important as is the treatment of the weakness of the heart muscle, or even more so.

Throughout the ether anesthesia there is a gradual vasomotor paralysis. The more prolonged the anesthesia, the more the vasomotor weakness. There may be also a slight destruction of red blood-cells. In other words, etherization can never be anything but a circulatory depressant.

The blood-pressure may rise for a short time under ether narcosis, but such a rise is short-lived, and it should be remembered that although with each additional whiff of fresh ether the pulse may improve, the more ether that is administered and the longer it is given, the greater must be and will be the circulatory depression after the anesthesia is over; in other words, the greater the shock.

Pupillary Changes.—The pupils are first dilated under etherization and then contracted, and should remain more or less contracted during narcosis. When the eyelid is raised, if they are slightly dilated, they should quickly contract by light. If they do not so contract, the dilatation of paralysis has occurred, which is a danger signal, indicating that, ordinarily, the anesthesia is too profound.

Alimentary Canal and Respiratory Tract.—The only action on the alimentary canal and respiratory tract when ether is given by inhalation is that of slight irritation. Its irritant action may cause a profuse pouring out of bronchial mucus, and, when swallowed into the stomach mixed with saliva and mucus, it causes nausea and vomiting.

Kidneys.—Ether is always slightly irritant to normal kidneys, and may frequently cause an albuminuria. It is, however, dangerously irritant when there is an acute inflammatory condition of the kidneys, and may cause serious trouble when there is chronic inflammation of the kidneys.

Although the skin generally feels hot during ether anesthesia, the actual temperature falls, doubtless owing to a dilatation of the peripheral blood-vessels, causing not only more or less sweating and therefore a greater evaporation, but also a greater radiation of heat. In other words, heat is lost and the temperature falls during etherization. This makes the heated operating-room a necessity. Also, if the ether vapor is mixed with warm air it is less likely to cause an inflammation of the lungs or a pneumonia.

When ether is administered by inhalation, the absorption takes place mostly from the lungs. On the other hand, while it has been thought that some may be excreted into the stomach, it is probably almost entirely also excreted by the lungs. When ether is taken into the stomach and absorbed there, it also is excreted by the lungs.

Ether anesthetization may profoundly affect metabolism, disturbing the digestive system, increasing the nitrogen output but diminishing normal oxidation. It may cause an increase of the glycogen in the blood, but is not so likely to do so as is chloroform. It may so disturb the liver that bile may be found in the urine, but this also is not so likely as from chloroform. It seems, however, to be a fact that whether anesthesia is produced by ether or chloroform, the ability of the system to protect itself against invasion of germs is diminished for a shorter or longer time. In other words, a patient who has been anesthetized should be surrounded by the most perfect hygiene possible.

Therapy.—Ether is universally used to cause anesthesia, and is generally administered by inhalation. Internally it is sometimes used as a carminative for the same action as would be obtained from a volatile oil. It has been used as a quickly acting cardiac stimulant, taken in one or two whiffs, or administered in water or given hypodermatically; it causes temporary stimulation by its irritant effect. Such use, however, is hardly justifiable, as its secondary effect is always depressant, and as other quick cardiac stimulants are better, such as camphor, ammonia, or even alcohol.

Official Preparations

Spiritus Aetheris, spirit of ether, contains 32.5 per cent. of ether and 67.5 per cent. of alcohol. The dose is 5 c.c. (or 1 fluidram), a teaspoonful, best administered with cracked ice and water. The only object for this preparation is its action as a carminative.

Spiritus Aetheris Compositus, compound spirit of ether (Hoffmann's anodyne) contains 32.5 per cent. of ether, 65 per cent. of alcohol and 2.5 per cent. of ethereal oil. The dose is 5 c.c. (or a fluidram), a teaspoonful, best administered with cracked ice and water. This preparation has no special sedative effects. If alcohol is desired, whisky or brandy should be used.

(To be continued)

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[*For other information see second page following reading matter*]

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THE RÔLE OF LIPOIDS IN NUTRITION

The albuminous substances have long had the reputation of standing in unique relation to the activities of living cells. The word "protein" was intentionally selected to designate the preeminent part which these nitrogenous compounds play in the life processes. The eminent physiologist Pflüger coined the expression "protein is the sole living substance" (*nur das Eiweiss ist lebendig*). A recognition of this status has been one of the most effective incentives to those remarkable chemical and biologic studies of the proteins which have been carried out in recent years and have so greatly enlarged our horizon in this direction.

From time to time physiologists have called attention to the possible danger in allowing the supremacy of the proteins to overshadow other essential agencies in successful nutrition. The necessity of supplying a minimum of inorganic compounds—the so-called mineral nutrients—and of furnishing such materials as sodium chlorid, iron and lime salts in suitable amounts and proportions has made itself apparent. In the case of growing individuals the need of iron and calcium has long been recognized; but only of late has the physician acquired a more wholesome appreciation of what the inorganic salts may mean for the preservation of that equilibrium of nutritive processes which we call health. One may recall, as a single illustration, the damage which the undue loss of alkalies from the body, in various conditions of what is broadly termed acidosis, may bring with it.

Again, the other groups of "proximate principles," the fats and carbohydrates, have until quite lately been treated as if they played only an accessory part in nutrition, furnishing energy in interchangeable amounts—merely caloric carriers, as it were. Yet it is more than likely that each of these great groups of nutrients has some specific function in the organism. The appearance of the acetone bodies in the excretions when carbohydrate is withheld is a case in point, leading Rosenfeld to remark that the fats are burned in the flame of the carbohydrates.

Of late, more than passing interest has centered in another group of substances which deserve notice because of their wide-spread distribution in the cells and tissues of both animals and plants. They are termed "lipoids," by which is meant those cell components (other than simple fats) which can be extracted with organic solvents like alcohol and ether. Chemically speaking, they are labile compounds, prone to undergo changes in structure or physical state. The group of lipoids includes various substances, such as the better-known cholesterol and lecithins (phosphatids), members of heterogeneous classes of chemical compounds, though related in some of their characteristic solubilities and physicochemical behaviors. It is not impossible that they exist in the living cell protoplasm in combination with other constituents such as the proteins.

To the lipoids a conspicuous rôle has been ascribed in relation to the phenomena of narcosis, as indicated in the well-known theory of Overton and Hans Meyer.[1] This assumes that the narcotizing substance enters into loose physicochemical combination with the vitally important lipoids of the cell and in so doing changes their normal relation to the other cell constituents, through which an inhibition of the entire cell chemism results. The lipoids have also been associated with various phases of hemolysis and certain branches of immunochemistry.[2] It is by no means evident whether the adult animal organism can manufacture the lipoids, or is dependent on the synthetic capacity of the plant cell to furnish them. An attempt to throw light on this question has lately been made by Stepp.[3] This investigator has fed mice on foods which had been extracted with alcohol and ether to remove all lipoids. He has compared the subsequent duration of life of such animals with that of mice fed with similar unextracted materials or with the same lipoid-free food (usually extracted bread) to which the lipoids have again been added. The experiments show that it is not possible to keep mice alive during long periods when the extracted foods alone are fed, under conditions of environment in which normally fed mice thrive. The question is at once raised as to what specifically essential components of the diet are removed by the methods of extraction employed. They are not inorganic in character; for the addition of the "ash" of the extracts would not restore the nutritive efficiency of the lipoid-free foods. One might question whether a minimum of fat is not necessary for adequate nutrition; but the addition of milk-fat in the form of butter did not suffice to supply the essential missing dietary ingredient. Artificial additions of isolated lecithin and cholesterol were similarly inadequate. In contrast with these negative findings it was observed that the vitally important lipoid substances are present in cream-free milk (*Milch-Plasma*). When the contents of an alcohol-ether extract of separator (skimmed) milk were added to lipoid-free foods the possibilities of uninterrupted health were restored to mice.

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[1] Meyer, Hans: The Theory of Narcosis, Harvey Society Lectures, 1905-06, J. B. Lippincott Co., Philadelphia.

[2] For the literature on this topic see Bang: Biochemie der Zelllipoide, Ergebn. d. Physiol., 1907, vi, 131; 1909, viii, 463.

[3] Stepp, W.: Versuche über Fütterung mit lipoidfreier Nahrung, Biochem. Ztschr., 1909, xxii, 452; Verhandl. Kongr. inn. Med., 1911, xxviii, 324; Bedeutung der Lipoide für die Ernährung, Ztschr. f. Biol., 1911, lvii, 135.

There are, obviously, numerous problems to be investigated before the final words in this chapter can be written. We may look forward with interest to further developments in this field to which the American investigators, Koch, Mathews and others, have contributed noteworthy findings. One observation by Stepp is of itself highly significant of what the future experiences may develop. Thus he noted that the lipoid extract from heated milk is not as efficient as that from the unheated. Such facts, evidently related to the instability of the lipoid components, bear directly on the ever recurring controversies of pediatric practice in relation to the pasteurization of milk. For the present, however, the real lesson of the facts cited lies in the warning against the danger of measuring food values solely in terms of calories.

THE CULTIVATION OF THE SPIROCHÆTA PALLIDA

Although the causal relationship between *Spirochæta pallida* and syphilis has been very generally acknowledged almost since the first announcement of the organism by Schaudinn in 1905, this has hitherto been based only on the quite constant association of the parasite with luetic lesions. The lack of definite proof has been due in part to the difficulty of producing the disease in laboratory animals, but mainly to our inability o obtain the spirochete in pure culture. But with the demonstration of the inoculability of rabbits with syphlis, the first of the obstacles was removed, and very recently Noguchi[1] and Hoffmann[2] have independently announced the artificial cultivation of the organisms in purity and with little apparent loss of virulence. Schereschewsky[3] had, it is true, previously succeeded in growing them in artificial media, but he failed to obtain pure cultures, and while other workers were able to ccomplish this, their organisms had apparently lost heir virulence, and animal inoculations with them ailed. Noguchi's method consists in the inoculation of nfected tissue from a rabbit into a medium of diluted serum to which a piece of sterile animal tissue had been dded. When incubated under strictly anaerobic conitions the spirochetes were found to grow, although t first almost invariably in association with other rganisms. Solid media apparently interfered with the rowth of the first generations, but with adaptation to rtificial conditions this difficulty disappeared. Pure cultures were obtained in several very ingenious ways. n one case the organisms were grown through a Berkeeld filter of suitable porosity, thereby straining off, as it were, the contaminations. Later it was found that in stab agar growths the spirochetes infiltrated a wider zone than did the other bacteria, and inoculations made from this zone yielded pure cultures.

The essential factors for successful cultivation are apparently the presence of sterile fresh animal tissue in the medium, and strict anaerobiosis. The necessity for the latter, however, disappears to some extent with longer cultivation. As is very frequently the case with pronounced parasites, by far the greatest difficulty is presented by the original inoculation of the artificial medium. Injection of the cultures into rabbits is followed after a suitable period by local lesions, in which are found both the anatomic changes characteristic of syphilis, and typical spirochetes in large numbers. Hoffmann's work, which appeared a little later than that of Noguchi, establishes the connection of the disease in the rabbit with that of man even more firmly, inasmuch as his isolation of the organism was directly from the human lesion.

Aside from the demonstration by this work of the specificity of *Spirochæta pallida* as the cause of syphilis, it will probably be of importance in other ways also. For not only does it open up new fields in the study of the etiologic factors of lues, but it contains possibilities in the way of new and more efficient diagnostic aids. And while at present Noguchi's method of cultivation is so difficult as to offer a bar to rapid progress, it is likely that further development of it will result in its simplification.

BENZOATE OF SODA AGAIN

The American public believes that a question is not settled until it is settled right. This probably accounts for the fact that the sodium benzoate question will not down. And yet, although volumes have been written on this much controverted subject, the problem itself is really a simple one. There are three basic facts on which all are agreed: First, no one denies that sodium benzoate in foods may prove harmful in certain quantities, under certain conditions or when given to certain classes of individuals. Second, no one denies that foodstuffs of a high quality can be put up without the use of sodium benzoate; in fact the best food manufacturers do not use this chemical. Third, no one denies that when this chemical is used, scrupulous cleanliness and extreme care in handling are no longer necessary. These are three incontrovertible facts, admitted grudgingly or frankly, as the case may be, by both the pro and anti-benzoate forces. Under the circumstances, then, it is not irrational to conclude that sodium benzoate should not be used as a food preservative.

And now comes from Berlin the "Expert Opinion of the Royal Scientific Deputation for Medical Affairs Regarding the use of Benzoic Acid and its Salts for the Preservation of Food." These experts were requested by the Minister of Education and Medical Affairs in

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[1] Noguchi: Jour. Exper. Med., 1911, xiv, 99.
[2] Hoffmann: Deutsch. med. Wchnschr., 1911, xxxvii, 1546.
[3] Schereschewsky: Deutsch. med. Wchnschr., 1909, xxxv, 835.

Germany to give their opinion on this subject. In their report, they first describe the chemical and physiologic action of these drugs and then briefly summarize the findings of various scientists on the question at issue. Of the decision of the United States referee board, these German scientists say:

> "The series of experiments in this connection made by the American scientists are of too short duration and the results coupled with certain limitations, so that they cannot be regarded as demonstrating the unconditional non-injurious nature."

After considering all of the evidence on the subject the Scientific Deputation for Medical Affairs reaches the following conclusions:

> "In regard to the admissibility of the use of benzoic acid and its salts for the preservation of food it is mentioned that in France on the basis of a decision of the Comité consultatif d'hygiène publique of October 1, 1888, the Minister of Justice in his circular dated October 16, 1888, prohibited the use of benzoic acid in drinks and food.
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> "In Austria the Supreme Sanitary Council in an expert opinion dated Dec. 16, 1899, decided in favor of a prohibition of preserving substance containing benzoic acid or its salts, and has adhered to this standpoint in a recent expert opinion and given a detailed justification of the same. In the same sense the Saxon Landes-Medizinal-Kollegium expresses itself.
>
> "The Scientific Deputation for Medical Affairs is likewise of the opinion that the use of benzoic acid and benzoic acid salts for the preservation of food should not be permitted. Even if small doses of the same may be considered harmless for the human organism there is still a danger that, with the addition of these substances to the various food and drinks on the whole quantities would be daily consumed, which would be injurious to the organism. This fear is particularly justified in the case of children, the aged, and weak or sick persons, whereby it is to be observed that even in the case of normal food not preserved with benzoic acid substances are introduced from which benzoic acid comes into existence in the body.
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> "A further objection against the use of chemical preservatives at all consists in the fact that in its use the food intended for consumption may not be handled with the necessary care and cleanliness to prevent its decay or injury by fungi and that, being neglected by the manufacturers and sellers, under certain circumstances the quality of the goods would suffer. . .
>
> "Similar objections exist regarding albuminous food liable to decay. The experiments of the imperial health office have demonstrated among other things that a slight smell of decay in chopped meat may be concealed, but not entirely removed, by merely stirring or turning over the meat; but on mixing with 0.25 per cent. benzoic acid or sodium benzoate the smell disappears for a time. By this process, therefore, food which has already commenced to decay can be given the appearance of freshness and the purchaser deceived as to its quality."

These findings agree exactly not only with the opinion officially expressed by the American Medical Association in its resolutions on this subject, but also with the opinion held by other scientific bodies and by the intelligent public generally. With the reorganization of the Department of Agriculture, which is as inevitable as it is necessary, it is to be hoped that the United States government will soon cease to hold its present inconsistent position on the subject of the use of sodium benzoate in foods. This chemical has no place in the dietary of any people and certainly its legalized use is a disgrace to an enlightened nation.

POLITICS AND THE PUBLIC HEALTH SERVICE

Recent events have drawn attention forcibly to instances of political meddling with the public health service. Within a year the Ohio State Board of Health, long regarded as one of the ablest and most progressive in the United States, has been demoralized by the influence of partisan politics. First eleven members of the laboratory staff were summarily dismissed, including Dr. B. R. Rickards, chief of the laboratory, a well-known scientific worker and for some years past managing editor of the *Journal of the American Public Health Association.* More recently Dr. C. O. Probst, secretary of the Ohio board during a long period, has felt that his duty to the state and his regard for his own honor obliged him to resign his position. Dr. Probst has been a figure of national importance in public health affairs, and it is largely his leadership that has given the Ohio Board of Health its well-deserved reputation in the last decade. An effective health organization has now been swept away. All this is due to the fact that the present governor of Ohio saw fit to fill vacancies on the board with representatives of his own political faith, regardless of merit or especial fitness for the official duties. High political ambitions have been blocked for a lesser cause.

And now, of the three new members appointed by the governor of Massachusetts to the State Board of Health of Massachusetts, not one is an expert or possesses any special qualifications for securing the welfare of the people; but all, of course, are blessed with acceptable political views. It is not necessary to dwell on the absurdity of the assumption that a man's opinion on the tariff or the trusts has any bearing on his fitness to deal with problems of public health. The governor of Massachusetts has likewise exposed himself to criticism by his delay in reappointing Dr. Walcott to the Metropolitan Water and Sewerage Commission. As reported in our news columns last week, a petition bearing the signatures of over two thousand physicians asking for Dr. Walcott's appointment has been presented to the governor. The State Board of Health of Massachusetts has long been one of the most active and efficient in the country. Many men of high scientific eminence have served on its staff, and its scientific work has been given the highest commendation here and abroad. It would be a national misfortune if partisan politics were allowed, even temporarily, to influence its efficiency.

Again, in the State of Illinois, it is true that the State Board of Health has for some years past been the object of much criticism, whether rightly or wrongly we need not here say. Whatever be the facts as to improper licensing, unpleasant rumor and gossip on the subject have been current. The result is that many physicians have not been in sympathy with the Illinois board and as a natural consequence the efficiency of the board has not been high. Loss of confidence, from whatever cause, prevents effective work. It is now stated in the daily press that the governor of Illinois intends to reorganize the State Board of Health with a view to restoring public confidence in the activities of this important body. The new appointments will be watched with interest.

However the problem in these three great states is finally worked out, the duty of physicians is clear. We should insist, in season and out, that expert qualification should be a requisite for any appointment to the public health service or to the ranks of those who have the care of our state and county dependents. The issues are too momentous to allow us to tolerate the injection of partisan politics into public health matters. Intervention in public affairs means for the physician a high degree of self-sacrifice for the common weal, but those who live in a democracy can never forget that eternal vigilance is the price of liberty.

Current Comment

PROTECTING THE HEALTH OF PRISONERS

The frequent occurrence of diphtheria at the New York State Reformatory at Elmira led the superinendent and his medical staff to investigate its source. t was found on taking throat cultures of arriving prisoners that a considerable proportion of them harbored the diphtheria bacillus. When these new prisoners mingled with the healthy reformatory population, epidemics of diphtheria started. An examination of all rrivals since November, 1910, revealed diphtheria bacilli in more than eighty out of 920 prisoners dmitted. An isolation hospital had constantly to be maintained. In an effort to eliminate this source of nfection, the superintendent obtained an opinion from he attorney-general of the state and instructions from he state commissioner of health which may involve ather far-reaching consequences in relation to the rights f prisoners and the duties of the state and prison uthorities regarding the protection of the health of rison inmates. The attorney-general expressed it as is opinion that "the health of prisoners sentenced to eformatories is as much a part of the public health, nd they are entitled to as much protection from conagious disease as any other portion of the public," and hat it was up to the state board of health to take such teps as were necessary. On this opinion the commisoner of health instructed the superintendent of the eformatory to notify jails or penal institutions that efore being sent to the reformatory prisoners must e examined to determine whether or not they are uffering from any infectious or contagious disease. The uperintendent accordingly issued such instruction and equired that, in addition to a general examination for uch diseases, a throat culture must be taken and a rtificate of health attached to the commitment. It ill be seen that the right is recognized of a prisoner o demand protection of his health either from inmates ith whom he is compelled to associate more or less osely, or from insanitary, unhygienic conditions in e prison itself, either from its manner of construction, from defective care, or from infection of the surroundings by diseased inmates, for which he no doubt might invoke the aid of the courts. It is asserted that many penal institutions, particularly the older ones, are hotbeds of tuberculosis, and that a long term in them means almost certain infection. The possibility of other infections is shown in the instance of diphtheria in the Elmira Reformatory.

BUNCOMBE, BUT NOT BUNCOED

Buncombe County, North Carolina, can boast of the unique distinction of having given an expressive word to the English language. Possibly on account of its name, and because they may have imagined that pseudoscientific buncombe would pass muster there, three enterprising medical fakers opened an office in that county. But they were disappointed. It is true that the local paper accepted as "copy" the buncombe by which these swindlers hoped to gather victims—at regular advertising rates—and it was left to the local medical society to step in and protect the public from the wiles of these impostors. How this was done is described in detail in another place.[1] What the Buncombe County Medical Society did in ridding their locality of undesirable citizens can be done, in the majority of cases, when necessary, in any other county in any other state of the union. It is too bad that work of this sort practically always is left for local physicians to do. No matter how altruistic the motives of physicians may be, the charge will always be made in certain quarters that, in putting medical fakers out of business, the medical profession is not so much concerned with the public's welfare as it is with the elimination of competitors. So long, however, as the newspapers of the country enter into an unholy alliance with medical frauds instead of standing between their readers and these swindlers, so long, probably, will it be necessary for the medical profession to take the initiative in exposing humbugs of this kind.

HAY FEVER AND LOCAL CELLULAR ANAPHYLAXIS

Anaphylaxis at times manifests itself as an exquisitely local process, which is best explained by the assumption that the cells concerned have acquired specifically the power of digesting within themselves the protein which causes the reaction, and hence they are also the chief sufferers from the poisons engendered by this splitting of foreign proteins. An especially striking example is furnished by Bloch and Massini,[2] who found that if a bit of skin from a person infected with trichophyton was transplanted to a healthy person, it would continue sensitive to trichophyton as shown by the local reaction to filtrates from trichophyton cultures. Schittenhelm and Weichardt have described a form of intestinal anaphylaxis which occurs in dogs when they react to a second injection of egg albumin. Violent intestinal symptoms accompanied by a hemorrhagic enteritis extending from stomach to anus, are ascribed to the assumption by the epithelial cells of the task of digesting the foreign protein which reaches them from the blood,

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1. Propaganda for Reform department, in this issue, "Electro-Radio Fakers."
2. Ztschr. f. Hyg., 1909, lxiii, 68.

with resulting local poisoning by the toxic products of this proteolysis. These authors[3] explain hay fever on the same basis, as a local anaphylactic reaction to pollen proteins. If true, this explains the inefficiency of antipollen serum when injected subcutaneously into hay-fever patients, for such an antiserum would be entirely ineffective in combating the local effect of products of proteolysis. The successful treatment of some patients by local application of serum to the nasal mucosa they ascribe to the antiproteolytic power which serums commonly exhibit, whether from normal or from immunized animals. For this purpose, however, normal serum should be as efficient as immune serum, or more so, and there are clinical observations which are entirely in agreement with this idea. Certainly the evidence which is now rapidly accumulating all points towards the anaphylactic nature of hay fever and many related conditions, and from all we know of anaphylaxis there is no hope to be offered of efficient antitoxic serum therapy; but there is every hope that with the progress of our knowledge of anaphylaxis will come the rational therapy of disorders of this class.

PENNSYLVANIA'S MEDICAL ORGANIZATION AND THE AUSTIN FLOOD

The town of Austin, Pennsylvania, was destroyed by a flood September 30. There were seven physicians in the town, three of whom were members of the Potter County Medical Society. The secretary of the Pennsylvania State Medical Society advanced $200 for the relief of the physicians, and the board of trustees, which is ex officio a committee on benevolence in that organization, authorized the secretary to receive contributions to assist the physicians of Austin and their families, with the understanding that any money received in excess of what is needed for the present emergency is to become part of the benevolence fund of the state society. Within four weeks, voluntary contributions to the amount of $800 had been received. Can any one doubt that "organization" is effective?

SECTARIAN CATSPAWS FOR FAKERS

In a recent number of the New York *Herald* appeared an account of a meeting held in that city by the National League of Medical Freedom to protest against the establishment of a national department of health. After the usual hysterics regarding the "medical trust" and its awful work, one of the speakers is reported to have said:

> The Owen bill says that the new department of health shall recognize no school of medicine. Why not make it say that it will discriminate against no school of medicine? The bill would say this if Senator Owen was not admittedly the agent of the American Medical Association in this matter.

This is a fair sample of the quibbling and hair-splitting objections raised against this measure. The National League of Medical Freedom, according to its accredited representative, would evidently like the Owen bill better if its wording were amended as indicated. Very well, so far as the American Medical Association has any influence, it will certainly favor such a change, as well as any other changes which will make it clear to the deluded sectarian dupes of the "patent-medicine" interests that the establishment of a national department of health has nothing to do with the individual practice of medicine, and that the passage of the Owen bill will not, in any way, affect the relations between physicians and patients. The wily "patent-medicine" fakers and the food adulterators are trying desperately to make the Eddyites and the medical sectarians believe that they are in danger of martyrdom in the near future. As has been repeatedly stated, the federal Congress has no jurisdiction whatever over the practice of medicine in the states. The followers of cults, fads and sects are needlessly exciting themselves. No one has any desire to interfere with their freedom to believe anything they like. But if a change in verbiage will relieve their overwrought minds and calm their excited fears, it is to be hoped that the suggested change will be made.

Medical News

COLORADO

Personal.—Dr. Leonard W. Ely has retired from the editorship of *Colorado Medicine* and the work has been taken up by Dr. Charles S. Elder, a member of the Publication Committe of the state society.——Dr. Samuel R. McKelvey has succeede Dr. Benjamin Franklin Wooding as inspector of the Lying-I Hospital of Denver.——Dr. James T. Muir has been electe chief of the Caledonian Society of Colorado Springs.

DISTRICT OF COLUMBIA

Personal.—Dr. W. C. Ruediger has been advanced from assistant professor of educational psychology in the Teachers College of George Washington University.——Dr. Ralph A Hamilton has been appointed professor of histology an embryology in the school of medicine of Georgetown University.——Dr. William F. R. Phillips, formerly dean of the medical department of George Washington University, has bee elected professor of anatomy in the School of Medicine, University of Alabama, Mobile, and has moved to the latter city

Society Indorses Wiley.—Resolutions of congratulations t Dr. Harvey W. Wiley were duly adopted by the Medica Society of the District of Columbia at its meeting, Octobe 11. The resolutions set forth that the members have bee deeply interested in the investigation of the work of D Harvey W. Wiley in his efforts to secure the enforcement o the pure food regulations; that they heartily rejoice that D Wiley has been completely exonerated from any allege wrong-doing and that his methods and principles have bee fully vindicated, and furthermore present to the President o the United States their commendation of the justice, wisdo and impartiality displayed in his settlement of the dispute.

New Maternity.—The Elisha Francis Riggs Memorial Building of Georgetown University Hospital, especially designe for the care of maternity cases, is under roof and will be i operation in January next. The first floor of the building wi provide for twenty-four colored charity patients; the secon floor is designed for a similar number of white patients; t third floor will accommodate twenty patients who will pa from $10 to $12 per week, and the fourth floor is to be devote entirely to private rooms. Each floor has separate delive and recovery rooms, accommodations for nurses, diet, kitche etc.——Another pavilion, 30 by 100 feet, will be erected on t corner of Thirty-Sixth and N Streets, which will be devote entirely to the care and treatment of mental and nervo diseases. This pavilion will fill a distinct need in the ca and treatment of this class of patients and will greatly enhan the facilities for clinical instruction in the University.

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[3] Schittenhelm and Weichardt: Deutsch. med. Wchnschr., 1911, xxxvii, 867

ILLINOIS

State Health Board Members Resign.—Dr. George W. Webster, Chicago, president; Drs. Henry Richings, Rockford; Perry H. Wessel, Moline, and Walter R. Schussler, Orland, members of the State Board of Health, have resigned.

State Conference of Charities.—At a meeting of the Illinois State Conference of Charities and Correction held in the Illinois Auditorium, Urbana, last week, the following officers were elected: president, Prof. Edward C. Hayes, University of Illinois, Urbana; vice-presidents, F. E. Morey Lyon, Chicago, and Mrs. Nannie Duncan, Bloomington; and secretary-treasurer, Mr. A. L. Bowen, Springfield. The next conference will be held in Springfield.

Personal.—The obituary notice of Dr. Perry H. Wessel, Moline, which appeared in the Chicago *Tribune* of October 29, was exaggerated, as Dr. Wessel is still alive and attending to his practice.——Dr. Ralph T. Hinton, assistant superintendent of the Jacksonville State Hospital has been appointed superintendent of the Elgin State Hospital. Dr. Edward A. Foley, assistant superintendent of the Anna State Hospital, has been transferred to the Jacksonville Hospital. Dr. Charles F. Read, assistant superintendent to the Watertown State Hospital to the Kankakee State Hospital and Dr. Thomas R. Foster, assistant superintendent of the Kankakee State Hospital, to the Anna State Hospital.——Dr. Augustus W. Chandler, Compton, has purchased a residence in North Dixon for $15,000, which he will remodel and open as a private hospital.——Dr. John Niess, Jr., Carmi, is reported to be critically ill.——Dr. Sidney D. Wilgus, formerly superintendent of the Elgin State Hospital has been transferred to a similar position in the Kankakee State Hospital and assumed charge of the institu-ion, October 10. On leaving Elgin, October 7, the employees of the State Hospital tendered him a purse containing fourteen $5 gold pieces and a new dollar bill, as a parting gift of emembrance and esteem.——Dr. George J. Schneider, Elgin, ractured his right wrist while cranking his automobile, October 7.——Dr. Henry J. Gahagan, Elgin, fell on the stairs f his office, October 10, and injured his right leg.——Dr. Samuel Nuel Sims, Danville, is said to have been adjudged insane by the Iroquois County Court, October 11, and committed to the Kankakee State Hospital.

Chicago

Baptists Project Hospital.—At the annual meeting of the Illinois Baptist Association, October 18, an appropriation of 100.000 was recommended for the erection of a Baptist Hos-ital in Chicago.

Hospital Notes.—Pursuant to the wishes of his late wife, ames B. Hobbs has presented to the Frances E. Willard ational Temperance Hospital a six-flat building on Prairie venue, valued at about $25.000.——An emergency hospital being installed in connection with the temporary police eadquarters at Clark and Harrison Streets.

New Hospital Dedicated.—The dedicatory exercises of the ew building of the People's Hospital were held October 29-31. n October 29 a mass meeting was held for patrons and friends n the ground floor of the old building; the Founders' Club estival was held the same evening. The evening of October 0 was given over to a banquet to, and inspection of the uilding by the various contractors and their employees, and n October 31 an informal gathering of members of the med-al profession and their families was held. The new building three stories and a basement in height; of brick, with cut-one trimmings, fire- and sound-proof, and contains four ards of ten beds each, and twenty-one private rooms in addi-on to the other necessary accommodations.

INDIANA

Hospital for Elkhart.—Work is to be commenced at once on modern hospital for Elkhart, and a subscription of $48,000 s been subscribed for this object.

Social Service Department Organized.—Dean Emerson of e Indiana University School of Medicine has organized a cial service department in the City Dispensary, Indianapolis.

Employment of School Nurses Not Authorized.—Attorney-neral Honan has given an opinion to the State Board of alth that the statute governing medical inspection in schools es not authorize the employment of nurses by the school thorities.

District Society Meeting.—At the annual meeting of the eventh Councilor District Medical Society held in Wabash, tober 20, Dr. Lorin W. Smith, Wabash, was elected presi-nt; Dr. James L. Gilbert, Logansport, secretary and treas-er, and Dr. Godlove G. Eckhardt, Marion, councilor.

Infantile Paralysis.—The epidemic of infantile paralysis, which raged in all parts of the state during the summer and fall, showed a total number of cases of 102 up to October 28. Of these twenty-eight were in cities and seventy-four in the country; three-fourths of all patients are under 5 years of age and seventeen deaths occurred. Dr. William F. King, Columbia City, assistant secretary of the State Board of Health, who makes this report, states that in eighteen instances animals giving evidence of a similar illness, inhabitated the premises.

Communicable Diseases Prevalent.—All the city schools of Madison have been closed and all children have been prohibited from attending public gatherings on account of an epidemic of diphtheria.——The public schools of Petersburg have been closed on account of the prevalence of forty-two cases of scarlet fever.——Diphtheria in epidemic form is reported from Greensburg, where more than forty patients are under quarantine.——The city schools of Crawfordsville have been closed on account of epidemic diphtheria.——From twenty to thirty new cases of diphtheria have lately been reported in Indianapolis each day; Sunday schools have been closed and children have been prohibited from attending public gatherings. The city council has appropriated $3,000 to meet the cost of making 30,000 cultures.

IOWA

Personal.—Dr. Frank S. Hough has opened the Sibley Hospital.——Dr. Phillip G. Young, Hocking, started for Vienna, October 28.——Dr. Charles French, who has been ill with septicemia at St. Luke's Hospital, Cedar Rapids, has been obliged to have the infected finger amputated.

New Hospital Established.—An organization was perfected at a meeting of physicians of Manchester, recently, which assured the establishment of a hospital and nurses' training school in that place. Dr. Harry M. Bradley was elected president of the organization; Dr. Thomas Burns, vice-president; Dr. John A. May, secretary; Dr. Ernest G. Dittmer, treasurer, and Dr. William Coburn, house physician of the new institution. Residence property has been leased as a temporary location, but it is planned later to erect a modern hospital building.

Society Meetings.—At the annual meeting of the Second District Medical Society held in Davenport, October 10, the following officers were elected: president, Dr. Elbridge H. King, Muscatine; vice-presidents, Drs. Edgar B. Henderson, Marengo, and Harry R. Reynolds, Clinton; and secretary-treasurer, Dr. John V. Littig, Davenport (reelected). The next meeting will be held in Davenport, October 19, 1912.——At the annual meeting of the Council Bluffs Medical Society, the following officers were elected: Dr. Matthew E. O'Keefe, president; Dr. Merle F. Warner, vice-president; Dr. David H. Carson, secretary; and Drs. Christian S. Ericksen, Sydney Smith and F. Earl Bellinger, censors.

KANSAS

Hospital Dedicated.—The new hospital of the Medical Department of the University of Kansas, at Rosedale, was dedicated with appropriate ceremonies, October 23.

Personal.—Dr. John D. Horne, Coffeyville, who was recently said to suffer with cerebral hemorrhage, writes that he had simply a second stroke of paralysis, has lost the use of his legs from the hips down, and is confined to his house.——Dr. Romulus Z. Linney, Wichita, is reported to be critically ill, following an operation for appendicitis.——Dr. Byron L. Hale has been appointed city physician of Cherryvale, vice Dr. Benjamin M. Savage.

KENTUCKY

Tuberculin Test Enforced.—At a meeting of the city and county board of health held in Lexington recently, it was decided to begin an enforcement of the State Board of Health regulations for the tuberculin test of cattle. All animals showing a positive reaction will be slaughtered.

State Association Meeting.—The fifty-sixth annual meeting of the Kentucky State Association was held in Paducah, October 24-26, under the presidency of Dr. Joseph E. Wells, Cynthiana. The following officers were elected: president, Dr. David O. Hancock, Henderson; vice-presidents, Drs. Delia Caldwell, Paducah; William L. Mosby, Bardwell, and James R. Steele, Corbin; orator in medicine, Dr. Curran Pope, Louisville; orator in surgery, Dr. Archibald H. Barkley, Lexington; delegates to the American Medical Association, Drs. William W. Richmond, Clinton, and J. W. Ellis, Masonville; councilor for the Fourth District, Dr. Robert C. McChord, Lebanon; and councilor for the Eleventh District, Dr. James S. Lock, Barbonrsville. The secretary, Dr. Arthur T. McCormack, Bowling Green, and treasurer, Dr. William B. McClure, Lexington, hold over for another year.

Work of the Health Exhibit Car.—The traveling health exhibit car of the Kentucky Association for the Study and Prevention of Tuberculosis, during its recent tour, visited sixty-one towns and cities in ninety-one days and in each of these illustrated lectures were given in halls, churches and schools. During this time 25,039 persons visited the car and inspected the exhibits and 11,565 attended the lectures given. There were distributed from the car 20,144 pieces of literature.

Society Meeting.—At the annual meeting of the Bourbon Medical Society held in Paris, October 17, the following officers were elected: president, Dr. Charles B. Smith, Millersburg; vice-presidents, Drs. Frank Fithian, Paris, and Arthur H. Kelly, Paris; secretary and treasurer, Dr. David B. Anderson, Paris; delegate to the state society, Dr. William Kenney, Paris, and alternate, Dr. John T. Brown, Paris. Resolutions were adopted making suitable recognition of that part of the will of the late Mrs. W. W. Massie, which has made the establishment of a hospital in Paris a possibility.

Personal.—Dr. Louis G. Contri, Milton, is reported to be critically ill with carcinoma of the stomach.——Dr. Evart Hawkins, Finchville, is reported to be seriously ill with ptomain poisoning.——At its annual meeting in Frankfort, October 12, the State Board of Control is said to have entered an order for the removal of Dr. R. L. Willis from the superintendency of the Eastern Kentucky Hospital for the Insane, Lexington.——Dr. W. J. M. Smiser, Skylight, was seriously injured, October 5, by being thrown from his horse.——Dr. David C. Bowen, Elizabethtown, is reported to be critically ill with tuberculosis.——Dr. Everett Layton Pirkey, has been appointed superintendent of the Waverly Hills Sanatorium, vice Dr. Archibald B. Elkin, resigned, to become superintendent of the Elkin-Goldsmith Sanatorium, Atlanta, Ga.——Dr. Frederick A. Stine, Jr., Newport, has been elected a member of the State Board of Health, to succeed himself.

MARYLAND

Charity Conference.—The Seventh Maryland Conference of the Board of Charities and Correction will be held in Baltimore, November 27-29. Among the important matters for discussion is a plan for the establishment of county hospitals for advanced cases of tuberculosis, and the county commissioners will be invited to attend and take part in the conference as a special tax levy will be required to carry out this plan.

Baltimore

Verworn on Narcosis.—Prof. Max Verworn of the University of Bonn, Germany, made an address before the Johns Hopkins Society, October 30, on "Narcosis."

Typhoid Fever.—Many cases of typhoid fever are reported in the city. The Maryland General Hospital reports thirty-five cases; Mercy Hospital, forty; University Hospital, twenty; Franklin Square Hospital, ten; and the Maryland Homeopathic Hospital, three.

Italian Steamer Detained.—As a precaution against members of the crew being infected with cholera, the Baltimore quarantine detained the Italian steamer *Soperga* from the Mediterranean, but no trace of the disease was found on board.

MASSACHUSETTS

Liner Released.—As no cholera infection was found among the crew of the Bucknell steamer *Kioto,* it was released October 6 and allowed to dock at East Boston.

Addition to Dispensary Started.—Work was begun October 5 at the Boston Dispensary, to add a fourth story to the building, which will be arranged as a hospital for infants and children and will accommodate about thirty-five patients.

Large Estate.—The estate of Dr. Charles G. Weld who died in Brookline last June, leaving large bequests to the Massachusetts General Hospital, and the Boston Dispensary and the Boston Lying-In Hospital, has been found to amount to $773,000.

Work of Dispensary.—At the one hundred and seventeenth annual meeting of the Boston Dispensary, the reports showed that more than 30,000 sick poor had been treated during the past year in its clinics, and 10,000 others had been cared for in their homes.

Addition to Consumptives' Home Opened.—On October 8 nearly 7,000 people visited the Free Home for Consumptives, Dorchester, to inspect the addition just completed. This was the first of a series of gatherings for the collection of a fund for opening the addition, which will provide 125 more beds for the institution.

Elections.—At the annual meeting of the Brookfield Medical Club in Ware, October 18, Dr. Ephraim W. Norwood, Spencer, was elected president; Dr. Homer Z. Leach, Gilbertville vice-president; and Dr. Idelle L. Edmands, North Brookfield secretary-treasurer.——At the annual meeting of the Attlebor Anti-Tuberculosis Society the following physicians were elected as members of the executive committee: Drs. William O Hewitt, Frederick V. Murphy, Boston, Clarence W. Estey and George E. McPherson.

Personal.—The appointment of Dr. Henry P. Walcott, Cambridge, as a member of the Metropolitan Water and Sewag Commission, was properly confirmed by the council.——Dr. L Vernon Briggs, Boston, has been appointed a member of the State Board of Insanity.——Dr. Ernest B. Emerson, Tewksbury, formerly superintendent of the North Reading (N. H.) Sanatorium, has been appointed medical director of the Stat Farm institution, Bridgewater.——Dr. Charles P. Putnam chairman of the board of trustees of the children's institution of Boston, has retired.

MISSOURI

Tag-Day.—The total collections of tag-day for Mercy Hospital, Kansas City, amounted to $5,561.

New Building Dedicated.—Governor Hadley, on October 8 presided at the dedicatory exercises of Hadley Hall, the new addition to the State Sanatorium for Incipient Tuberculosis Mount Vernon. The new building will accommodate abou seventy-five patients.

Hospital for Insane Consumptives.—The new building fo the care and treatment of insane consumptives at the Fulto State Hospital for the Insane is nearly ready, and will b opened December 1. This is the first hospital of its kind i the state, and has been erected at a cost of about $50,000.

Personal.—Dr. Robert H. Goodier, Hannibal, president of th Missouri State Medical Association, has moved from Hanniba to Stoutsville.——Dr. Harvey S. Reese, Wayland, coroner o Clark County, has resigned and moved to Macon.——Drs. William J. Thompkins, M. O. Bausfield, Ernest J. McCampbell an J. Edward Perry have been appointed assistants to the medica and surgical staff of the Kansas City General Hospital, an will look after the colored patients in the institution.——Dr Ephraim M. Folsom, Boonville, has returned from Europe.——Dr. James A. Gray, Watson, lost the sight of his left eye fro a blow with a baseball recently.——Dr. Samuel A. Johnso Nevada, has established a sanitarium in Springfield for th treatment of mental and nervous diseases.

Society Meetings.—The Saline County Medical Associatio held its annual meeting in Marshall, October 20, and electe the following officers: president, Dr. Abner E. Gore, Marshall vice-presidents, Drs. A. Fletcher Brown, Malta, William Sharp, Little Rock, and Frank Aubrey Howard, Slater; an secretary, Dr. John R. Hall, Napton.——The Twelfth Councilo District Medical Association, at its semi-annual meeting, October 10, in Platte City, elected Dr. Eugene C. Robichaux president.——The Kansas City Academy of Medicine held its annua meeting, October 7, and elected Dr. Samuel S. Glasscock, Kansas City, Kan., president; Dr. Frank C. Neff, vice-president Dr. Peter T. Bohan, censor; Dr. Charles B. Hardin, treasure and Dr. Paul V. Wooley, secretary, all of Kansas City, Mo.

NEBRASKA

State Hospitals for Consumptives.—The state has purchas land at Kearney for the establishment of a city hospital fo indigent consumptives and a residence already on the 13-ac tract is to be used as one of the buildings of the institution.

Personal.—Dr. Wright Newman, Aurora, was shot in th face and seriously injured while duck hunting, October 22.——Dr. Anders P. Overgaard, Fremont, was thrown to the pavement of his garage while cranking his automobile, and is suffering from concussion of the brain.

NEW JERSEY

Personal.—Dr. John W. Pratt, Coatesville, Pa., has be elected president of the Medical Society of Chester, Delawa and Montgomery counties.——Dr. E. S. Bloch, Williamstow has been made medical inspector of the schools of Monr Township.

Alumni Organize.—At the monthly meeting of the Jers City hospital staff an alumni association was formed which Dr. Frank D. Gray, Jersey City, was elected honorary president; Dr. Gustav F. Boehm, Jr., president; Dr. John Lautman, Jersey City, secretary, and Dr. George W. Mueller, Newark, treasurer.

Meeting of Eastern Monmouth Practitioners.—The annual meeting of the Eastern Monmouth Practitioners' Society was held in Red Bank, October 12, and the following officers were elected: president, Dr. D. Edgar Roberts, Keyport; vice-president, Dr. William W. Beveridge, Asbury Park; secretary, Dr. Peter P. Rafferty, Red Bank, and treasurer, Dr. William K. Campbell, Long Branch.

Tri-County Society Meeting.—At the annual meeting of the Tri-County Medical Society of Morris, Sussex and Warren Counties, held in Washington, October 18, the following officers were elected: president, Dr. Abram E. Carpenter, Boonton; vice-presidents, Drs. Enos E. Beatty, Newton, and George W. Cummins, Belvidere; secretary, Dr. Charles B. Smith, Washington, and treasurer, Dr. Frederick W. Flagge, Rockaway.——Dr. Charles S. Heritage, Glassboro, has been elected president and Dr. George S. Redding, secretary, of the Tri-County Medical Society, at the annual meeting held in Bridgeton, October 24. The next meeting will be held in Woodbury.

NEW YORK

Meeting of the State Department of Health.—The Annual Conference of Health Officers met in Carnegie Lyceum, New York City, October 25. The subject discussed was the control of communicable diseases. Dr. Frederick B. Willard of Buffalo alled attention to the dangers of contagion from street cars, and urged proper disinfection for trolley cars all over the tate. He also urged the enactment of laws prohibiting the dry sweeping of all cars, and thought such a law ought to pply to all public places, whether conducted by the state, municipality or individual.

Sanitary Officers Meet.—The second annual convention of the New York State Sanitary Officers' Association was held n New York City, October 24. Nearly all of the 1,400 sanitary districts in the state were represented at the meeting. A esolution was passed and copies sent to all members of the egislature denouncing the action of the recently adjourned egislature in passing bills appropriating thousands of dollars or the prevention of disease among cattle and hogs, while hey cut down the appropriation for the care of human beings uffering from tuberculosis. They also called the attention f the legislature to the need of uniform laws on such matters as the regulation of spitting on sidewalks and in public laces, and the lack of uniformity on the treatment of insane atients. The following officers were elected to serve during he ensuing year: president, Dr. Frank Overton, Patchogue; ice-presidents, Dr. Daniel S. Burr, Binghamton; Dr. Louis B. ouch, Nyack, and Dr. Louis H. Brown, Pine Plains; treasurer, r. William Stanton, Webster; and secretary, Dr. Montgomery . Leary, Rochester.

New York City

Harvey Lecture.—Dr. James J. Putnam, Harvard University, elivers the fourth of the present series of lectures at the ew York Academy of Medicine on Saturday evening, November 11, at 8:30, on "Freud's Psycho-Analysis."

Plan Two Inebriate Hospitals.—The Board of Inebriety is reparing to build a hospital at Kingston Avenue, Brooklyn, n a site provided by the Department of Charities. A second ospital will be built on Blackwell's Island, where confirmed ebriates will be received.

Money for the Blind.—The Department of Charities recently ade its annual distribution of money to worthy blind poor. bout $75,000 were distributed, which was much more than ver before, due to the number of blind persons who are arning trades and who before they can earn their own livehood, are forced to ask for assistance from the department.

Personal.—Dr. Samuel J. Meltzer of the Rockefeller Institute for Medical Research has been elected a member of the mperial Leopoldina Carolina Academy of Naturalists, at rakau.——Dr. Theodore C. Janeway has been appointed a ember of the board of scientific directors of the Rockefeller stitute for Medical Research, vice Dr. Christian A. Herter, ceased.

City Increases Appropriations.—The city budget for the comg year provides that the Health Department shall receive 392,938, which is an increase of $569,438 over the present propriation. Bellevue and the Allied Hospitals get an increase $86,060, and the Department of Charities an increase of 69,155.

Find More Tuberculosis.—The report of Leopold Plaut, esident of the United Hebrew Charities, read at the annual meeting of this organization, shows an increase in the number of cases of tuberculosis among working people, the percentage increasing from 14 to 20 per cent. Mr. Plant said there was no doubt that overwork, congestion and undernourishment were largely responsible for this increase.

Medical College Opened.—Cornell University Medical College opened September 27, with an enrollment smaller than that of the preceding year, which is due to the fact that all matriculants for the degree of M.D. now registered are admitted under the advanced requirements, which necessitated the presentation of a bachelor's degree in science or arts, together with something more than one year's work in physics, chemistry and biology.

Health Department to Take Over Milk Stations.—The twenty-two milk stations of the New York Milk Committee will be taken over by the Health Department on November 1. This action followed an appeal from the Milk Committee to the Health Commissioner to take charge of these stations and the 5,000 babies in the dispensary list of the Milk Committee. The infants will be looked after by department physicians and nurses until the first of the year. The Health Department has been looking after fifteen milk stations, which, together with those of the Milk Committee, will make thirty-seven. It is believed that money will be available to support sixty stations next year.

NORTH CAROLINA

Hookworm Exhibit.—Dr. John A. Ferral, Kenansville, Assistant Secretary of the State Board of Health, had an interesting exhibit at the state fair in Raleigh last week. Hookworm victims were shown, and the parasites themselves with the ova. Physicians were in attendance to examine applicants who desired to be examined for the disease. A lecture with stereopticon views, microscopes and the regular paraphernalia complete of a "hookworm dispensary" in operation were on exhibit. The exhibit attracted much attention, and a large number of examinations of patients were made during the week. Eighteen counties have now made provision for a systematic canvass and examination of all young people through the establishment of hookworm dispensaries.

PENNSYLVANIA

Philadelphia

Personal.—Dr. William Zentmayer has been elected professor of ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine, succeeding Dr. Theodore B. Schneideman, resigned.——Dr. Eugene L. Vansant, professor of diseases of throat and nose in the Philadelphia Polyclinic Hospital is recovering from the effects of an infected wound of the right hand.

To Sell Hospital.—Unless the writ is stayed before November 6, the Douglas Memorial Hospital and Training School will be sold by the sheriff to satisfy a mortgage of $25,267. For some time, this institution which recently built a new hospital building, has been in financial difficulties and about a year ago the property was to have been sold at sheriff's sale, but the writ was stayed. Besides the encumbrance of $25,267 on the property there is a mortgage of $31,000.

Increase of Contagious Diseases.—While the health report for the week ending October 28 shows a marked decrease in the total number of deaths as compared with the previous week and also a decrease of more than 10 per cent. in the number of deaths from pneumonia and bronchopneumonia, there were eighty-one new cases of diphtheria reported with eleven deaths. There were thirty-five new cases of chickenpox and one death, and twenty-five new cases of scarlet fever with twenty-five deaths.

Physicians Endorse Cassidy's Work.—At a meeting of the northern branch of the Philadelphia County Medical Society, resolutions were passed endorsing the work of Harry P. Cassidy, special agent of the State Dairy and Food Commission, who is waging a relentless war on the food adulterators, and promising him united and individual support. Prof. Charles H. La Wall, chemist of the commission, was one of the speakers at the meeting and called attention to a list of United States court decisions, just published. In one, a man is fined $200 for adulterating food for cattle, while in another, a firm is fined only $10 for selling putrid ketchup.

UTAH

Personal.—Dr. Edgar G. Bates has been appointed medical examiner of the public schools of Ogden.——Dr. Albert S. Bower, Salt Lake City, was in charge of the emergency staff of physicians at the recent state fair

Utah State Medical Association.—The Utah State Medical Association, at its seventeenth annual meeting, held in Salt Lake City, October 4 and 5, elected the following officers: president, Dr. Robert W. Fisher, Salt Lake City; vice-presidents, Drs. Charles E. West, Salina; Eugene H. Smith, Ogden, and T. H. Howells, Bountiful; secretary, Dr. W. Brown Ewing, Salt Lake City (reelected); treasurer, Dr. Howard P. Kirtley, Salt Lake City, and delegate to the American Medical Association, Dr. Sol G. Kahn, Salt Lake City.

GENERAL

Ohio Valley Meeting.—The thirteenth annual meeting of the Ohio Valley Medical Association will be held in Evansville, November 8 and 9, under the presidency of Dr. William D. Haines, Cincinnati.

Southern Physicians Meet This Month.—The annual meeting of the Southern Medical Association will be held in Hattiesburg, November 14-16.——The Southern Medical College Association will hold its annual meeting in conjunction with that of the Southern Medical Association.

Labor Unions Approve Red Cross Seal.—The National Association for the Study and Prevention of Tuberculosis announces that at the last annual convention of the American Federation of Labor, resolutions were adopted, calling on all members of the federation to endorse the movement for the sale of Red Cross Christmas seals to secure funds for carrying on the campaign against tuberculosis.

Personal.—Surgeon Henry R. Carter, United States Public Health and Marine-Hospital Service, in charge of the United States Marine Hospital, Louisville, is seriously ill with typhoid fever.——Lieutenant Herbert W. Yemans, M.R.C., U. S. Army, has returned to his station, Fort Wayne, Detroit, after attending the Esperanto Congress at Antwerp, Belgium, of which he was appointed temporary chairman. Dr. Yemans was tendered a reception, October 14, at the Randolph Hotel, Detroit. ——Dr. and Mrs. Grosbeck Walsh, Cristobal, Canal Zone, started October 9 for their future home in Nicaragua.——The Canadian government has appointed Dr. Gilbert T. Smith, Stamford, Conn., formerly of Baltimore, physician to the American party in the Alaskan boundary survey, to take charge of the medical treatment of the village of Indians at Rampart House, where there is an epidemic of small-pox.

Railway Surgeons Meet.—The tenth annual meeting of the association of Seaboard Air Line Railway Surgeons was held in Washington, October 17-19, and the following officers were elected: chairman of the executive committee, Chief Surgeon Dr. Joseph M. Burke, Petersburg, Va.; president, Dr. Samuel C. Benedict, Athens, Ga.; vice-presidents, Drs. Hampden A. Burke, Petersburg, Va.; Robert L. Harris, Jacksonville, Fla., and John H. Miller, Cross Hill, S. C.; and secretary-treasurer, Dr. Jarrett W. Palmer, Ailey, Ga. (reelected).——The second annual meeting of the Railway Surgical Association of the Southwest was held in El Paso, Tex., October 20 and 21, and the following officers were elected: president, Dr. Francis E. Shine, Bisbee, Ariz.; vice-presidents, Drs. John W. Colbert, Aubuquerque, N. Mex., and Carlos E. Husk, Santa Barbara, Mexico; secretary-treasurer, Dr. Herbert E. Stevenson, El Paso, Tex., and trustees, Drs. Samuel D. Swope, Deming, N. Mex.; H. F. Bailey, Courtland, Ariz., and William L. Brown, El Paso, Tex.

Clinicians to Meet in Philadelphia.—As already announced in The Journal, the second annual meeting of the Clinical Congress of Surgeons of North America will be held in Philadelphia, November 7-16, with headquarters at the Hotel Bellevue-Stratford. The clinical program is extensive. The first of the evening literary sessions, held in connection with the Philadelphia County Medical Society, will be devoted to the surgery of the upper abdomen; on the second evening the president's address on "Coordination of Undergraduate and Postgraduate Teaching of Clinical Surgery" will be given by Dr. Albert J. Ochsner, Chicago; Dr. Alexis Carrel, New York City, will present a paper, illustrated by lantern slides, on the "Technic and Remote Results of Blood-Vessel Anastomoses," and Dr. William J. Mayo, Rochester, Minn., will give an illustrated address on "Cancer of the Stomach; Its Surgical Cure." The Friday evening session of the congress will be held in conjunction with the meeting of the Philadelphia Neurological Society; the meeting of November 13, with the Academy of Surgery; that of November 14 with the Pediatric Society of Philadelphia, and that of November 15 in connection with the Obstetrical Society of Philadelphia. On the last evening there will also be held a combined meeting of the Section on Otology, Laryngology and Ophthalmology.

American Public Health Association.—The thirty-ninth annual meeting of the American Public Health Association will be held in Havana, Cuba, December 5-9, under the presidency of Dr. Robert M. Simpson, Winnipeg, Man. Dr. M. Varona Suarez is president and Dr. Federico Torralbas, secretary, of the local committee of arrangements. The program of the meeting includes symposiums on Asiatic cholera, hookworm, disease and tuberculosis, and papers on pellagra, acute anterior poliomyelitis, typhoid fever, Mexican typhus and isolation hospital construction and management. The laboratory section will consider the reports of the various technical committees on standard methods for the analysis for milk, water and sewage and the bacteriologic diagnosis of tuberculosis, typhoid fever, etc. In the section on vital statistics a symposium will be held on mortality registration in the South and the subject of "Uniform Tables for Statistical Reports and Bulletins" will be considered. The section of municipal health officers will give prominence in its meeting to the promotion of the efficient application of scientific sanitation to municipal conditions. No programs are announced for the new sociological section, or the section on sanitary engineering. The headquarters of the association will be in the Hotel Sevilla, and the general sessions will be held in the rooms of the Ateneo and Circulo de la Habana. The university laboratories will be used for the laboratory section. Ample entertainment has been provided by the courtesy of the people of Havana, including a trip to a tobacco plantation, a banquet at the National Theater, a picnic on the grounds of La Tropical Brewery, a Spanish-Cuban Verbena at the Hotel Sevilla, a trip to Morro Castle, Cabanas, Triscornia Detention Camp and a visit to the wreck of the *Maine*.

Prevention of Infant Mortality.—The second annual meeting of the American Association for Study and Prevention of Infant Mortality will be held in the Hotel La Salle, Chicago, November 16-18. Two popular sessions have been arranged for; two general sessions, and six section meetings. The opening session will be addressed by the president Prof. Charles Richmond Henderson of the University of Chicago, Dr. George B. Young, commissioner of health of Chicago, and Dr. Hastings H. Hart of New York. The speakers at the popular session November 17 will be Dr. Henry J. Gerstenberger of Cleveland, Miss Jane Addams, and Dr. William A. Evans of Chicago, and Dr. Joseph W. Schereschewsky of the U. S. Public Health and Marine-Hospital Service, Washington, D. C. The section meetings will be under the chairmanship of the following: Nursing and Social Work, Miss M. Adelaide Nutting, Department of Nursing and Public Health, Columbia University; Housing, Mr. Lawrence Veiller, secretary and director National Housing Association, New York City; Midwifery, Dr. Mary Sherwood, Baltimore; Eugenics, Prof. H. E. Jordan, University of Virginia; City Milk Supply, Prof. Edwin O. Jordan, University of Chicago; and Continuation Schools of Home Making, Dr. Helen C. Putnam, Providence. Prof. Charles R. Henderson of the University of Chicago is president of the association, and Dr. Cressy L. Wilbur, Bureau of the Census Washington, is president-elect for 1912. Dr. Frank S Churchill of Chicago is chairman of the local committee o arrangements; the other members of the committee includ Dr. Isaac A. Abt, Mrs. Arthur Aldis, Dr. William A. Evans Dr. Clifford G. Grulee, Dr. Caroline Hedger, Mr. Sherman C Kingsley, Mr. Robert Stevenson and Dr. Frank X. Walls Among the reports to be presented will be one on birth registration, by Dr. Wilmer R. Batt, State Registrar of Vital Statistics, Harrisburg, chairman of the association's committee o that subject.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 21, 1911.

Despatch of Another British Commission for the Investigatio of Sleeping-Sickness

The British government is sending out a further commission to Central Africa to investigate sleeping-sickness. Thi will be in charge of Col. Sir David Bruce, assisted by Captai Hamerton of the army medical corps, and Professor Newstea of the Liverpool School of Tropical Medicine. The work wil be confined to Nyassaland. An interesting point is that th trypanosome of the disease is believed to be conveyed in thi country by a fly other than the tsetse, which is the carrier i other parts of central Africa, for none of this species has ye been found in Nyassaland. The commission, which is goin out under the auspices of the Royal Society, is expected t be absent from England for three years. One of its principa objects is to ascertain whether the fly which is supposed to convey the disease depends on the presence of big game. If this is proved to be so it may involve the wholesale destruction of wild animals.

Foundation of a Eugenics Laboratory

An appeal is being made for $75,000 to build a eugenics laboratory in connection with the University of London. As stated in a previous letter (The Journal, April 8, 1911, p. 1048), Sir Francis Galton left the residue of his estate to the University of London for the endowment of a professorship and laboratory for national eugenics, expressing the wish that the university would see fit "to preserve the capital thereof wholly or almost wholly intact, not encroaching materially on it for cost of building, fittings or library," as the income from his bequest was insufficient to cover both endowment and adequate buildings. In accordance with his suggestion, Prof. Karl Pearson, F.R.S., has been appointed first Galton professor, assisted by a staff of highly trained workers, who now find very insufficient accommodation in a few small rooms temporarily placed at their disposal at University College. The output of the laboratory in the form of original investigations has been very large, and on the ground that the institution has already been of great value and will render increased public service with its fuller development, the University of London feels justified in sanctioning an appeal for such external aid as will enable the staff to carry out effectively this portion of their functions. There can be no doubt that the laboratory has before it plenty of work of important social value. It is now in possession of material received from educational and health authorities in all parts of the country, which alone would require three or four years' labor for the existing staff to analyze and publish, and the bulk of it has direct bearing on the most important social and national problems of the day.

Reform of the Naval Medical Service

In a previous letter (The Journal, Sept. 23, 1911, p. 1065) considerable reforms in the naval medical service, including the establishment of a new and more modern school at Greenwich, was described. New regulations with regard to the service have now been issued. The limit of age of admission is 28. Every candidate must be interviewed by the director general, who will decide whether such candidate will be allowed to enter for the examination. About thirty commissions will be competed for annually, but the admiralty reserves the power to admit each year six colonial graduates who may be specially recommended by the colonial universities. A successful candidate will be appointed acting-surgeon and is required to pass through a course of six months' study. He will then be reexamined and, if he passes, given a commission as surgeon. His position in the examination determines his seniority. Considerable encouragement is given to candidates to hold house appointments in civil hospitals. Any successful candidate holding or about to hold the office position of resident medical officer is allowed to complete his period of office, and the time so occupied counts for his general service in the navy, though he will not receive pay for it. The course of study during the probationary six months is extensive. In the first two months the acting-surgeon is required to cover the ground of tropical medicine, bacteriology and clinical pathology, hygiene and skiagraphy. This work will be done at the new school at Greenwich. The remainder of the probationary period will be spent at the old naval school at Haslar in learning the routine peculiar to the naval surgeon. If the examination at the end of this course is duly passed, a final one will follow toward the end of the eight years' service. After this each officer will be required to attend a six months' course of postgraduate study and to pass an examination which will qualify him for the rank of staff-surgeon. After eight years' service as staff-surgeon he will be eligible for promotion to fleet-surgeon. The pay of substantive rank has not been altered, but increments of pay are given more frequently than heretofore—every two years. After eight years' service the pay is $5 a day, while staff-surgeons go up to $2,130 a year and fleet-surgeons to $3,340, deputy surgeon-generals to $4,100 and surgeon-generals to $6,500. It must be borne in mind that in addition to the pay the extras and allowances are considerable. A feature which is very likely to attract men to the service is the generous scale of retired pay. After so short a period of service as four years a surgeon may retire with a gratuity of $2,500, and the gratuity is increased by this amount for every additional four years' service up to $10,000, while the pay of retired men who have served from twenty to thirty years varies from $5 to $10 a day.

A Pharmacist Refuses to Supply an Antidote in a Case of Poisoning

An inquest has been held on a clerk who took hydrochloric acid. He was taken to the shop of a pharmacist, who refused to give an antidote. The pharmacist said that it was not his duty to prescribe and that the man should be taken to a hospital. A little chalk and water was asked for and was also refused. Some whiting, obtained elsewhere, was administered. The man was taken to a hospital, where he died. The house-surgeon gave evidence to the effect that if chalk and water had been promptly administered the man's life might have been saved, but admitted that the pharmacist acted within his legal rights in refusing to "prescribe." The jury refrained from expressing any opinion on the subject. The case has not given rise to any comment in the medical or lay press. Of course, the former would in general approve of a pharmacist refusing to prescribe, as one of the stock topics is the grievance of the profession from "counter prescribing" by pharmacists. But surely the pharmacist was wrong in refusing to supply the antidote, and was wanting in both common sense and in humanity. He might have remembered that while it was not his duty as a pharmacist to prescribe, it was his duty as a man to do what he could for a human being in danger of death when medical aid was not available. What would be thought of a layman who saw a person bleeding to death from a wound and refused to try to stop the flow because he was not a surgeon? In this case the refusal was less excusable because the pharmacist possessed technical knowledge which would have enabled him to deal with the case.

The Workmen's Compensation Act

The Workmen's Compensation Act has given rise to some very difficult legal problems. Drawn up in the widest possible manner so as to make the employer liable for any accident "arising out of" the employment, attempts are made to make it cover almost any misfortune which can befall a workman. At Edinburgh, recently, the widow of a gardener, who lived in his own house and had a garden of his own at which he worked, claimed compensation because he died of tetanus. One morning after returning from his master's garden he cleaned his boots without taking them off and in doing this he tore his thumb, under the nail, against a lacing hook in one of the boots. Four days later tetanus began and he died from the disease. There was no evidence to show how the dirt under the nail was obtained but considering the nature of his employment and the fact that the bacillus of tetanus is generally found in manure and leaf-mold, the judge held that it was reasonable to hold that it was obtained when working in his master's garden, but, on the ground that the accident did not arise out of the gardener's employment, he refused compensation. An appeal was made to a higher court where the judge again refused compensation as the man, after leaving his master's premises, was no longer in the latter's employment. He was at liberty to attend to his own affairs, and the accident was not met with in the course of his employment. It had been maintained that the bacillus got into his thumb while he was working in his employer's garden. Even assuming this, it must be shown that it attached itself to his body while he was working for his master. In another case a hatter claimed compensation because he contracted mercurial poisoning while engaged in his trade. The employers maintained that they did not use mercury and that it must have been in the fur which they bought. The judge held that it could not be said that the workman was employed in a mercurial process when the employer did not provide the mercury or even know that it was there.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 13, 1911.

The Twenty-Fourth Meeting of the French Surgical Association

The Association française de chirurgie held its twenty-fourth meeting, October 2, under the presidency of Dr. Paul Segond, professor of clinical surgery at the Faculté de médecine de Paris, and surgeon of the hospice de la Salpêtrière. Among those present were many foreign surgeons, notably Arbuthnot Lane of London, Thomson of Edinburgh, E. Laplace of Philadelphia, Charles L. Gibson of New York, W. B. Coley of New York, Sonnenburg of Berlin, Jules Boeckel of Strassburg, Depage of Brussels, Lanz of Amsterdam, Tavel and Girard of Berne, etc.

Dr. Segond read a paper on collaboration between physicians and surgeons. It will be remembered that last year Dr. Delagenière, who then presided, reproached physicians with sending their patients too late to surgeons. His remarks elicited lively protest (The Journal, Nov. 5, 1910, p. 1660). Dr. Segond was more conciliatory. He recognizes that in many circumstances it is very difficult for the surgeon to see clearly without drawing constantly on the more refined means of medical investigation and the special information furnished by the experienced observation and judgment of the physician. In more than one visceral disease the aid of medicine is not only useful and desirable but altogether indispensable. Trepanning, which for many centuries was exclusively surgical, has now become, thanks to its new application, a medico-chirurgical operation *par excellence.* Sometimes it is the appreciation of evident signs which is difficult for the surgeon. Sometimes a uremic patient with headache, vomiting and amaurosis is in danger of being taken to the operating-room as a subject of intracranial neoplasm. There is, therefore, no possible progress in surgical neurology without medical collaboration.

Three subjects were discussed.

DIAGNOSIS AND TREATMENT OF CHRONIC APPENDICITIS

This question continues to hold its interest, judging by the forty-five speakers who enrolled themselves to take part in the discussion. It was necessary to reduce to five minutes the time accorded to each speaker.

According to Dr. J. Silhol, assistant professor at the Ecole de médecine de Marseille, the diagnosis of chronic appendicitis is made especially on the following elements: spontaneous pain which may be aberrant, fixed elicited pain, sometimes deceptive, indefinite digestive symptoms, general symptoms, which are important but not characteristic. Altogether the diagnosis is rather the result of a "special clinical sense" than of a close study of observed symptoms. Dr. Silhol considered, however, that the radioscopic examination was very useful and that it deserved to be systematically employed.

The treatment of chronic appendicitis was the subject of Dr. Charles Walther, surgeon of the hospitals of Paris and *agrégé* professor at the Faculté de médecine de Paris. If operation becomes imperative in cases of general predominating infections with gastric symptoms in which pains are very sharp, etc., the case is quite different from what it is when appendicitis accompanies biliary lithiasis, lesions of the uterine adnexa, movable kidney, etc. Under such circumstances each case deserves exhaustive study, but most frequently the removal of the appendix is to be recommended. As for the technic, Dr. Walther recommends general anesthesia and the incision which causes the least trauma. It is necessary to cover the stump with peritoneum and not confine oneself to excision alone. It is indispensable to make a wide and methodical exploration of the region, for one may have to deal at the same time with several complications in the epiploon of the colon. The after-treatment, which is often neglected, has great importance. It is not to be recommended that patients be allowed to leave their beds early in complicated cases. Feeding should be carefully supervised. The kidneys should be carefully watched during the first days. The emission of the first gases should be facilitated by suppositories and enemas and a purgative on the fourth day. Phlebitis is a complication which must be reckoned with. Cases of evident phlebitis are ordinarily observed in the left leg. Cases of latent phlebitis, which are more frequent, make themselves known by embolisms, generally pulmonary.

Dr. Laplace of Philadelphia insists on the good results given after appendicectomy by the Murphy proctoclysis, which now renders drainage less necessary. Suppuration and gangrene are not the clearest indications for drainage. The cases in which drainage are indicated, on the contrary, are those in which there is no suppuration, but a vivid redness of the intestine. Gauze drainage is often much better than tube drainage. Dr. Sonnenburg of Berlin, in cases in which the disease is hard to diagnose, recommends radiography, which, however, gives results only if the appendix communicates with the intestine, for it is indispensable that the bismuth should penetrate it. He insists on the rôle of pericolitis, while believing that one ought to remove the appendix in the first place, since this operation affords a certain relief to the intestinal lesion. Dr. Richelot of Paris protests against the idea that appendicitis is only a small part of a very complicated condition—a kind of general auto-infection. Dr. Lanz of Amsterdam recommends that too deep palpation be not used whatever the difficulties in diagnosis, for sometimes deep hematomas may be caused by such means. Dr. Girard of Berne remarks that the Rovsing procedure for eliciting pain at the level of the sacrum is unreliable, but it may be perfected by the aid of rectal insufflation.

TREATMENT OF ACUTE PERITONITIS

Dr. Hartmann, professor of operative medicine at the Faculté de médecine de Paris, remarked that for twenty-five years the chief ideas in the treatment of acute peritonitis have undergone a double evolution. Treatment, exclusively medical at first, then became exclusively surgical; the path thereupon was retraced, and treatment with immobility, diet and ice accepted. This treatment, however, is dangerous. It is now established that an acute peritonitis may be cured when once its cause is removed, even though the whole of the infectious material has not been removed. The basis of treatment when an exact diagnosis has been reached (and it must be reached), consists in suppressing the cause of the trouble. When operative treatment is necessary, preparation for the operation should be simplified. Tincture of iodin is sufficient to disinfect the skin. After general anesthesia, incision should be made according to circumstances. Lavage and evisceration should be avoided. The important thing is to drain well.

Dr. Témoin of Bourges in his paper emphasized the importance of the treatment popularized in the United States by the Fowler brothers and Murphy. All the French surgeons who have used Murphy's method have obtained excellent results. When Murphy's irrigations are not well tolerated the intestine may be irrigated by Billington's procedure after appendicostomy or cecostomy. In all this, however, it is necessary to act promptly and swiftly. This is the secret of success.

OPEN TREATMENT OF FRACTURES

The discussion showed that none of the methods of open treatment of recent fractures is absolutely free from danger. As Dr. L. Bérard of Lyons recognized in his paper, surgery of bones is the province of experienced operators who are able to surmount the difficulties found at every step. There are, however, certain contra-indications. If, indeed, old age is not always a reason to abstain from the open treatment, diabetes, albuminuria, badly compensated heart lesions and visceral scleroses are permanent or temporary obstacles. In all recent closed fractures one should always begin by the use of bloodless methods. The period of traumatic shock should be allowed to pass in order to permit the retrocession of muscular hematomas and articular effusions. Nascent infections may thus be avoided. One should then wait eight or ten days, employing the time by making radiographic examinations; thus the number of operations may be reduced. Dr. Tuffier of Paris was an enthusiastic partisan of osteosynthesis, but many other surgeons made important reservations. Dr. Koch of Groningen, Dr. Lucas Championnière of Paris, Dr. Depage of Brussels, etc., considered suturing of the bones a procedure to be employed only in exceptional cases. The perfect anatomic coaptation of the fragments is not at all necessary for the good functioning of a member. It is necessary also to bear in mind that the presence of a foreign body in the bones often produces complications, and after suture there may be delay in bony consolidation.

THE SURGICAL ASSOCIATION AND DR. DOYEN

At the last session of the association there was a significant occurrence. Dr. Doyen took the floor to proclaim the curative action of "mycolysine," a product of his own invention, which he has already declared repeatedly in the daily papers, "is to transform if not to render completely useless all operative technic of the present day." The audience experienced a certain discomfort. Some foreign surgeons expressed their regrets at hearing, on the floor of a scientific organization of as high order as the Association française de chirurgie, journalistic and sensational communications intended for advertising purposes. A resolution was even offered that henceforward no one should advertise pharmaceutical products before the association. Unfortunately the rules of the meeting prevented this resolution being put to the vote.

The Next Congress of the International Surgical Society

The International Society of Surgery, which was founded at Brussels in 1902, and is composed exclusively of surgeons, has just held its third congress, September 26 to 30, at Brussels. The society has broken with tradition. The next meeting, the first one to be held outside of Brussels, will be held in 1914 in New York under the presidency of Dr. Depage of Brussels.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 13, 1911.

Personal

Professor König of Greifswald has been appointed as the successor of Professor Friedrich as director of the surgical clinic at Marburg. Professor Pels-Lensden, for many years first assistant at the surgical clinic at the Charité, has received a call as director of the surgical clinic at Greifswald in place of Professor König.

As successor of von Pirquet, Professor Pfaundler has been nominated to the first place for director of the pediatric clinic at Breslau.

Professor Strasburger of Bonn has been called as successor of the deceased Professor Stern of Breslau. It is scarcely to be expected, however, that he will accept the call.

Medical Inspection of Corpses Before Cremation

According to the directions for the administration of the cremation law an official medical certificate as to the cause of death is required. The necropsy shall be undertaken as soon as possible after death. The official certificate as to the cause of death must give an exact statement as to the manner in which the death was produced. The conduct of the necropsy by artificial light is not permissible, and it should be undertaken by the method most adapted to promote the main purpose of the law, namely, to prevent the concealment of a criminal action by which the death was brought about. By a thorough questioning of the relatives and of the attending physician the medical official shall obtain an exact picture of the course of the disease immediately preceding death and the circumstances under which death resulted.

Tuberculosis Mortality in Prussia in 1910

According to the recently prepared official statistics the tuberculosis mortality in the kingdom of Prussia in the year 1910 has undergone a further reduction. Compared with 1908 the number of deaths was reduced by 2,841 and compared with 1909 by 392. The figures for 1910 are the lowest which have been obtained since 1875, that is, since the establishment of the Prussian statistical bureau. Still even in 1910, 60,479 persons died of tuberculosis in Prussia; 31,090 males and 29,389 females. Of the different ages those between 30 and 40 afford the greatest number, namely, 5,242 men and 5,572 women. The greatest rate reckoned for 100,000 living is shown by the age group from 50 to 60; of these 30.84 men and 16.89 women died. With reference to 100 deaths the greatest number of tuberculosis cases occurred between the ages of 20 to 25 years, that is, 41.69 men and 47.00 women. The relatively marked reduction of tuberculosis mortality in infancy is notable; there were in 1910 reckoned for 100,000 living, 20.92 deaths as opposed to 20.68 in the year 1909 and 26.68 in 1908. The entire number of infants who died of tuberculosis in 1910 amounts to 2,267.

Comparative Experiments with the Roman and German Print and Handwriting

In the active discussion of the advantages of the Roman and German scripts now going on, Professor Groenouw, the Breslau ophthalmologist, has made an interesting contribution. He undertook experiments by which he endeavored to answer the question which of the two scripts is easier to write or read, in order to obtain a more reliable basis than the previous subjective observations and impressions could give. The most varied series of experiments were arranged by which two different texts of a story, one printed in Roman and the other in German type were submitted. From this was shown that in a dictation lasting from three to five minutes, thirty-four German and thirty-nine Roman syllables could be written in a minute, that is, 15 per cent. more with the Roman method. One can write as much in the Roman in seven hours as in the German in eight. The persons experimented on were naturally equally accustomed to both forms of writing; with one exception they, as a rule, employed the German writing. Of the dictation matter written in the German handwriting, Professor Groenouw could read 341 syllables to the minute and of the Roman 358, that is, 5 per cent. more. The difference in reading of printed matter was not so marked; in the mechanical reading of a text, out of nine repeated trials the Roman type was read quicker seven times, from nine to fifty syllables more to the minute, but in two trials the German print was read faster at the rate of about seventeen to thirty-nine syllables per minute. In reading aloud, an average of 344 syllables of the German print were read per minute as compared with 365 of the Roman. In general the Roman script is superior to the German with regard to its legibility but only to a slight extent. That it is quicker to write, depends on the fact that it requires fewer strokes of the pen than the other; the German *a*, he says, requires six while the Roman requires only two. In one minute Groenouw could write this letter eighty-two times in German and 120 times in Roman. That the Roman print is read somewhat faster by some persons than the German is referable to a number of reasons, principally to the fact that certain German letters, particularly the capitals, in spite of their complex character, are not so easy to distinguish from each other and therefore require a somewhat longer time for their recognition.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Oct. 10, 1911.

A Dental Clinic for School Children

The efforts of a private society, the Austrian Society for the Care of the Teeth, have resulted in the erection of a model institute in the western part of Vienna, which will form the nucleus of a series of similar clinics. This *Schulzahnklinik* is a special small building containing a waiting-room, a surgery, a room for the extraction of teeth, a hall for resting after the operation, and is fitted completely up to date in all respects. It will serve as a dental clinic for the children of five schools, mustering some 4,000 boys and girls, between the ages of 6 and 14. As elementary teaching is compulsory with us, all children must go to school. The examination of the teeth of these youngsters was made during the last two years. Nearly all children in Vienna have thus been seen by several competent dental surgeons, whose reports were the bases which served to justify the action of the above-mentioned society. It has been shown that in the majority of cases there were always carious teeth present; in fact, a child with all teeth healthy was an exception. In the poorer districts, no care at all was given to the mouth and teeth by the parents, while in the wealthier districts the children had their mouths cared for, but not systematically, 28 per cent. of all affected children had one tooth carious, 24 per cent., two teeth, 26 per cent., three teeth, while the remainder had four or more teeth diseased. (No mention is made whether this includes such teeth as had been filled up or stopped, or whether only manifestly diseased teeth were considered.) A collection supported by the medical circles resulted in the provision of funds sufficient for the erection of a clinic, and the services of two able dental surgeons were secured. All children deemed fit by the school teacher will be sent to the clinic to be examined and treated. No fee is paid, but only poor children are treated, while those able to pay are advised to see their regular or another dentist. Within a few years, four more clinics of this type will be completed in Vienna.

Marriages

Frank Pennybacker White Hough, M.D., U. S. N., to Mrs. Helen Stewart Spanton of New York City, at Greenwich, Conn., October 14.

Joseph Taber Johnson, M.D., Washington, D. C., to Mrs. Mary Elizabeth McCann, at New Rochelle, N. Y., October 6.

Ernest P. Magruder, M.D., Washington, D. C., to Miss MacGregor of Edinburgh, Scotland, October 23.

Edwin Dial Watkins, M.D., to Miss Minnie Bowles James, both of Memphis, Tenn., October 31.

Walter M. Kingsbury, M.D., to Miss Mary Elizabeth Lane, both of Malden, Mass., October 10.

Sylvan H. Likes, M.D., Baltimore, to Miss Mamie B. Leopold, at Baltimore, October 18.

Roscoe C. Metzel, M.D., Baltimore, to Miss Daisy L. Hines, at Baltimore, October 19.

Albert Louis Mathieu, M.D., to Miss Beulah Akin, of Carlisle, Ind., October 19.

Deaths

John S. Beck, M.D. University of Pennsylvania, Philadelphia, 1868; a member of the American Medical Association, president of the Second Councilor District Medical Society of Ohio; a member of the Mississippi Valley Medical Association; physician and chief of staff of the Miami Valley Hospital; president of the Montgomery County Board of U. S. pension examining surgeons; supreme medical director of the Fraternal Censer; a public-spirited practitioner of Dayton, and a leader in all advance measures for health and sanitation and the safeguarding of the health of the community; died at his home in Dayton, October 19, from cerebral hemorrhage, aged 69.

Albert C. Wedge, M.D. Western Reserve University, Cleveland, 1857; a pioneer practitioner of Minnesota; a member and formerly president of the Minnesota State Medical Association and once president of the Albert Lea District Medical Society; a member of the Minnesota House of Representatives in 1870-1871, and state senator in 1879-1880; surgeon of the Third Minnesota Volunteer Infantry during the Civil War; one of the most prominent citizens of Freeborn County, a man of strong character, and yet genial and lovable; died at his home in Albert Lea, October 23, from pneumonia, aged 77.

Hermann Kiefer, M.D. University of Heidelberg, Germany, 1849; a member of the American Medical Association, and American Academy of Medicine; formerly United States Consul at Stettin, Germany; formerly city physician at Detroit, and president of the Detroit German Clinic; a regent of, and professor emeritus of practice of medicine in the University of Michigan, Ann Arbor; died in Detroit, October 11, three days after a surgical operation, aged 86.

Thomas Crain Evans, M.D. Hospital College of Medicine, Louisville, 1884; former dean and professor of ophthalmology, otology and laryngology of the medical department of Kentucky University, and of the merged medical schools the University of Louisville; a specialist on diseases of the eye, ear, nose and throat; an excellent organizer and a most lovable character; died at his home in Louisville, October 26, from chronic interstitial nephritis, aged 50.

Rufus Dodd Mason, M.D. State University of Iowa, Iowa City, 1887; a member of the American Medical Association, American Proctologic Society and Medical Society of the Missouri Valley; professor of rectal and pelvic surgery in the John A. Creighton Medical College, Omaha; surgeon to St. Joseph's Hospital, Omaha, and consulting surgeon to Mercy Hospital, Council Bluffs, Ia.; died at his home in Omaha, October 18, aged 51.

Benjamin N. Baker, M.D. Pennsylvania Medical College, Gettysburg, 1856; a member of the American Medical Association; a veteran of the Civil War and one of the oldest practitioners in Dutchess County, N. Y.; assistant surgeon of the First New Jersey Volunteer Cavalry and surgeon of the Twenty-Sixth New Jersey Volunteer Infantry during the Civil War; died at his home in Rhinebeck, N. Y., October 19, aged 78.

Louis Harvey Jones, M.D. Tulane University, New Orleans, 1887; a member of the American Medical Association; formerly a resident of Atlanta, and a member of the board of health; professor of chemistry and medical jurisprudence in the Atlanta College of Physicians and Surgeons from 1890 to 1908; formerly secretary and treasurer of the Medical Society of Georgia; died at his home in St. Petersburg, Fla., October 9, aged 53.

Daniel Webster Crouse, M.D. Long Island College Hospital, Brooklyn, 1869; a member of the American Medical Association and a member of the Judicial Council in 1894 and 1897; formerly president of the Iowa State Medical Society; for thirty-seven years a practitioner of Waterloo, and district surgeon of the Rock Island and Illinois Central systems; died in Citronelle, Ala., October 11, from tuberculosis, aged 66.

Robert L. Burrage, M.D. Bellevue Hospital Medical College, New York City, 1878; for twenty-one years a member of the medical staff of the Prudential Insurance Company and for a long time its medical director; who held a conspicuous position among life insurance specialists; died at his home in Orange, N. J., October 29, from valvular heart disease, aged 53.

Elisha Hopkins, M.D. Harvard Medical School, 1854; for more than half a century a practitioner of Searsport, Me., assistant surgeon of the Fourth Maine Volunteer Infantry, and Surgeon of the Fourteenth Maine Volunteer Infantry during the Civil War; died at his home, October 5, aged 82.

Allen George Rennison, M.D. National Medical University, Chicago, 1896; a member of the American Medical Association, and China Medical Missionary Society; medical director of Mapleview Sanitarium; while making a professional call near Sumner, Ia., October 6, was struck by a train and sustained injuries from which he died a few hours later, aged 41.

Henry P. Merriman, M.D. Chicago Medical College, 1865; a member of the Illinois State Medical Society, Chicago Gynecological Society and Chicago Physician's Club; at one time a member of the faculty of Rush Medical College; for forty years a practitioner of Chicago; died at his home in Santa Barbara, Cal., October 18, aged 73.

Charles Herman Mueller, Jr., M.D. Medical College of Ohio, Cincinnati, 1902; of Hyde Park, Cincinnati; aged 33; died at the home of his father in Cincinnati, October 11, from the effects of a bullet wound of the heart, believed to have been self-inflicted with suicidal intent while despondent on account of the ill health of his wife.

James Gass, M.D. College of Physicians and Surgeons, Baltimore, 1891; a member of the American Medical Association; and local surgeon of the Pennsylvania System at Sheffield, Pa., while driving his automobile over a grade crossing at Stoneham, October 22, was struck by a locomotive and instantly killed, aged 48.

George Malvern Ridgway, M.D. University of Pennsylvania, Philadelphia, 1899; of Trenton, N. J.; a member of the American Medical Association; pathologist to Mercer Hospital, and a specialist in diseases of the ear, nose and throat; died at the Eastern General Hospital, Bangor, Me., October 8, from nephritis, aged 37.

Adoniram Judson Matthews, M.D. Medical College of Georgia, Augusta, 1859; a member of the Medical Association of Georgia; surgeon in the Confederate service during the Civil War; local surgeon of the Southern Railway; died at his home in Elberton, February 5, from carcinoma of the face and throat, aged 76.

Julia Hibben Flagg, M.D. Medical College of Indiana, Indianapolis, 1890; a member of the Washington State Medical Association; attending physician to St. Joseph's Hospital, Vancouver; died at her home in that city, June 3, from injuries received in an accident in which she was thrown from a buggy, aged 46.

Anthony Miller, M.D. University of Louisville, 1879; a member of the Mississippi State Medical Association; a member of the board of trustees of the Mississippi Charity Hospital for several years; recently elected senator from Sharkey County; died suddenly at his home in Rolling Fork, October 7, aged 56.

Carl Crisand, M.D. New York Homeopathic Medical College, New York City, 1884; surgeon to the Worcester (Mass.) Hahnemann Hospital and president of the Worcester Oratorio Society; died at the home of Dr. J. E. Willis in that city, September 30, from cerebral hemorrhage, aged 53.

Albert J. Franklin, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; a member of the American Medical Association; a pioneer practitioner and for several terms coroner of Faribault County, Minn.; died at his home in Blue Earth, October 9, from cerebral hemorrhage, aged 69.

Lee Smith, M.D. Rush Medical College, 1856; for many years a member of the American Medical Association and for more than half a century an honored practitioner of Bloomington, Ill., one of the old-time family physicians; died at his home in Bloomington, October 16, aged 79.

Jansen Beemer Mattison, M.D. Bellevue Hospital Medical College, 1867; formerly a member of the Association for the Cure of Inebriety and the New York Academy of Medicine and medical director of the Brooklyn Home for Habitués of Opium, Chloral and Cocain; died September 26.

George Holman Snead, M.D. University of Virginia, Charlottesville, 1855; a member of the Board of Conscripts in the Confederate service during the Civil War; who, after several years of practice, became a clergyman; died at his home in Fork Union, Va., July 1, aged 79.

John A. Osborne, M.D. Medical College of Indiana, Indianapolis, 1879; a member of the Indiana State Medical Association; of Pittsboro; died at the Deaconess Hospital, Indianapolis, March 1, after an operation on the prostate gland, aged 69.

James Burke, M.D. Rush Medical College, 1887; of Gillett, formerly of Manitowoc, Wis.; a member of the American Medical Association; died at his old home in Wayside, Wis., October 12, from spinal disease, aged 55.

Oliver J. Gray, M.D. University of Maryland, Baltimore, 1902; a member of the Delaware State Medical Society; died at his home in Wilmington, September 29, from pneumonia, aged 31.

Charles Frederick Patterson, M.D. Dartmouth Medical School, Hanover, N. H., 1896; a member of the American Medical Association; died at his home in Rye, N. H., October 17, aged 44.

William Newton Enochs, M.D. Vanderbilt University, Nashville, Tenn., 1888; for several years physician of Carroll County, Tenn.; died at his home in Huntingdon, October 14, aged 46.

David A. Thompson, M.D. Medical College of Ohio, Cincinnati, 1868; a veteran of the Civil War; died at his home in Elizabethtown, Ind., October 17, from heart disease, aged 67.

Robert Boyd Cabell, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1883; formerly of De Witt, Mo.; died at his home in Dolores, Colo., October 4, aged 64.

Jerome D. Bruce, M.D. Jefferson Medical College, 1856; of Sanford, Fla.: a member of the Florida Medical Association; died in Jacksonville, September 28, aged 75.

John W. Baker, M.D. Memphis (Tenn.) Medical College, 1901; of Prescott, Ark.: died in a hospital in Fort Worth, Tex., June 24, from nephritis, aged 37.

Hal B. Canine, M.D. University of Louisville, 1889; died suddenly at his home in Watertown, N. Y., October 1, from acute gastritis, aged 55.

Esrow B. Crow, M.D. Starling Medical College, Columbus, O., 1865; died at his home in Ridgeway, O., October 12, aged 77.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

"ELECTRO-RADIO" FAKERS

They Tried to Buncombe Buncombe, But Failed

The following communication, to which reference is made in the editorial department of this issue, shows what may be done by an energetic county medical society to protect the public from frauds. It is sent in by a committee appointed by the Buncombe (N. C.) County Medical Society:

"A group of men calling themselves 'doctors' and going by the names of Whittam, Smith and E. D. Brantley, located in Asheville, N. C., about July 1, 1911. They rented a suite of offices, fitted up with handsome furniture (bought on time), and commenced running a series of highly colored advertisements in both local papers of their offices, equipment and skill. In the 'classified' columns they also advertised for a physician registered in North Carolina.

"By their 'wonderful equipment' and 'astounding skill' they asserted they could cure all diseases without the aid of a surgeon's knife or medicine. Their offices soon became crowded, and it was generally understood that they were extracting large sums of money from their patients for the guaranteed cure of everything from paralysis to a run-down feeling. It furthermore became known that they were giving medicine.

"A committee was appointed by the Buncombe County Medical Society to investigate their merits or demerits. The first few days were fruitless, and by legal authority we were informed that unless we could show that they were giving medicine, they could continue their fraudulent practice under the guise of electricity and radium.

"At this time in the August 19, 1911, issue of THE JOURNAL of the American Medical Association there appeared a timely article in the 'Propaganda for Reform' department on 'Mayr's Wonderful Stomach Remedy, Another Fake Gall-Stone Cure.' This seemed to fit some of the cases which they were purporting to cure of gall-stones. After searching around a few days we found a reliable witness, who had received the 'gall-stone treatment,' as described in the above-mentioned article. [The 'treatment' here referred to consists essentially in giving the victim a massive dose of olive oil, followed by a saline. The patient is made to believe that the soapy concretions, that are discharged following this procedure, are gall-stones. – ED.]

"Warrants were then issued for these 'doctors,' charging them with giving medicine without a license and doing a fraudulent practice. It seems that they had been unable to secure a licensed physician. Had they been successful, I doubt if they could have been prosecuted.

"In the process of serving warrants these 'doctors' duped the officer, and, as he returned to headquarters for more information, they hurriedly left their offices and 'skipped town.' The committee was rewarded, however, as the daily newspapers wrote up the exposure, and there was no attempt on the part of the experts to return. By ridding Asheville, however, they will be thrust on another unsuspecting public, and we hope that by calling attention to this prosecution in THE JOURNAL they will be caught and prosecuted elsewhere.

"The newspaper and various creditors secured writs for their equipment, which was found to be the cheapest of electrical appliances, and some of the patients were able to attach a portion of their fat bank account. It is believed that, in a few short weeks, they extracted several thousand dollars from our innocent townspeople.

"The Buncombe County Medical Society directed that we send to THE JOURNAL of the American Medical Association the above report, hoping that its appearance in the pages of THE JOURNAL will apprise other communities.

"The committee suggests that it is high time some legislative action be taken for the protection of the public against the exploiters of fake electrical methods of treatment. It is thought by our legal authority that the making of a diagnosis, giving an opinion, applying electrical treatment and charging a fee really amounts to the practice of medicine, and that it should be in licensed hands.

"We further call the attention of the profession to the fact that most of these advertising electric concerns do, as a matter of fact, give drugs, and it is no wonder that electrotherapeutic methods are in such disrepute with the laity, since any faker can legally use them.

"The committee desires to acknowledge the value of the investigations of fraudulent practices that are now being propagated by THE JOURNAL, and to call attention to this specific instance.

"C. V. REYNOLDS, M.D., Chairman,
"A. W. CALLOWAY, M.D.,
"EUGENE B. GLENN, M.D.,
"Committee."

CONVICTIONS UNDER FOOD AND DRUGS ACT *

(Concluded from page 1473)

ROYAL LITHIA WATER

William H. Anderson of Waukesha, Wis., sold another of the so-called lithia waters, which contained an unweighable quantity of lithium. It was labeled as a cure for rheumatism, gout, dropsy, etc. It was very evidently misbranded; a charge to which the defendant pleaded guilty and was fined $25. —[*Notice of Judgment, No. 1032.*]

RADIO-SULPHO CANCER CURE

This impudent fraud, which has already been exposed in THE JOURNAL[1] was exploited by one Philip Schuch, Jr., of Denver. He also sold, as an accessory, a nostrum which he called Radio-Sulpho-Brew. Radio-Sulpho was an alleged cancer cure; Radio-Sulpho-Brew a "Blood Purifier." Analyzed by the government chemists, Radio-Sulpho was found to consist of a solution of sulphur and sodium hydroxid in water. In this connection it will be remembered that the Colorado state chemist characterized this malodorous combination as "a bad smell capitalized for a million dollars." Radio-Sulpho-Brew was found to be essentially nothing more than a solution of epsom salts. Both of these nostrums were declared misbranded on the grounds that they did not possess the therapeutic virtues claimed for them, neither did they possess radium or radio-active properties as their name would indicate. Schuch, Jr., pleaded not guilty but the jury held differently.—[*Notice of Judgment, No. 1049.*]

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* Descriptions of ninety convictions previously reported in popular form in THE JOURNAL are issued as an illustrated pamphlet, entitled "Convictions," price 6 cents.

[1] THE JOURNAL A. M. A., Dec. 3, 1910; also "Nostrums and Quackery," pp. 68-70.

LA SANADORA

Benigo Romero was the romantic name of a "patent medicine" exploiter who did business under the firm name of the Romero Drug Company in Las Vegas, N. Mex. La Sanadora was evidently sold chiefly to Mexicans, for the label was in Spanish. It was said to cure various things from "rheumatism" to "rump ache" and "twitching eye-brows" to "cholera." Analysis showed it to contain among various things:

Opium.
Alcohol.
Chloroform.
Oil of peppermint.
Ammonium hydroxid.
Water.

It was declared misbranded on two counts. First, because the label contained no statement of the amount of alcohol, chloroform and opium in the mixture; and second, because the product would not cure the various ailments claimed. Romero pleaded guilty to the first count and was fined $50. The second count was dismissed on motion of the United States attorney.—[*Notice of Judgment, No. 1076.*]

TUCKER'S ASTHMA SPECIFIC

This nostrum has been exposed at various times in The Journal.[2] It is exploited by a Dr. Nathan Tucker, Mt. Gilead, O. It contains cocain and is said to be a "specific for asthma, hay fever and all catarrhal diseases of the respiratory organs." The government declared the stuff misbranded on two counts: (1) It contained cocain and the label bore no statement of the quantity or proportion of this drug; (2) it was not a specific. Tucker pleaded not guilty, but the jury before whom the case was tried declared him guilty on the first count. Tucker's lawyer filed motions in arrest of judgment and for a new trial but both motions were overruled by the court and Tucker was fined $150 and costs.—[*Notice of Judgment, No. 1077.*]

PEEBLES' EPILEPSY CURE

This nostrum is exploited by a concern called "Dr. Peebles' Institute of Health" at Battle Creek, Mich. The treasurer and general manager of this so-called institute is W. T. Bobo, M.D., a quack who advertises to cure goiter. Peebles' so-called cure consists of two preparations, his "Brain Restorative for Epilepsy and All Diseases of the Brain and Nervous System" and his "Nerv-Tonic for the Blood and Nerves." Analysis by the Bureau of Chemistry showed that the "Brain Restorative" was a solution of ammonium, sodium and potassium bromids with an alcoholic preparation of valerian, flavored with bitter almonds. "Nerv-Tonic" was a sweetened watery-alcoholic solution of vegetable products containing no material having distinctive, active characteristics. The stuff was declared misbranded because of the falsity of the therapeutic claims. The company, by its treasurer, filed a plea of *nolo contendere* and was fined $5.—[*Notice of Judgment, No. 1079.*]

DETCHON'S RHEUMATISM CURE

I. A. Detchon of Crawfordsville, Ind., sold two nostrums called respectively, "Dr. Detchon's Relief for Rheumatism" and "Dr. Detchon's Relief for Rheumatism Tablets." Both of these preparations were formerly sold under the name "Mystic Cure" and "Mystic Cure Tablets," respectively. False, misleading and extravagant claims were made for both these products such as to constitute misbranding. Analyzed by the government chemists, "Dr. Detchon's Relief for Rheumatism" was found to consist essentially of sodium salicylate, sugar and water, while "Dr. Detchon's Relief for Rheumatism Tablets" was found to consist principally of sodium salicylate. Detchon pleaded guilty to the charges and was fined $200 with costs.—[*Notice of Judgment, No. 1091.*]

DR. LINDLEY'S EPILEPSY REMEDY

This nostrum which was exploited by one A. K. Hollowell under the alias New Vienna Medicine Company, was sold as a cure for epilepsy. Some of the claims made for it were:

> "Produces perfect cures."
> "May be taken as long as required without any fear of harm."
> "A Positive Remedy for Epilepsy, Fits, Spasms, Convulsions and St. Vitus' Dance."

Analyzed by the Bureau of Chemistry, the "remedy" was found to be a solution of bromids in water and alcohol. It was declared misbranded both because of the falsity of the therapeutic claims and because the proportion of alcohol was not given on label. The defendant pleaded guilty and was fined $200 and costs.—[*Notice of Judgment, No. 1093.*]

Correspondence

Object-Lessons on Venereal Disease

To the Editor:—In view of the recent papers and discussions on the subject of venereal disease (The Journal, Sept. 23, 1911, p. 1052) and the excellent exposé of the Interstate Remedy Co. (The Journal, Oct. 7, 1911, p. 1222), it may be of interest to describe some of the details of perhaps the first evidence, on a large scale, that far-sighted business men are awakening to the importance of the popular teaching of hygiene, and especially of combating venereal disease.

The National Cash Register Company, of Dayton, O., has about 6,000 employees in its factory. A welfare department is maintained in the interests of the employees, and every man and woman must undergo a medical examination before going on the pay-rolls; venereal disease, if detected, at once bars an applicant from employment.

In spite of the unusual precautions, the officers of the company have long felt that their factories have nearly their full quota of gonorrhea and syphilis, and this last summer it was determined to secure the best possible series of object-lessons for the instruction of their men. The text-book plates usually used for this purpose were discarded and the slides for the lectures were made from actual life and were then colored by an artist from life, many weeks being spent on this alone and every phase of the venereal diseases being reproduced with startling faithfulness.

To make the subjects still more real, a moving-picture-in-color process was used; the films, machines and operator were imported and many venereal victims were taken in motion, removing their bandages, etc., and showing the terrible results of the disease in the most striking way, the natural colors being reproduced by photography. The subjects really seem to live, breathe and move before the audience.

For the practical protection of the auditors several fakes are exposed and their methods explained, among them being the subject of the article in The Journal, October 7.

It is the purpose of the National Cash Register Company to give these lectures repeatedly in their new auditorium during working hours, the employees hearing them in detachments of about a thousand at a time, and receiving full wages while they are attending. The officers are convinced that this will eventually pay them in dollars and cents, though the lectures have already cost several thousand dollars to prepare and the wages of the men, while hearing them, will amount to several thousand more.

Other lectures on the simple physiology of digestion, respiration and circulation, etc., with practical application to the selection of wholesome foods, the prevention and care of tuberculosis, the patent medicine frauds, etc., are now being prepared in the same elaborate manner and will be presented in a similar way during the winter.

This company believes that it pays to be well and keep well, and that a workman unhappy internally is an economic loss externally—and it apparently has the courage of its convictions.

F. M. Loomis, Ann Arbor, Mich.

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[2] The Journal A. M. A., Aug. 4, 1906; Aug. 28, 1906; March 16, 1907; Jan. 2, 1908; March 14, 1908; May 20, 1911; see also "Nostrums and Quackery," pp. 314-316.

The Use of Bismuth and the X-Ray in Diagnosing Diseases of the Alimentary Tract, Etc.

To the Editor:—In May, 1899, I read, before the Chicago Medical Society, a paper entitled, "Original X-Ray Work and Its Value to Stomach Diagnosis," which was published in the *Philadelphia Medical Journal*, Aug. 26, 1899. The Journal commented on it Sept. 2, 1899. At that time I said, speaking of the *x*-ray: "I am within bounds when I say that the prevailing idea with the general practitioner has been that it is only of value to the surgeon . . . however, it is possible to recognize new growths, deformities, malformations, variation in the density of bone . . . calcareous infiltrations of various organs or tissues. . . . Some months ago I became convinced that I could make use of the *x*-ray in my special study of the stomach and alimentary tract, and later I made a study of the other cavities of the body. It is my pleasure to present to you the result of my experiments as to method, technic and apparatus, with brief reference to its value in stomach diagnosis. My claim is that the work is original, that the value of the method of examination is far in advance of any that we have heretofore used. By it the stomach can be definitely outlined, giving its size, shape and position. It is also possible to examine the transverse colon, fistulous tracts, uterus or bladder. This is accomplished by filling the stomach, cavities or tracts with what I have termed my bismuth emulsion. The bismuth emulsion is non-toxic, non-irritating and can be made antiseptic making it possible to fill any accessible cavity. In preparing for the skiagraphic examination . . . the stomach can be filled with the bismuth emulsion, using enough to bring the organ to the point of complete distention. . . . With the fluoroscope you will be able to note the outlines of the stomach, showing the lesser curvature. . . . The stomach can be studied from different views. . . . giving a definite idea of the normal movements of the organ and enabling us to diagnose motor insufficiency. . . . Radiographs of the stomach are unsatisfactory, because its normal movements, combined with the change in its shape and position produced by respiration [we had to expose twenty minutes at that time] makes it impossible to produce a clear outline on photographic plates. The best work is done with the fluoroscope."

In looking over medical literature I find that Rieter of Munich makes the claim that he was the first to have used this means of stomach diagnosis. This was in 1904, five years after the publication of my paper.

In January, 1908, E. G. Beck of Chicago, makes the claim to have been the first to have used the method of diagnosis in cases of fistula. Satterlee and LeWald in The Journal (Oct. 14, 1911, p. 1255), in speaking of *x*-ray examinations of the gastro-intestinal tract say that the method of employing some insoluble substance such as bismuth, etc., will soon be universally used.

Walter B. Metcalf, Chicago.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TARIFF ON SURGICAL INSTRUMENTS

To the Editor:—Is a physician returning from a trip abroad compelled to pay duty on surgical instruments purchased for his personal use? N. S.

Answer.—This question was referred to the Treasury Department, Washington, D. C., and the following reply was received from James F. Curtis, the assistant secretary:

"Paragraph 709 of the tariff act of Aug. 5, 1909, provides that in the case of residents of the United States returning from abroad, all wearing apparel and other personal effects taken by them out of the United States to foreign countries will be admitted free of duty without regard to the value thereof, on their identity being established. Under this provision of Paragraph 709, physicians who are residents of this country would be entitled to bring back with them free of duty all surgical instruments taken by them from this country, provided that such instruments are not advanced in value or improved in condition while abroad. If any repairs are placed on these instruments while abroad, duty would be assessed on the value of such repairs only.

"The Board of United States General Appraisers in T. D. 30,270 of Jan. 13, 1910, following the decision of the United States Circuit Court of Appeals in U. S. vs. Bernays (158 Fed. Rep. 792), held that only such articles as were in the nature of wearing apparel and similar personal effects necessary or appropriate for the use of the persons having the same in possession for the purpose of the journey, might be included within the exemption of $100 allowed under Paragraph 709 to returning residents of the United States.

"The department's former construction of the said paragraph permitted such residents to bring back with them, free of duty, articles to the value of $100 acquired abroad with little regard as to the character thereof, but subsequent to the board's decision above referred to, this practice was changed to conform to such decision. Surgical instruments purchased abroad by physicians cannot be included within this exemption unless they are necessary and appropriate for the purposes of the journey and for personal comfort and convenience.

"Surgical instruments if composed wholly or in part of metal would probably be dutiable under the provisions of Paragraph 199 of the said act at the rate of 45 per centum ad valorem. Surgical scissors would be subject to duty as scissors under Paragraph 152 as follows: valued at not more than 50 cents per dozen, 15 cents per dozen and 15 per centum ad valorem; valued at more than 50 cents and not more than $1.75 per dozen, 50 cents per dozen and 15 per centum ad valorem; valued at more than $1.75 per dozen, 75 cents per dozen and 25 per centum ad valorem. Other surgical instruments would be dutiable under appropriate paragraphs of the tariff according to the component material of chief value."

STROPHANTHUS TINCTURE TENDS TO DECOMPOSE IN WATER

To the Editor:—In your interesting department of therapeutics, in the series you have been printing on prescription writing, I find under the head of "Incompatibility," October 14, page 1289, the following statement: "Strophanthus in the form of the tincture should not be prescribed in solutions containing water. It slowly forms a toxic substance when in water solution. I ask for further information, as this chemical action is not familiar to me.

N. D.

Answer.—We quoted this from Osborne's book on "Materia Medica and Pharmacology," ed. 1906, p. 92. The tincture of strophanthus may deteriorate even when undiluted. When diluted with water, fermentation takes place, and decomposition, souring and cloudiness soon occur. The tincture of digitalis, for instance, will stand much greater dilution and will keep for a much longer time than will the tincture of strophanthus without deterioration. The official strophanthinum is a glucosid or a mixture of glucosids, and is probably not often a single active principle, although a crystalline strophanthin has been separated and can now be obtained. This mixture of glucosids in the strophanthus of the official tinctura strophanthi seems to undergo changes when diluted with watery solutions and allowed to stand in an ordinary medicine bottle. It has been stated that such solutions have produced poisoning, although the term poisoning may be a little strong. As to the cloudiness caused by the addition of water to tincture of strophanthus, it is quite probable that this is due to the fixed oil which strophanthus contains; the seeds are stated to contain 30 per cent. of such an oil, as well as kombic acid.

METHOD OF APPROXIMATE ESTIMATION OF INDICAN IN URINE

To the Editor:—I noticed in The Journal (Oct. 21, 1911, p. 1386), a request for a method of quantitative estimation of indican in the urine. About ten years ago I suggested a very simple and fairly accurate method.

To 10 c.c. of the urine add 1 c.c. of a solution of lead acetate (25 per cent.) and filter through a double filter. To the filtrate add an equal volume of Obermayer's reagent (2 gm. of ferric chlorid to the liter of strong hydrochloric acid) and 2 c.c. of chloroform. Invert the tube several times, until the coloring of the chloroform asumes maximum intensity. If only a slight coloration appears the amount of indican is very small, and further testing would be useless. If the indican is present in appreciable amounts, however, add from a dropper, drop by drop, a solution of potassium chlorate (31.6 gm. per liter) until the color is discharged. The number of drops of the chlorate solution required to discharge the color may be taken as an index of the amount present. Normally, one to two drops are sufficient.

A. Robin, Wilmington, Del.

AVOID OILS AND ALCOHOL IN HOOKWORM TREATMENT WITH THYMOL

To the Editor:—For the treatment of hookworm disease I find that Osler's "Practice of Medicine" gives dangerous advice. The editions of 1900 and 1907 advise castor oil, and the 1907 edition, whiskey or brandy.
A. C. Fisher, Emmerton, Va.

Comment.—An examination of the editions referred to shows that our correspondent is correct. We also find this dangerous advice given in the 1911 edition. Although we have called attention to this danger previously in the columns of The Journal, it is well to speak of it again. The danger to which our correspondent refers is that the thymol which has been given to kill the hookworm parasites may dissolve in the oil or alcohol, and then be absorbed by the body with more or less toxic—perhaps serious—effects. All oils and alcohol are to be scrupulously avoided until the thymol has passed out of the intestinal canal.

ELIMINATE THE TERM "ALLOPATH"

To the Editor:—In support of the committee of the Fulton County (Ga.) Medical Society, I beg to say that the word "allopath" was invented by Hahnemann, as was the epithet "old school" invented by so-called "eclectics," to apply to regular practitioners. See Webster's Unabridged Dictionary. Both epithets are used almost exclusively by irregulars and their friends.
A. G. Field, M.D., Des Moines, Iowa.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Oct. 28, 1911.

Banister, W. B., lieut.-col., Oct. 20, in charge chief surgeon's office, central division.

Sheep, W. L., lieut., granted leave of absence for twenty days, about Oct. 20, 1911.

Stone, F. P., dental surgeon, reports arrival Oct. 16, 1911, Fort Morgan, Ala., for temporary duty.

Hart, W. L., captain, arrived at San Francisco, Oct. 19, from Manila.

Kean, J. R., lieut.-col., Oct. 23, reports departure from Washington, D. C., en route to Paris, France, to attend the International Sanitary Conference to meet there Nov. 7, 1911.

Kerr, R. W., lieut., ordered to Fort D. A. Russell, Wyo., at expiration of leave of absence.

Koyle, F. T., M.R.C., when *Kilpatrick* goes out of commission will return to his station, Fort H. G. Wright; arrived Oct. 24, 1911, for duty.

Sheep, W. L., lieut., left Fort Ethan Allen Oct. 20 on leave of absence for twenty days.

Wing, F. F., dental surgeon, Oct. 19, arrived at Fort Lincoln for temporary duty.

Pascoe, J. B., M.R.C., Oct. 20, returned to Fort Wood from leave of absence.

Chase, C. L., M.R.C., Oct. 19, left Fort Oglethorpe, Ga., for duty at Fort Dade, Fla.; arrived Oct. 22, 1911.

Kerr, R. W., lieut., Oct. 18, on leave of absence for two months; relieved from duty on transport *Sherman*.

Lewis, W. F., major, Oct. 16, returned to presidio, Monterey, Cal., from leave of absence.

Page, Henry, major, Oct. 15, arrived at San Francisco Oct. 16 on leave of absence for four months.

Pinkston, O. W., captain, leave already granted him is extended fifteen days.

Pariseau, G. E., lieut., detailed as member of the board at Panama to examine candidates for second lieutenant, Philippine scouts, vice Mason, C. F., lieut.-col., relieved from above board.

Maynard, E. B., M.R.C., reports his return to San Antonio, Tex., Oct. 21, from leave.

Griffin, A. M., M.R.C., Oct. 22, arrived at Fort Riley for duty.

Voorhies, H. G., dental surgeon, Oct. 21, returned to Jefferson Barracks, Mo., from leave of absence.

Gentry, E. R., lieut., relieved from duty at Fort Leavenworth, Kan., in time to take transport to sail from San Francisco Dec. 5, 1911, for the Philippine Islands, for duty on the board for the study of tropical diseases.

Lynch, Charles, major, will proceed to Pittsburgh on special duty in connection with the American Red Cross, and on its completion will return to his station in this city.

Boehs, C. J., M.R.C., Oct. 21, arrived at Fort Banks for duty.

Ingalls, R. E., dental surgeon, will leave Fort Douglas, Utah., Nov. 1, for Forts Yellowstone, W. H. Harrison and Missoula.

Richardson, W. H., captain, relieved from duty in the Yosemite national park and ordered to return to his station, Fort Miley, Cal.

Hart, W. L., captain, Oct. 22, arrived at Fort Sam Houston, Texas, for duty.

Shockley, M. A. W., major, Oct. 24, reports his arrival at Fort Niagara, N. Y., for duty.

The following named medical officers are assigned to and ordered to join the station set opposite their names: Foucar, F. H., lieut., Fort Du Pont, Del.; Whitham, J. D., lieut., Fort Monroe, Va.; Clark, A. P., lieut., Fort Williams, Maine; Willis, J. M., lieut., Fort Snelling, Minn.; Coulter, J. S., lieut., Amb. Co. 3, Fort Leavenworth, Kan.

McAlister, J. A., dental surgeon, on completion of his duties at Fort Bliss will proceed to San Antonio, Texas, to prepare his dental equipment for shipment and then return to his station, Fort Leavenworth.

Hill, F. R., lieut., granted leave of absence for one month, about Nov. 1, 1911

Society Proceedings

COMING MEETINGS

Am. Assn. for Prevention of Infant Mortality, Chicago, Nov. 16-18.
American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Annual Meeting, held at Nashville, Oct. 17-19, 1911

(Continued from page 1479)

Diagnostic Aids in Surgery of the Renal Pelvis and Ureter, with Special Reference to Pyelography

Dr. W. F. Braasch, Rochester, Minn.: Radiography, cystoscopy, meatoscopy and ureteral catheterization are valuable aids in diagnosis, but may give an erroneous impression and often be insufficient. With pyelography one may be able to demonstrate changes in the outlines of the pelvis and ureter which accompany most surgical conditions of the kidney and ureter. Hydronephrosis may be accurately determined by the pyelograph. It is particularly valuable with small distention and with marked constriction of the ureter. By using these data one is able to identify renal shadows by inflammatory changes seen in the pelvis and ureter. Stone in the ureter is recognized by the mechanical dilatation above it. Deformity caused by tumor of the kidney may be demonstrated in about two-thirds of the cases. There is not as yet a widespread adoption of the pyelograph, largely because of a lack of technical facility. There is never permanent injury resulting from its use.

Dr. John T. Geraghty, Baltimore: We have used this method of examination for about a year and a half, and have found it of the greatest value in a certain class of cases. It gives a most graphic and striking illustration of the stomach, dilatation of the calyx, twists of the ureter, etc. So far as the kidney and pelvis itself are concerned, we have not been able to get as much information from it as Dr. Braasch has. With the use of the ureteral catheter, with the employment of the pyelograph to estimate the renal function, and with the chemical and microscopic characters of the urine, we can place kidney surgery on just as accurate a plane as any other branch of medicine or surgery.

Diagnosis of Prostatic Obstruction

Dr. Bransford Lewis, St. Louis: I consider the following features as essential in a diagnosis of such conditions, not only for the analytical study of the case, but as a working basis for treatment: 1. Hypertrophy or not? 2. If so, is it causing obstruction? 3. The amount of obstruction so produced. 4. The form and nature of the condition producing the obstruction. 5. The physical and functionating condition of the allied organs, particularly kidneys and cardiac system.

All of these points should be considered and determined accurately before attempting to decide as to the treatment or operation, except for such measures as emergency treatment may call for to relieve acute retention or sepsis, etc.

Cancer of the Prostate

Dr. Robert C. Bryan, Richmond, Va.: Primary cancer of the prostate may follow one of two general types, namely, the scirrhous and the glandular. Cancer is not infrequently associated with beginning hypertrophy, may originate in a normal and atrophic gland, or in an organ which has been the seat of a chronic prostatitis. One lobe or the entire gland may be involved. The infiltration may form foci so small as to be detected only by the microscope. Carcinoma of the prostate does not result as a degeneration of a previously benign adenomatous process. In every case of senile prostatic hypertrophy the fact of the possible existence of carcinoma must be borne in mind. The prostate itself causes no symptoms in the early stages of carcinoma; the subjective symptoms are given out by the bladder and pelvic organs. The invasion of the disease is so gradual, and the symptoms modified so progressively, that there is an unconscious adjustment of the patient to the condition. The treatment is divided into preventive and curative. Medical treatment is not to be entertained. There seems to be little virtue in the Roentgen ray, Finsen light or radium therapy. Bilateral castration is the operation of choice. In twenty-two cases of twenty-six operated on, the patients regained the bladder functions. The suprapubic operation is to be condemned as the prostatic urethra comes away and gives an unusually good opportunity for the escape of carcinomatous juices. In the second stage of the disease the operator must base his judgment for surgical attack on the degree and type of pathologic invasion.

The Influence of Stricture of the Urethra on the Development of Hypertrophic Changes in the Prostate

Dr. Hugh Cabot, Boston: Stricture of the urethra is markedly antagonistic to the development of hypertrophy of the prostate, owing to the long standing chronic prostatitis which it causes; therefore, no case of stricture of the urethra in later life, in the absence of enlargment of the prostate may be assumed. The recognition of this fact is important in the management of retention of urine in later life; it has not been sufficiently understood. The management of retention of urine due to stricture, and of that due to hypertrophy of the prostate is radically different and each condition has markedly a different prognosis.

DISCUSSION ON PAPERS OF DRS. LEWIS, BRYAN AND CABOT

Dr. E. G. Mark, Kansas City, Mo.: We can still further add to the comprehensive diagnosis of hypertrophy of the prostate by means of bimanual palpation. Where we have obstruction, be it from hypertrophy or contraction at the neck of the bladder, we should get away from the idea that the residual urine is increased. In contraction of the vesical neck, we are dealing with a neck below the age of those patients in whom we deal with hypertrophies. We have a compensatory hypertrophy of the musculature of the bladder, and therefore, a lessened residuum.

Dr. Henry J. Scherck, St. Louis: It is important to know when to operate in a case of hypertrophy of the prostate. I have seen a number of cases in which a very large prostate which could be palpated through the rectum produced very slight symptoms of obstruction. It is not always a large prostate that causes obstructive symptoms. Not long since I unfortunately removed a man's prostate, thinking the obstruction was due to enlargement of that organ, but the obstructive symptoms did not disappear. Subsequently it was found that this man had arteriosclerosis of the cord, as determined by a neurologist, which produced the bladder symptoms.

Dr. William N. Wishard, Indianapolis: The cystoscope may become a clumsy instrument in the diagnosis of prostatic hypertrophy. The prostate changes and increases in size; the urethra is usually elongated; it also has changed its angle, and in the introduction of the cystoscope, whose shaft is straight, the end of the shaft where the window of the cystoscope rests must be passed far beyond the vesical orifice and above the obstruction, or it is hard to get any view at all. The canal which, before the introduction of the instrument, was curved, is now straight and on account of the displacement of the vesical orifice there is produced a certain amount of bulging which is misleading.

Dr. W. F. Braasch, Rochester, Minn.: I would call attention to the value of urethroscopic examination in the diagnosis of hypertrophy of the prostate. I am in the habit of using a flexible instrument. It is also of value in the diagnosis of carcinoma involving the prostatic urethra. Carcinoma of the prostate in the majority of cases can be diagnosed by rectal palpation.

Dr. William Britt Burns, Memphis: Dr. Cabot has called attention to the lack of enlargement of the prostate in the presence of stricture of the urethra. That is a point that has escaped my attention, and I would like to know how that can be verified. A short time ago I had a patient with a very tight stricture of the urethra. I was not able to introduce the smallest filiform bougie. I resorted to suprapubic cystotomy, and in going through the neck of the bladder and opening the urethra in that direction, I was struck with the size of the prostate and debated for a short time as to the advisability of removing the prostate, but on account of the condition of the patient I did not do so. In that case there was a large and strong annular stricture at the neck of the bladder.

Dr. John T. Geraghty: I find that carcinoma of the prostate does not arise from a degeneration of the hypertrophied tissue, but it occurs in the portion of the prostate that is left behind. The posterior commissure never undergoes hypertrophy, and you will find there a plateau of tissue when cancer comes, and when associated with hypertrophy you will find cancer on the posterior surface. That is a point of practical importance. When you are doing perineal prostatectomy and have to cut through a dense layer of tissue before you come to the typical hypertrophied lobules, you may be sure you are dealing with cancer because it is the only condition which will give that picture, and it will help us in making a diagnosis if we have not done so before operation.

Dr. William Billington, Birmingham, Eng: With regard to the operative treatment of hypertrophy of the prostate, in England the suprapubic method is practiced more extensively than the perineal. Very large, soft, adenomatous prostates can easily be enucleated through a suprapubic incision, and the patients do well. The cases of small carcinomatous prostate, and those with contraction at the neck of the bladder, present grave difficulties if we attempt to enucleate them by the suprapubic route.

Operative Treatment of Gonorrheal Epididymitis

Dr. Francis Hagner, Washington, D. C.: I do not operate in every case of gonorrheal epididymitis, as the milder forms often recover promptly under appropriate expectant treatment. Until operative procedures were resorted to in acute gonorrheal epididymitis very little seemed to have been known of the gross pathologic appearance of this condition. In some cases on exposure of the epididymis multiple abscesses can be distinctly made out before puncture; in others abscesses cannot be made out until punctures are made. Eighty per cent. of my cases have had pus present in the epididymis, varying from a few drops to 1 and 12 drams, and yet the text-books on surgery state that gonorrheal epididymitis very rarely goes on to suppuration.

DISCUSSION

Dr. J. W. Handley, Nashville: I have had occasion several times to make incisions in the tunica vaginalis in cases of gonorrheal epididymitis, and have given my patients relief. The ideas Dr. Hagner has advanced in favor of operation are logical and worthy of serious consideration.

Dr. Hugh Cabot, Boston: We have operated in about thirty cases by Dr. Hagner's method, with gratifying results. I desire to lay stress on the results to the gonorrheal process by drainage of the epididymis, because it has seemed clear that in a certain proportion of cases—say 25 per cent.—drainage of the epididymis very definitely shortens the attack.

Dr. Joseph Rilus Eastman, Indianapolis: I would like to know whether Dr. Hagner has found the colon bacillus in any of his cases of gonorrheal epididymitis. I have found colon bacilli in abscesses which ensued on what seemed to be a gonococcal epididymitis.

Dr. Perry Bromberg, Nashville: Shortly after Dr. Hagner described his method in the *Annals of Surgery*, 1908, I tried it in one case, and the relief was so great that I have since adopted it as a routine method. I have done the operation more than twenty-five times, and my results have been excellent.

Dr. F. R. Hagner, Washington: I have not found the colon bacillus in a single case, but I do not deny that it may have been found by others.

Relation of Renal Activity to Surgical Operation

Dr. E. O. Smith, Cincinnati. The success or failure of a major operation depends largely on the activity of the kidneys, of course, barring faulty technic and bad surgical judgment of the operator. The functional activity of the kidneys may be influenced by the shock incident to a major operation, by the anesthetic, by trauma to one or the other kidney, by calculi, or by ureteral obstruction from any cause. There are three distinct periods of every surgical case that require special care and attention: the preoperative period, the operation and the postoperative period. It is best to make a further study of the functional activity of the kidneys before operation. This is based on the observations that normal kidneys remove from the circulation certain products that have been introduced within a certain time, and that marked deviations from this time represent abnormal kidneys. Operation should be done as rapidly as consistent with good work, for the longer the operation the greater the shock, and the greater the shock the greater the circulatory disturbance, and in consequence of which the blood-supply to the kidney is diminished, a very apparent cause of renal inactivity. Immediately following the anesthetic the patient should be given oxygen inhalation. In old people and bad risks this should be continued for several hours. Hiccough and persistent vomiting following operations are indicative of diminished renal activity and should be looked on as a warning rather than an independent complication calling for special treatment. When anuria does occur, the best treatment is fluid introduced into the veins, sweating and morphin. We have always used saline solutions, but Fischer's solution and alkaline solution are far more effectual.

DISCUSSION

Dr. William N. Wishard, Indianapolis: A study of the urine prior to operation, where it is found to be abnormal, is considerably influenced by the various preoperative or preparatory measures to which Dr. Smith has called attention. The specific gravity and the percentage of urea and the general condition of the urine are helpfully influenced by drainage. In a certain class of cases I drain the bladder, where it is possible for two or three days or longer prior to operation. We do not always estimate the importance of shortening the period of anesthesia in its relation to renal function.

Dr. Hugh Cabot, Boston: In our practice in the last two years in operations on the prostate, we have used spinal anesthesia as the anesthetic of election where the kidney function was below a fair standard, and many patients have recovered who we feel would not have recovered under general anesthesia. We have used gas and oxygen with excellent results, and in cases of damaged heart that anesthetic is to be preferred.

(To be continued)

MEDICAL SOCIETY OF PENNSYLVANIA

Sixty First Annual Meeting, held at Harrisburg, Sept. 25-28, 1911

(Concluded from page 1481)

Traumatic Surgery of the Hand and Foot

Dr. James Jefferson, Johnstown: The most important feature in traumatic surgery of the hand is the care of severed tendons. In suturing tendons, the approximation has much to do with the efficiency of the repair. In subsequent fixation the part must be placed in such position as to avoid tension on the sutures. The best method of treating metacarpal fractures is by a long palmar splint with adhesive strips at the wrist for counter extension, and two strips of adhesive applied to the finger after the manner of Buck's extension. The severely crushed finger should be cleansed thoroughly, the soft structures replaced, and a hot bath of 1 to 4,000 corrosive sublimate applied. There is a great temptation to amputate, but it pays to take time and patience to avoid this. For sprains of the ankle my custom is to apply a plaster cast with the foot at right angles to the leg, and follow this later by strapping, after the method of Gibney.

DISCUSSION

Dr. J. Stacey John, Bloomsburg: Roentgen-ray examination in all cases of injuries of the hand and foot should be made to determine if any of the tendons have been severed. If so they should be sutured with catgut.

Dr. Americus R. Allen, Carlisle: The first thing that deserves consideration in these injuries is conservatism. When there is infection there should be free incision and immobilization. In dressing cases of fracture I use a small splint made of adhesive plaster with a small strip of pasteboard in between, and it answers very well.

Treatment of Backward Displacements of the Uterus

Dr. Xavier O. Werder, Pittsburgh: A simple uncomplicated uterine displacement rarely justifies operative treatment, because this malposition is usually a harmless condition. When symptoms accompany a uterine displacement we should first carefully search for some pelvic complications which are usually responsible for the disturbances, and in the absence of such affections, carefully examine into the general condition of the patient, and especially look for some manifestation of a disordered nervous system which is often at the foundation of this trouble. When in doubt, as of necessity we often are in this class of cases, a temporary correction of the displacement by means of a well-fitting pessary will often determine whether the cause of the ailment can justly be attributed to the uterus or to some derangement of the general health of the patient. Thus the pessary will often prove a valuable diagnostic as well as therapeutic agent.

DISCUSSION

Dr. Lowell M. Gates, Scranton: While it is true that not all cases of retrodisplacement of the uterus need immediate operation at first, sooner or later they will. In time they will produce symptoms of interference with the proper circulation of the blood in neighboring organs. We must always consider the type of the patient. A phlegmatic woman in the ordinary walks of life will go around for years with a retrodisplacement of the uterus without paying any attention to it, while the neurotic is made uncomfortable.

Secondary Repair of the Perineum by the Emmett Method

Dr. Henry D. Beyea, Philadelphia: There is much evidence of a tendency to discredit the value of the Emmett operation for secondary repair of the perineum. There is no operation in surgery that is more difficult of understanding or requires more study and surgical skill in its performance than this one. It is essential to practice every detail of the operation as taught by Emmett, even to the needle and suture material. Properly practiced, it is the only anatomically and surgically correct, and the most efficient method of restoration of the injured pelvic floor and the relaxed vaginal outlet.

DISCUSSION

Dr. Theodore B. Appel, Lancaster: In my work on the perineum the results of the Emmett operation have not been very satisfactory. My object in these cases is to get after the weakest point. I question whether you can do that by the Emmett operation

Dr. J. W. Luther, Palmerton: It is a mistake to try to apply one operation to all cases. If a distinct sulcus laceration can be demonstrated, the Emmett operation is the operation of choice. There are many cases of relaxation of the pelvic floor either with or without laceration. In these cases, when a distinct sulcus tear cannot be demonstrated, I think the Hegar operation superior to the Emmett.

Dr. W. Wayne Babcock, Philadelphia: There is no doubt that Emmett's operation has served a very useful purpose in the development of gynecologic surgery. It is a gynecologic and not a surgical procedure. The relaxed perineum is a condition very similar to hernia. By bringing its walls in apposition we can repair a perineum that is relaxed in just the same way that a hernia is repaired. There is no reason why we should not expose the various layers of tissue and bring them together.

Dr. J. M. Baldy, Philadelphia: My own impression has been that an operation is always surgical, providing the man knows how to do surgery. The trouble with those who criticize the Emmett operation is that they do not know how to do it. They show this by their criticism. The fault has been with the gentlemen who have tried to modify the Emmett operation. They have not done the Emmett operation. There is no such thing as a relapsed perineum without a laceration.

Dr. R. C. Norris, Philadelphia: The Hegar operation is suited only to women who will not again bear children, while the Emmett operation is adapted to child-bearing women. The difficulty lies in the lack of knowledge of the anatomy. We should go back to anatomy and study the anatomic basis of these operations; then we shall learn the true principle involved.

Essentials in Surgery

Dr. J. M. Wainwright, Scranton: Surgeons could very well devote more time to the study of how to avoid operations which must end fatally, how to make all operations more safe, and how to diminish postoperative discomfort. In the ideal stage of surgery there would be no postoperative deaths, which now result either because the operation has been bungled or else because death was inevitable in spite of operation. In the latter case we have deluded ourselves into thinking that the operation would give the patient the last chance, whereas, in fact, all the operation did was to hasten the end. We need to make marked improvements in reference to the question of the safety of operating. We must learn among other things how to avoid influencing the blood-pressure, and also how to use the anesthetic. Something must be done to make convalescence more pleasant. Patients do not get vitally interested in surgical feats performed while under the anesthetic, but they are vitally interested in the discomfort they suffer after the operation.

Estimation of Vital Resistance of Patient with Reference to Possibility of Recovery

Dr. J. C. Bloodgood, Baltimore: For estimating the resistance of the individual we have very few scientific methods and instruments of precision as compared to those which the engineer possesses. In estimating the factors of vital resistance there are two large problems, one of diagnosis and one of treatment. The patient must be under observation from beginning to end and we must be changing our methods in order to meet the indications. As we have progressed in surgery and eliminated the grosser problems we come to-day to problems of the most minute detail. This relief with recovery depends on the estimation of the vital resistance of the patient before, during and after operation. When we come to estimate the actual factors in the resistance of the individual, science is small as compared to the art. We have to consider, first, the individual; second, the operation; and, third, the disease. Whenever we can estimate that the relief of the burden from the disease is greater than the burden we are going to place on the patient by an operation, the chances for a cure are very great. In regard to anesthesia, my personal experience in the last year has demonstrated that operations can be done under nitrous oxid on handicapped individuals, operations of a greater magnitude with the risk tremendously less than the same operation on the same individual under ether. During the operation the surgeon and the anesthetist work together, estimating the factors of shock, following pulse and respiration, and the surgeon must learn when to stop. There are many operations which do not need to be finished, and, I think, more careful observation will teach us when to stop in some of these operations of greater magnitude on handicapped individuals; we will perform the operation in two or three stages. The higher cortical centers are the least important things concerned as factors of safety.

DISCUSSION

Dr. Edward Martin, Philadelphia: I take exception to the point that the higher cortical centers are the least important ones as factors in the safety of the patient. The ego, the individual aside from the physical, has an absolute dominating control over every function of the body, and by no means is the least important part of the attitude of absolute optimism on the part of the surgeon himself, his assistants and all those professional people who come in contact with that patient. Many a time, where the case was easily balanced, the victory has been won by that optimism and belief in recovery by which the patient has been properly influenced before and after the operation.

Dr. Harold J. Gibby, Pittston: One of the most important points, aside from the physical condition, is the temperament of the individual. The individual who resists the anesthetic, who is of a depressed nature, is sure he is going to die, is often a very poor subject. Another thing is the importance of diagnosis—to find out just how much has to be done and how much work can be done at the one sitting.

The Influence of Various Anesthetics in Determining Mortality

Dr. George M. Laws, Philadelphia: Surgical anesthesia is easy to obtain with chloroform, more difficult with ether, and most difficult with nitrous oxid, and statistics show that their relative safety is in reverse order. At the hospital of the University of Pennsylvania nitrous oxid followed by ether has been the routine anesthetic for years, and a continuance of our favorable result convinces us that ether pneumonia can be eliminated by proper application of this method. Whether or not a general anesthetic should be given when shock is present depends largely on an accurate estimate of the psychic element. The horror of ether is one of the greatest obstacles to modern surgery, as it leads the patient to defer operation. Therefore an anesthetic which is more pleasant to take has much to commend it. Ethyl chlorid has about the same range of utility as nitrous oxid, but its mortality rate, which is distinctly higher than that of chloroform, makes its use rarely justifiable. Nitrous oxid followed by ether given by the drop method overcomes practically all the objections to ether alone.

DISCUSSION

Dr. William L. Estes, South Bethlehem: The principal thing in every anesthetic is the person who gives it. This implies that the man or woman of experience will, as a rule, adopt the anesthetic and regulate the quantity of anesthetic with reference to the patient. The next point in giving the anesthetic is the psychic state of the patient. Nephritis, especially the chronic kind, is not a contra-indication to ether.

Dr. G. W. Guthrie, Wilkes-Barre: I believe in ether, and yet I am satisfied that the ultimate dangers of ether are sometimes overlooked. The drop method is the best method of giving ether.

How Long Should Patients Remain in Bed After Various Operations?

Dr. Robert T. Miller, Jr., Pittsburgh: We cannot establish any law or precedent that may be safely followed in deciding the question as to how long patients should be kept in bed after operation. It is necessary to eliminate all purposeless effort and have the patient concentrate his whole strength on the problem of recuperation. This means absolute rest in bed. This may be required for two days, two weeks or two months. Exceptions to this are found in the case of elderly people, as regards pneumonia and uremia, both of which conditions may be warded off by postural change.

The Prevention and Treatment of Complications in Gastro-Intestinal Surgery

Dr. Donald Guthrie, Sayre: Success in this work depends more on the strict attention to details, which are often regarded by some surgeons as minor and unimportant, rather than on any unusual dexterity which may be displayed in the operating-room. The results of the surgeon who operates on the diagnosis of somebody else and who never sees his patients after operation can never be so good as those of the man who works up his cases for himself, who develops a technic of his own, and who carefully watches and treats such cases during their convalescence. The most common complications after operation on the gastro-intestinal tract in the order of their frequency are shock, acute dilatation of the stomach, pneumonia, adynamic ileus, embolism, fatty degeneration of the liver and peritonitis. In most of the well-managed operating-rooms the giving of an anesthetic is entrusted to a nurse specially trained and not to the youngest intern, who may be more interested in the steps of the operation than in the patient. The man who has a permanent force in his operating-room can do better work in all branches of surgery, especially gastro-intestinal surgery.

DISCUSSION

Dr. W. L. Rodman, Philadelphia: I am sure it would be much better for our patients if the amount of anesthetic given were reduced after the peritoneal cavity has been opened. I have been in favor of female anesthetists for the past ten years because they are more timid and see danger quicker than a man. I would like to know, however, what would be the legal responsibility of the surgeon whose patient dies on the table while the anesthetic is being given by a trained nurse. I do not think the diploma of a trained nurse allows her to give poisons. The thing that has brought me best results in my work is the administration of morphin and atropin one hour before operation, and the next best thing is postoperative lavage.

Dr. Charles H. Frazier, Philadelphia: I happened to consult a lawyer with regard to the legal status of an official anesthetist, prior to the employment of a female nurse anesthetist at the University Hospital and was assured by him that the hospital authorities were entirely justified in employing her and would not be subject to damage, providing they realized that in the employment of this special anesthetist they were doing it for the best interest of their patient. We should try to have a woman give ether and ether alone. It seems scarcely fair to a professional anesthetizer to have patients brought in to her and have her instructed to give the anesthetic before she has had an opportunity to go over them. She should have a list of patients to be operated on the day before operation so that she may see them, inquire as to the nature of the operation to be performed, look into the history of the case and make some examination, perhaps of the heart or lungs, before the patient is brought to the operating-room for operation.

Dr. John B. Roberts, Philadelphia: I believe that women do many things better than men, but I believe that all anesthetists should be those qualified to practice medicine; qualified to determine whether the patient has a good or bad heart, whether good or bad kidneys.

Dr. Charles E. Thomson, Scranton: I do not believe that all our troubles have ended with anesthetics when we have introduced nurses to administer them, but I think that they are so far advanced, so much better than anything we have ever heretofore enjoyed, that we are making real progress in handing over our anesthetics to trained nurses. I mean nurses who have been trained to give anesthetics.

Dr. George W. Guthrie, Wilkes-Barre: As to giving poisons, the nurse is authorized to give hypodermics of atropin and strychnin in the absence of the doctor, whereas the anesthetic is never given unless the doctor is present.

Dr. C. J. Cummings, Williamsport: I would not have it go out that a woman can give an anesthetic better than a doctor. I do not believe that should be accepted.

Dr. G. E. Shoemaker, Philadelphia: This question is a practical one in our hospitals only and does not refer to the trained nurse in general practice giving anesthesia. We cannot get our interns to take enough interest in anesthesia to do it right. We must hire somebody who will stay in the hospital one or two years and give anesthetics alone.

Dr. J. C. Bloodgood, Baltimore: Anesthesia is the stepping-stone to surgery; every surgeon who operates should have had experience in anesthesia. There is no practical experience which teaches the individual the physiology and the problems of physiology which are of the utmost importance to the surgeon in the treatment of respiration better than anesthesia. I think that men who go into surgery should have their experience of anesthesia, and that the anesthesia in most of the clinics where it is possible should be given by the men who ultimately expect to go into surgery.

What Can be Done to Preserve the Strength of the Patient During His Stay in Bed?

Dr. John M. Baldy, Philadelphia: Surgical patients, as a rule, are not sick in the sense, for instance, of a typhoid patient. Therefore, there is little call for efforts for sustaining strength after operation. The effort to force the appetite by drugs only prolongs the loss for an indefinite period. The excretory organs should be got to working actively by means of purgatives and diuretics. With a few exceptions the diet should not be limited, except as to quantity. A patient kept in bed two to four weeks on three full meals a day inevitably suffers from one or two attacks of indigestion. If the surgeon will use good judgment in deciding that an operation is desirable, will prepare his patient well, do his operation properly and pick his nurse carefully, he need not bother much about the after-treatment.

Transfusion

Drs. George M. Dorrance and Nathaniel Ginsburg, Philadelphia: In concealed bleeding within the abdomen or pelvis we frequently wait for the resultant syncope to arrest the bleeding. This too often results in loss of life. Instead of waiting and trusting to uncertainty we advise and practice transfusion. In this way it is possible to render cases apparently inoperable, on account of shock, suitable for operation. Instances of this are met with in gastric or duodenal hemorrhage, in hemorrhage following operation or typhoid or extra-uterine pregnancy.

Commission on Prevention of Venereal Diseases

Dr. Edward Martin, Philadelphia, chairman of this commission, offered on behalf of the commission recommendations that a medical certificate of freedom from veneral or other contagious diseases should be required from the man who contemplates marriage, that one who conveys venereal disease should be punished by a jail sentence, and that provision should be made for foci of infection so that the public may be protected.

The recommendations were adopted by the society and the commission was continued for another year with the same personnel.

Commission on Fractures of the Femur

Dr. William L. Estes, South Bethlehem, chairman of this commission, offered on behalf of the commission recommendations that teachers of surgery should give far more attention to the investigation of fractures and to the teaching of this important branch to their students; that while recognizing the fact that roentgenograms may be most misleading, they will, when properly made, furnish an indication for the proper reduction and preservation of apposition of the parts and serve as a graphic record of the fracture itself; that, while treatment by means of traction enables the patient in most cases to resume his occupation without serious detriment, yet roentgenograms show that absolute apposition and restoration of the proper axis of the bone are seldom accomplished; that the open method of treatment introduces such a very marked element of danger that the commission cannot recommend it for general use or recognize it as a routine practice, but that in selected cases it may be employed by an experienced surgeon; that some form of traction, such as Buck's extension, seems to be the preferable method of treatment, though Bardenheuer's transverse traction and Hamilton's apposition splints will serve a useful purpose in the majority of cases; that the usual methods of measurement are very inaccurate, though good functional results are obtained when the shortening is not over an inch, providing there is no inversion or eversion of the foot; that the usual method of measuring should be checked by measuring from the tip of the ensiform cartilage to the internal malleolus or the patella or from the middle of the umbilicus to the internal malleolus; and that in making measurements the pelvis should not be tilted and that the anterior spine should be in the same horizontal plane.

Commission on Cancer

Dr. J. M. Wainwright, Scranton, chairman of this commission, reported on behalf of the commission that county societies have been urged to devote meetings to the study of cancer and that a number have done so; that six short articles adapted to the lay reader have been prepared, and that these will be sent to all the leading newspapers in the state for publication; that from a report of 382 cases of cancer it was shown that only 68 per cent. of superficial cancers and 48 per cent. of deep-seated cancers were operable when they came to the surgeon; that in 39 per cent. of the superficial and 46 per cent. of the deep-seated cancers there had been a precancerous condition or a chronic irritation; that both the patient and physician are to blame for the delay in treating cancer, but that it would seem that the medical profession should be the first to show improvement in this respect.

Medical Economics

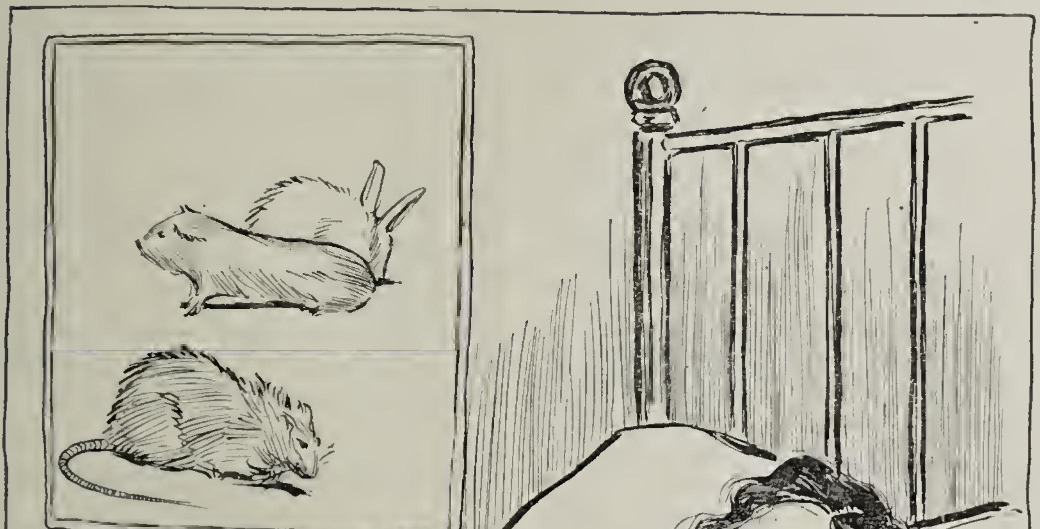
THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

WOMEN'S CLUBS FOR BETTER HEALTH

The Public Health Department of the General Federation of Women's Clubs has taken up the systematic study of community health, as one of the regular features of club work. A special circular on this subject has been sent out to all women's clubs by the chairmen of the Public Health Department. This circular contains a program for women's clubs to follow in studying public health questions. It also appears in a recent number of the *Federation Bulletin.*

The significance and value of this campaign on the part of the federation cannot easily be overestimated. Women, as wives and mothers, are forced to bear the heaviest personal burdens that result from sickness in the household. If the women of the country will unite in a vigorous and persistent demand for better public health, they can wield an enormous influence in securing better conditions and in reducing the unnecessary sacrifice of life, now going on.

The attention of physicians is called to this important work. It is specially of interest to the members of state and county committees on legislation and public instruction. Every possible assistance should be given to the women's clubs in this work. In many cities, physicians can be of great assistance by coöperating with the public health committee of the local club, helping to arrange public meetings, to furnish speakers and to enlist the support of their friends and patients. Copies of this circular and program, as well as information regarding the work among women's clubs can be secured by addressing Mrs. S. S. Crockett, Chairman, Public Health Department, General Federation of Women's Clubs, Nashville, Tenn.


AMERICAN MEDICAL ASSOCIATION PRIZE CARTOON SERIES
Batchelor

IT IS INFINITELY MORE HUMANE, THAT A FEW ANIMALS DIE IN SCIENTIFIC RESEARCH, WITH LITTLE OR NO PAIN, THAN THAT THOUSANDS OF LITTLE CHILDREN SHOULD LIE ON BEDS OF PAIN AND PERHAPS AT LAST, DIE IN AGONY.

SELECTED TOPICS FOR MONTHLY HEALTH CAMPAIGNS AND CLUB PROGRAMS, 1911-1912

October. Community Health

1. What is meant by community health?

2. What should be done to further the health of a community—(a) in homes; (b) in schools; (c) in factories; in shops; in offices; (d) in streets and alleys; (e) in markets; (f) in the drainage system and disposal of other wastes; (g) in provision of clean air and water.

3. What organizations and other agencies are helping to better the health of our community?

4. What can our club do to further these activities?

November. Social Hygiene

1. What is social hygiene?

2. What parents can do.

3. How mothers can teach.

4. What should be taught in primary schools; what should be taught in secondary schools.

5. Local reports. Has your board of education, has your superintendent, has any individual teacher taken any steps in regard to this subject?

6. What the club can do.

December. Ventilation

1. Why we should ventilate.

2. How to secure ventilation—(a) in homes; (b) in public buildings and conveyances.

3. Reports on local conditions—(a) in homes; (b) in schools; (c) in stores; (d) in factories; (e) in churches; (f) in theaters; (g) in public conveyances.

4. What this club can do about it. (a) Each individual member set a good example by ventilating her own home; (b) arrange lectures before local clubs; (c) print ventilation epigrams on your stationery; (d) agitate against specific local air polluters; (e) in public buildings (and conveyances) already constructed demand the best ventilation possible under existing conditions; where new public buildings are being erected interest architects and builders in installing up-to-date methods.

January. Mouth Hygiene—Teeth Inspection

1. What is oral or mouth hygiene?

2. The relation of the teeth to health; on teeth examination of school children in this community.

3. Reports: On education of children or adults regarding the care of the teeth; are there facts available concerning the condition of the teeth of school children of this community? have the local dentists planned to help this movement?

4. Talk by a local dentist on "How to care for the teeth," with a child to illustrate.

5. Discussion — "What can we do about it?"

6. Committee appointments—plans for doing something.

February. Clean Food

1. Definition—clean vs. pure food.

2. Reading from Mrs. Richards in proceedings of Boston biennial.

3. Requirements for clean lists—sanitary score cards.

4. Local accounts of successful food inspection work.

March. School Hygiene—Medical Inspection—School Nurse

1. What is medical inspection?

2. Review of Gulick and Ayers' book.

3. Beginnings — volunteer work.

4. Follow-up work—the nurse; the teacher; the home.

5. Reports of local conditions—from doctors; from teachers; from nurses; from mothers.

6. Where medical inspection is in vogue in this state—results, if any.

April. Conservation of Vision

1. Prevention of infantile blindness—(a) The cause; (b) how it may be prevented; (1) legislation; press; (2) by education; exhibitions; lectures.

2. Lecture by non-commercial electric engineer on "Prevention of eye-strain by proper lighting—in shops; in offices; in homes; in schools."

3. Local oculist discusses "Prevention of eye-strain by suitable glasses."

Chairman closes the meeting by laying special stress on broad conservation viewpoint in this particular question. Distributes literature furnished by the American Association for the Conservation of Vision, and mentions the conservation of vision day which the association proposes to promulgate in 1913.

May. Infant Mortality

1. The relation of vital statistics to infant mortality.
2. What are the chief causes of infant mortality?
3. How to interest and educate mothers.
4. What every mother ought to know.
5. Reports of local milk-supply.
6. Reports on local institutions.

N. B.—Definitions, suggestions and reference lists prepared by the section chairmen of the health department will appear in each succeeding number of the *Federation Bulletin* (Cannon Place, Troy, N. Y.).

It is respectfully suggested to clubs that, aside from the use of topics as programs for actual meetings, they may also be used for planning meetings elsewere, particularly in trying to get other bodies to use topics, and also for individual study and planning by any interested club women, and also for general suggestion to even the reader who may have but incidental interest, but who may look over the outlines in the club organs.

COMMUNITY HEALTH

Wherever homes are grouped, there exists one supreme common interest—the promotion of the public health. On this depends the happiness and efficiency of the individual, the family and society.

The requisites for public or community health may be loosely enumerated as follows: Clean air, water, food, clean homes, schools, churches, theaters, factories, shops, offices, conveyances, streets and alleys and clean citizens. Cleanliness means absence of filth, whose presence implies disease germs. Transmissible diseases have their origin in filth and are conveyed to an unsuspecting public in buildings, streets and conveyances as well as by water, food and milk. Add to this the part played by flies, mosquitoes and other insects.

The public health movement is coincident with the growth of the science of bacteriology, which makes possible the prevention of most diseases which were wont to have been considered inevitable. This includes the potential elimination of yellow fever and malaria, small-pox, the plague, leprosy, hookworm, typhoid, tuberculosis and all diarrheal diseases; has made possible aseptic surgery and midwifery, and a negligible mortality from diphtheria. The universal acceptance and observance of hygienic principles by the people is the object of the movement.

"A knowledge of danger is the surest way of guarding against it," and this knowledge of the immense effect on the common welfare produced by the destruction of germs before they reach the human body places a vast responsibility on public officials and public-spirited citizens and gives a new meaning to the phrase, "Am I my brother's keeper?" The responsibility for the application of sanitary methods rests on all who constitute that intangible but powerful agency called public opinion, for it is a well-accepted principle that what the majority of people want that will they get.

The fact that certain of our friends are made uneasy by so much talk of disease prevention should not give practical workers for improved health conditions cause for worry—"for the knowledge that certain diseases exist, that they have well-known causes, that they are disseminated by well-understood agents, and that their spread can be prevented by well-tried methods should make for peace of mind, not for worry." And it should be remembered that germs (and the filth-borne diseases) are no respecters of psychologic antagonisms, attacking alike the believer and the disbeliever. And while mental therapeutics is a valuable factor in the treatment of diseases of the nervous system, yet "think health—talk health"—"forget disease" is inapplicable to the germ and its extermination.

The eye of the sanitary world to-day is centered on Dr. W. C. Gorgas, whose work has made possible the construction of the Panama Canal, preceded as he was by Reed, Carroll, Lazear and others who proved the mosquito a carrier of yellow fever and malaria.

Of the agencies, official and voluntary, which are concerned in preventing disease and making life more productive, the first in present interest is the hoped-for National Department of Health which the General Federation endorsed at the Cincinnati biennial.

The object of a national health department is to investigate the causes of disease in general, to collect and disseminate such information, and to coordinate the various governmental agencies affecting public health into one department with an expert at its head

Such a department would spread throughout the country such authoritative information on the conservation of human beings as the Department of Agriculture now does in the case of cattle. The government might make maps, as it now does to show the "beet belt," for example, showing in Dr. Wiley's words, "where the cancer belt is, where the greatest tuberculosis area is, where the typhoid area lies, what is the area containing men and women of the finest physiques. Such information would be of illimitable value to the nation in any intelligent attempt at the reduction of disease, and would save millions of dollars to the nation now lost by unnecessary sickness and premature death." Of course, a national Department of Health could have no more to do with the individual practice of medicine than the Department of Agriculture has to do with the individual management of a farm. The Constitution of the United States makes this impossible in any of the states.

Those who oppose federal aid in health matters (the most important that could concern a nation), claiming that it will further the interests of any school or cult, fail to catch the real object of the department, which is to "prevent" disease, and concerns itself not at all with any method of treatment.

Perfected federal, state, county and municipal aid and control of health problems is a consummation not only to be wished but worked for, and the obligation of women's clubs, as homemakers and mothers in such efforts, would seem to be clearly defined, for women's clubs have emerged from the self-culture period and reached the stage where they work not only for the welfare of their own homes and children, but "for women other than themselves, for children other than their own."

The only possible discussion of the question revolves around the point of ways and means.

In connection with monthly health programs, submitted for your consideration, as applicable to actual club or committee meetings, your chairman offers the following general suggestions:

CLUBS OR COMMITTEES

1. Should seek to inform themselves about what needs doing, the best way of doing it and the proper organization or department to do it.
2. Should become a center of inspiration in the community and create a "health consciousness."
3. Should seek to spread a knowledge of the best methods among those doing health work.
4. Should plan systematically to get other organizations interested to the end that each take up a particular community need.

Thus the club becomes a coordinating power and helps to form an orderly social program, each in its own community. By cooperating with corresponding national organizers this desirable goal may be reached for the whole United States.

HEALTH DEPARTMENT PROGRAM

The public health department of the General Federation of Women's Clubs asks that all federated clubs unite in a common month-by-month campaign of study and work, and invites all other public-spirited women's organizations to join in the same cooperative movement. The chairman, Mrs. S. S. Crocket, from the headquarters at Nashville, Tenn., announces nine topics for study and "talk," and nine "campaigns of education," to be handled as follows: October, Community Health: "Know Your City" campaign; November, Social Hygiene: Sex Education in Home and School; December, Tuberculosis: Ventilation and Fresh Air; January, Mouth Hygiene: Tooth Inspection Day; February, Clean Food: How and Where to Get It; March, School Hygiene: Medical Inspection; April, Conservation of Vision: Prevention of Blindness; May, Infant Mortality: "Don't Kill Your Baby"; June, Food Sanitation: Needless Summer Dangers.

The entire health machinery of the American Federation of Clubs and thousands of local clubs will be centered on this program of study, "talk" and real work, with new plans and original ideas to be announced from month to month.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

General Subject for the Month: Rheumatism and Gout

Third Month—First Weekly Meeting

Anatomy

Articular Structures: Articular lamella of bone. Articular cartilages. Interarticular fibro-cartilages. Synovial membrane, structure, attachments, secretion, synovial ligaments.

Peri-Articular Structures: Ligaments, structure, attachments. Muscles and tendons, tendon sheaths. Nerves and blood-vessels.

Endocardium: Origin, structure, thickness, reduplications, aortic valves, mitral valves.

Etiology of Acute Rheumatism[1]

Predisposing Causes: Heredity. Age. Sex. Occupation. Climate, season and locality. Diet. Epidemics. Chronic endocarditis and chorea.

Facts Indicating that Rheumatic Fever is an Acute Infectious Disease: Incidence, clinical features, bacteriology. "*Micrococcus rheumaticus*,"[2] staining and cultural characteristics. Other organisms suggested.

Old Theories of Rheumatism: Metabolic (Prout, Latham), and nervous theory (Mitchell).

REFERENCE BOOKS FOR THE THIRD MONTH

The following text-books on practice: Osler, Tyson, Hare, Anders, Edwards, Strümpell. The following on gout: Duckworth, Ewart, Luff.

Osler's Modern Medicine.
Allbutt's System of Medicine.
Symes: Rheumatic Diseases.

Heredity.—"Heredity," says Ribot, "is that biological law by which all beings tend to repeat themselves in their descendants; it is for the species what personal identity is for the individual. By it a groundwork remains unchanged amid incessant variations; by it Nature ever copies and imitates herself."

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1. Cole: New York Med. Jour., 1906, lxxxiii, 334.
2. Lewis and Longcope: Amer. Jour. Med. Sci., 1904, p. 603. Beattie: Brit. Med. Jour., 1905, No. 11, p. 1510. Poynton and Shaw: Trans. Lond. Path. Soc., lv, p. 126. Poynton and Paine: Lancet, Dec. 16, 1905.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

CONNECTICUT: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

FLORIDA: Regular, Jacksonville, November 7-8. Sec., Dr. J. D. Fernandez.

LOUISIANA: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

MAINE: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, November 14-16. Sec., Dr. Edwin B. Harvey.

NEVADA: Carson City, November 6. Sec., Dr. S. L. Lee.

TEXAS: Fort Worth, November 14-16 (change of date from previous notification). Sec., Dr. J. D. Mitchell.

WEST VIRGINIA: Hotel Waldo, Clarksburg, November 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Massachusetts September Report

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, practical and written examination held at the State House, Boston, September 12-14, 1911. The number of subjects examined in was 13: total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 61, of whom 40 passed, including 3 osteopaths, and 21 failed, including 4 osteopaths and 3 non-graduates.

PASSED College	Year Grad.	Per Cent.
Yale University	(1905)	76.2
Kentucky University	(1904)	75
University of Maryland	(1911)	75
Baltimore Medical College	(1910)	75
College of Physicians and Surgeons, Baltimore (1909) 75; (1911) 75, 77.8.		
Tufts College Medical School (1909) 80; (1910) 75; (1911) 75, 75, 75.8, 76.6, 77.9, 83.		
Harvard University Medical School (1909) 81.5; (1911) 75, 82.2, 84.2, 84.5, 87.4.		
Boston University	(1910)	80.5
Dartmouth Medical School	(1910)	75.3
Columbia University, College of Phys. and Surgs.	(1911)	77.9
Cornell University Medical College	(1909)	87.1
University and Bellevue Hospital Medical College	(1911)	79.2
Albany Medical College	(1910)	75
University of Pennsylvania	(1910) 75, 80; (1911)	75.5
Woman's Medical College of Pennsylvania	(1911)	76.7
University of the South	(1908)	75
University of Vermont	(1904) 77; (1910)	81.7
Laval University, Quebec	(1904)	75
University of Rome, Italy	(1893)	75
University of Bonn, Germany	(1898)	87.6
FAILED		
College of Physicians and Surgeons, Baltimore	(1910)	66.5
Baltimore Medical College	(1905)	63.4
College of Physicians and Surgeons, Boston (1908) 68.5; (1909) 67; (1910) 58; (1911) 68.7, 70.8, 71.7.		
Harvard Medical School	(1911)	71.6
Boston University	(1911)	63.3
Laval University, Quebec	(1911)	65.4, 66.7
University of Vermont	(1892)	61.9
Victoria University, Toronto	(1876)	40.2

Mississippi October Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, October 9-10, 1911. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 90, of whom 27 passed, including 12 non-graduates and 1 osteopath, and 63 failed, including 26 non-graduates and 1 osteopath. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
University of Alabama	(1911)	1
Atlanta School of Medicine	(1911)	2
Atlanta College of Physicians and Surgeons	(1906)	1
Chicago Homeopathic Medical College	(1900)	1
University of Louisville	(1911)	3
Vanderbilt University	(1911)	2
Meharry Medical College	(1911)	1
University of Nashville	(1910) (1911)	2
Jefferson Medical College	(1911)	1
FAILED		
National Medical University, Chicago	(1905)	1
University of Louisville	(1911)	2
Louisville National Medical College	(1910)	1
Tulane University of Louisiana	(1907)	1
Mississippi Medical College (1907) (2, 1908) (1909) (1910) (9, 1911) 14.		
Memphis Hospital Medical College	(1911)	7
University of Nashville	(1906) (1911)	2
University of West Tennessee	(1911)	1
Meharry Med. College (1905) (2, 1907) (1908) (2, 1911)		6
Gate City Medical College	(1906)	1

Book Notices

A TEXT-BOOK OF MEDICINE. By G. Dieulafoy, Professor of Clinical Medicine at the Faculté de médecine de Paris. Authorized English Translation from the Fifteenth Edition of "Manuel de pathologie interne" by V. E. Collins, M.D., M.R.C.S., L.R.C.P., and J. A. Liebmann, Ph.D., M.A., LL.D. In two volumes. Volumes I and II. Cloth. Price, $12. Pp. 2081, with 105 illustrations. New York: D. Appleton & Co., 1911.

The English translation of this popular French treatise will be welcomed by English-speaking physicians. The fact that fifteen editions of the book have appeared in the original language is sufficient evidence that it is fulfilling the purpose of a work on practice by a single author. Dieulafoy has adopted a simple classification of diseases of the different systems and writes from his personal experience rather than in a didactic text-book manner, frequently giving hypothetical or actual cases to illustrate a disease or a method of handling and treatment. This is a satisfactory and comforting method to the physician who turns to a text-book for information on the management of his cases. The author gives no prescriptions but suggests drugs and measures, outlining as far as possible a complete scheme of treatment and management in the various affections. The work has numerous charts, cuts and colored plates illustrating the pathology. The English edition is in two volumes and mechanically is well rendered.

OPHTHALMIC MYOLOGY. A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology (Defects of the Eye) in the Medical Department of Vanderbilt University. Second Edition. Price, $4. Pp. 685, with 84 illustrations. G. C. Savage, 137 Eighth Avenue, Nashville, Tenn., 1911.

This well-known work on the extrinsic and intrinsic muscles of the eye having reached a second edition, has been considerably enlarged by the addition of ninety-one pages to the first chapter and the insertion of twenty-three new cuts. Moreover, the practical chapters, 2 and 12, have had such corrections and additions made to them as seemed to be necessary to elucidate the theorems and hypotheses which the author set forth in his first book. These comprise the fundamental principles of ocular rotations and include chapters on orthophoria, heterophoria, esophoria, exophoria and cyclophoria. The attention of the reader is called to the chapters on the paralyses and pareses of the ocular muscles, and to the following chapter which in an original manner discusses the muscles of the iris and of the ciliary body, particularly in their relations to accommodation, convergence and other normal and abnormal movements of one or both eye-balls.

A MEDICAL HISTORY OF THE STATE OF INDIANA. By G. W. H. Kemper, M.D. Cloth. Price, $2.50. Pp. 393, with illustrations. Published by the Author, Muncie, Ind.

This volume contains the articles which the author contributed to the *Journal of the Indiana State Medical Association* during 1909-1911 while he was chairman of the committee on necrology. There is an interesting introduction by Dr. Brayton of Indianapolis. The chapters on the early medical history of Vincennes and Indiana are full of valuable historical material, as are the succeeding chapters dealing with the early history of various localities. There are chapters on the state society, on epidemics and health laws, war history, and an alphabetical list of deceased physicians, together with biographical notices in a number of instances. Pictures of a number of the more prominent physicians are inserted. As a source for reliable historical material, Dr. Kemper's book will acquire an increasing value as years go on. The example he has set for state medical history should be followed in other states.

Medicolegal

Medical Practice Act Not Invalid in Not Providing for Licensing Masseurs—Admissible Evidence of Violation of Law—Who Amenable to Law

(Germany vs. State (Tex.), 137 S. W. R. 130)

The Court of Criminal Appeals of Texas again affirms a judgment against a masseur for practicing medicine and treating disease without registering a certificate as required by law. The court says that it was contended that the law regulating the practice of medicine was unconstitutional, and that there was error in a refusal to permit the defendant (Germany) to show that "there was no board of medical examiners nor any authority in the state of Texas to whom he could apply for a license or permit to practice massage treatment, and that, as the law made no provision for the practice of masseur treatment, it was discriminating in its character." But the court knows of no higher duty a government has than to protect the life and health of its citizens and, if experience has shown that no man should be permitted to treat disease who has not a knowledge of the subjects named in the medical practice act, the legislature not only had the power, but it was its duty, to pass a law protecting the citizens of the state.

The law does not attempt to say how any one shall treat disease. This is left to the sound judgment of the practitioner. All it says is that he must have a knowledge of certain given subjects before he shall undertake to practice. If the defendant desires to treat those who are sick, let him demonstrate he has a knowledge of the subjects named in the law, and he can treat disease in the manner that is by him deemed best. Physicians all state that in some character of diseases they use "massage," and that it is beneficial, while in others it is harmful.

The court did not err in not permitting the defendant to prove there was no board where he could obtain license to practice massage. There is a board where he can obtain such a license; but he must show, in order to get that license, that he has a knowledge of the human anatomy, is able to diagnose disease, and has a knowledge of the studies named. This is a wise provision, as this court sees it. In protecting the liberty of the citizen, and in protecting him in his property rights, our laws provide that no man shall practice law, or appear in the courts in behalf of another for a remuneration, unless he has gone before a board and demonstrated he has a knowledge of certain principles underlying the law, naming certain books he must read and master to some extent at least. When we are thus careful in dealing with the liberty and property of our citizens, how much more care should we take when we come to deal with matters relating to his very life and the preservation of his health.

Nor was it error to permit the state to prove that the defendant had treated others than a certain Miss Luther, the offense with which he was charged being that he was offering to treat disease for pay without having registered his certificate. An advertisement issued by him and the fact that he treated others for disease contemporaneously with Miss Luther were all admissible, as was the fact that he told Mr. Luther he could cure his daughter of appendicitis.

It was not a question in the case whether the treatment given by the defendant was harmful or beneficial, and the court did not err in not permitting that issue to get in the case.

It was also immaterial whether Miss Luther had been treated by others before she was treated by the defendant; but the fact that the court permitted her father to state that he had his daughter treated by other physicians before she was treated by the defendant could not be injurious to the defendant.

The fact that the defendant represented to witnesses that he could cure certain diseases, and had cured them, was also admissible. Any statement of a defendant relative to the offense for which he is being tried can be proven if the state desires to elicit it.

As the defendant was claiming that he was exempt under the provisions of the medical practice act, it was proper to admit the testimony of physicians as to being familiar with the sphere of labor of a masseur, such as is exempted under the operation of the medical practice act, and that the sphere is to work under the directions of a physician; that one who is not well up on anatomy, physical diagnosis, etc., is not capable of directing the use of massage.

Under the repeated decisions of this court, one who shall treat or offer to treat mental or physical disease by any system or method, and charge therefor, and who has not obtained authority to do so from the medical board, is amenable to the law.

Evidence of Negligence in Failure to Attend Case as Promised

(Adams vs. Henry (Mich.), 131 N. W. R. 62)

The Supreme Court of Michigan reverses a judgment directed for the defendant in this action for malpractice. The plaintiff claimed that premature labor had been brought on by a jar while alighting from a street car, and that the defendant, who had called on her several times in the afternoon promised to return promptly at 11 o'clock, maybe a little earlier, but did not return until 2 o'clock a. m., while the child was born at five minutes after 12 a. m. The plaintiff also offered to prove that her husband had shortly after 11 o'clock called the defendant by telephone, also a little later, and again after the child was born, and that the defendant had each time promised to attend at once, but did not until the time stated. The court holds that if the plaintiff had been permitted to produce, and had been able to produce, testimony tending to establish the statements contained in the offer of proof, it could not be said as a matter of law that the defendant was not negligent. If the defendant was present and responded personally to each call that was said to have been made on him between 11 and 12:30 o'clock, and on each occasion agreed to at once attend the plaintiff and failed to keep his promise, the court thinks he should be held liable, if his failure to attend resulted in injury to the plaintiff. The plaintiff's declaration contained the averment that a laceration of the cervix and rupture of the perineum resulted from the defendant's failure to attend as it was alleged that he had agreed to do, and the court is disposed to the view that the plaintiff should have been permitted to offer such testimony as she possessed pertinent to the issue.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Orthopedic Surgery, Philadelphia

August, IX, No. 1, pp. 1-152

1 *Standardization in Orthopedic Instruction and Practice. A. H. Freiberg, Cincinnati.
2 *Currents and Countercurrents in Surgery. E. H. Bradford, Boston.
3 *Results from Use of Tuberculin in Joint Tuberculosis. G. B. Packard, Denver.
4 *Tuberculin in Orthopedic Diagnosis. W. G. Stern, Cleveland.
5 *Joint Tuberculosis in Children. L. W. Ely, Denver.
6 *The Anterior Heel. A. G. Cook, Hartford, Conn.
7 *Tendon Transplantation and Silk Ligaments: A Few Practical Points in Technic. E. W. Ryerson, Chicago.
8 *Use of Intra-Articular Silk Ligaments for Fixation of Loose Joints in Residual Paralysis of Anterior Poliomyelitis. B. Bartow and W. W. Plummer, Buffalo.
9 *Treatment of Paralytic Outward Rotation of Foot. G. G. Davis, Philadelphia.
10 Congenital Elevation of Scapula. H. W. Kennard, Baltimore.
11 *Physiologic Conception of Arthritis and Some of Its Practical Uses. H. W. Marshall, Boston.

1, 2, 3, 5, 7, 8 and 9. Abstracted in The Journal, June 17, 1911, pp. 1845 and 1846.

4. Tuberculin in Orthopedic Diagnosis.—In 471 cases Stern has used the following "combined" test: When a case presents clinical signs pointing to the possibility of a tuberculous infection, a v. Pirquet and a Calmette test are made at the same sitting. The patient is seen at the end of twenty-four and again after forty-eight hours. If both tests are positive the case is held to be one having an active tuberculosis; if both tests are negative the case is declared free from tuberculosis. Where one test is positive, and the other negative (it usually falls out v. Pirquet positive, Calmette negative), the subcutaneous or intracutaneous prick reaction is resorted to. The smallest possible doses are given subcutaneously, since there is already one negative test and it is desired only to bring out evidences of active tuberculosis. If the third test proves positive, active tuberculosis is diagnosed, and vice versa. Wherever possible the findings have been checked up by laboratory examinations of scrapings, pus, cerebrospinal fluid, etc., Roentgen-ray examinations, autopsy (one case), the clinical course of the disease, and by the variation of the opsonic index after massage and passive motion. In all, Stern knows of but six cases out of the 471 tested in which a mistaken diagnosis was made and in all of these the error was a positive one, i. e., tuberculosis was indicated where it did not exist; but in no case was a tuberculous infection overlooked. In two out of the six a Wassermann reaction done at other hands proved positive and the patients improved under antisyphilitic treatment. The other four cases were all mild cases of arthritis, clinically suspicious, in whom the Roentgen ray gave the clew to the proper diagnosis; none ran the course of a tuberculosis. None of the cases so severe as to give a chance for laboratory investigation was mistaken. Two patients who died from tuberculous meningitis within fourteen days after Stern first saw them, one a tuberculous coxitis, the other a tuberculous shoulder and hip case, gave positive reactions.

6. **Anterior Heel.**—The anterior heel advocated by Cook is an inverted isosceles triangle prism of leather, the base being about 2 inches and the altitude varying from 2/16 to 5/16 of an inch. This prism is placed obliquely across the bottom of the shoe, the vertex of the triangle being just behind the anterior arch or ridge formed by the heads of the metatarsal bones. The base of the triangle is applied to the inner sole, the outer sole following the contour of the two equal sides. The shoe is provided with a heavy steel shank which is supported behind by a low, broad heel, and in front by the anterior heel. The anterior heel, when studied in connection with the steel shank and the posterior heel, is an important element in the balance of the shoe, and by the use of the anterior heel, the following facts are demonstrated: (1) The center of gravity of the body is moved backward and the pressure thus removed from the heads of the metatarsal bones. (2) By supporting the steel shank with the anterior heel, the posterior arch of the foot is supported, and the pressure distributed by increasing the bearing surface. (3) In the act of walking, when the weight passes from the heel and instep to the ball of the foot, the anterior heel acts as a fulcrum and thus relieves pressure on the heads of the metatarsal bones. (4) While standing on the balls of the feet, the anterior heel supports the heads of the metatarsal bones, equalizes pressure, and prevents the falling of the anterior arch. The anterior heel affords instantaneous and efficient relief from all troubles of the anterior part of the foot, whether considered singly or collectively, such as depression of the anterior arch, callosities, corns, bunions, twisted or distorted toes, Morton's toe, anterior metatarsalgia, etc., etc. The common cause of all these troubles is undue pressure, and the anterior heel, by removing this pressure, removes the cause, and places the injured parts in a position in which recovery is possible. A shoe balanced in this manner forms a reliable base for a simple "orange-peel" instep support. The shoe and instep support prevent no normal motion of the foot and impede no normal action of the muscles; a weak foot is not bound down and splinted, but is carefully balanced and supported and kept in a normal position. Walking is easy and natural, and when the weakened muscles have regained their power and the overstretched ligaments have contracted to their proper length, the arch of the foot rises above its support and the support becomes superfluous. Cook claims that shoes and instep supports made in this manner and worn indefinitely will in no way injure normal feet.

11. **Physiologic Conception of Arthritis.**—Marshall calls attention to the fact that knowledge of physiologic conditions which control the health of joints offers a rational means of simplifying and harmonizing the legion of confusing observations and theories. Nervous, infections, metabolic, mechanical and anatomic theories all may be included in a physiologic conception which recognizes the possibility of influencing joints through their blood and nerve-supply, and by mechanical motions, and other physical agencies. Physiologic conceptions of joint disease include bacterial theories of arthritis, metabolic theories, also the action of drugs and food products in the single group of blood irritants. Excessive mechanical irritations, deformities resulting from continued mechanical strains, contractions and postures acquired during acute stages of arthritic diseases due to faulty attitudes while in bed, may be harmonized on a physiologic basis and interpreted as departures from normal physiologic functions through faulty mechanical and anatomic conditions. Nervous theories also are not overlooked, and the importance of nervous control of joints is emphasized. By supplementing this knowledge of physiologic conditions which control the health of joints with the physiologic conceptions of interactions between organs, and the variable resistances of tissues, an adequate hypothesis may be formulated which is simple enough to be remembered, and which satisfactorily explains all confusing observations and ideas that now exist.

If there have been recurring attacks of joint symptoms in a person who has always been in delicate health it is unreasonable to believe that arthritis will cease abruptly and permanently, and treatment in such cases first of all must be directed toward building up very slowly the general vigor and resistance. Cases with abrupt onset of arthritis in full health, with joint symptoms occurring for the first time, have different prognosis and treatment; and while it is impossible to predict the length and severity of symptoms in such instances, obviously remedial measures should not be prescribed, although they often are, with the same frequency and degree of vigor as used with delicate persons. When a period of failing health has preceded the onset of arthritic disease, as very frequently happens, personal habits and modes of living should receive particular attention; and generally the causes may be discovered in common, uninteresting defects in personal hygiene which, when corrected, are followed by subsidence of joint pains and stiffness and by return to usual health. It is Marshall's custom to inquire closely into the patient's daily routine, the time of arising, kind of breakfast eaten, the nature of the occupation, hours of work, and whether there is an excessive amount done; the midday meal and regularity in taking it; also the nature of the evening meal, and how evenings are generally spent; what the usual hours for sleep are, and whether it is restful or disturbed; the individual's usual recreations; the amount of out-door exercise; the appetite, peculiarities in diet, and regularity of intestinal functions; the existence of mental worries and habits of taking stimulants. The patients' opinions of their own condition and what caused the failing health are asked; and from these simple questions it is possible to gain very accurate ideas of the daily life and often to discover remediable defects which alone are responsible for poor health and arthritis. Cases of intractable arthritis must have their beginnings in these same simple, commonplace defects of personal habits that escape recognition owing to their simplicity and ordinary character; and if this is true it indicates that early treatment and prevention of joint disease is the most important and rational course to advocate.

Northwest Medicine, Seattle, Wash.

October, III, No. 10, pp. 271-302

12 Some Problems for Washington Profession. W. Johnston, Spokane, Wash.
13 Future Hygiene. J. N. Hurty, Indianapolis, Ind.
14 Baldness, Its Cure and Cause. F. S. Palmer, Seattle, Wash.
15 Antityphoid Inoculation. J. E. Lane, North Yakima, Wash.
16 Fallacies of Climate in Treatment of Tuberculosis. R. W. Matson, Portland, Ore.

Colorado Medicine, Denver

October, VIII, No. 11, pp. 337-367

17 Conservation of Human Energy. J. E. Goldthwait, Boston.
18 Influence of Mental Attitude of Patient in Surgical Operations. E. J. A. Rogers, Denver.

Texas State Journal of Medicine, Fort Worth

October, VIII, No. 6, pp. 157-182

19 *Twenty-Seven Cases of Latero-Lateral Anastomosis of Ileum and Sigmoid Flexure for Chronic Mucous Colitis. G. H. Noble, Atlanta, Ga.
20 Salvarsan in Mental and Nervous Diseases. W. L. Allison, Fort Worth.
21 *Experience with Noguchi Modification of Wassermann Reaction. J. H. Black, Dallas, Texas.
22 *Pellagra, with Its Peculiarities on the Plains. E. H. Inmon, Takoka, Texas.

19. **Latero-Lateral Anastomosis of Ileum and Sigmoid Flexure.**—It is claimed by Noble that this operation will cure mucous colitis in properly selected cases. Patients with atonic dilatation of stomach and absence of free hydrochloric acid are not good subjects for it and if it be done in this class of patients, persistent treatment subsequently for diseases of the stomach should be enforced. All contributing causes to constipation that can be relieved by surgical measure, should have attention at the time the anastomosis is made. A large percentage (75 per cent.) of Noble's twenty-seven patients received prompt relief from the operation, others required from one to two years to effect a cure, while a small per cent. are but little improved. He cautions that it is not to be depended on as a cure to the exclusion of diet, exercise, and in some instances, laxatives. Partial diversion of the intestinal current into the rectum does not cause diarrhea but on the other hand absorption of fluids by the rectum causes "drying out" of feces, and more or less constipation in about 25 per cent. The patients are cured of mucous colitis though not entirely relieved of constipation. It does not interfere with nutrition. The absorption of toxins is diminished, but absorption of water is ample. The operation is based on the principle that mucous colitis is largely caused by constipation and putrefactive decomposition. From this point of view, the direct object of the anastomosis is to partially drain the most intensely affected section of the ileum, preventing its full discharge into the cecum; for the amount of decomposition, irritation and absorption of toxins is more or less in proportion to the quantity of proteins and degree of stasis in the colon. In the technic of the operation, the suture method is preferred and the anastomosis made as low down on the ileum and sigmoid as the two portions of the intestinal canal can be approximated without tension. Loops are drawn out of the abdomen far enough to make the work easy and to avoid angling of the bowel. The danger of infection is minimized by the use of the rubber dam. This is a piece of rubber sheeting about 14 inches square, in which two slits are cut about 1½ inches long and 6 inches apart, through which the knuckles of the intestines are drawn. The rubber is grasped between the thumbs and fingers of both hands and slightly stretched as each loop of intestine is placed in the clamp. None of the intestine except the immediate portion involved in suturing is exposed to infection from opening the lumen of the canal. After the raw edges are sutured, the exposed parts are thoroughly cleansed and clamps and rubber dam removed. The operation is completed aseptically.

21. **Noguchi Modification of Wassermann Reaction.**—A typical lesion in which spirochetes had previously been found, gave Black a positive reaction after seven weeks. The eruption soon followed. Four weeks after the appearance of a chancre on the lip, a positive reaction was found. These are the earliest positive reactions he has obtained. Two suspicious lesions, each of six weeks' duration, gave negative reactions and later healed without treatment and no secondaries occurred. A suspicious ulcer of the tonsil gave a negative reaction and healed promptly under local treatment. Of seven patients showing typical syphilitic eruptions, all were positive. Eleven cases in the tertiary stage, showing active symptoms, all gave positive reactions. Of nine patients who gave positive histories, but who have had no symptoms for periods varying from a few months to several years, seven gave negative reactions. Three cases with suspicious but not positive histories and showing no definite symptoms, gave negative reactions. Of sixteen cases giving a negative history and yet showing suspicious lesions, fifteen were negative and one positive. This positive case later responded to salvarsan. One of the cases giving a negative reaction is seen now to be clinically syphilis and is responding to the exhibition of mercury. This is the only failure of the reaction in this series. Black has made only six examinations of patients who had previously given positive reactions and had been given an intramuscular injection of salvarsan. These second examinations were made from six to eight weeks after the injection and were all negative. One of these cases after salvarsan, two months after his previous reaction, remains negative. One case of congenital syphilis was positive and one patient showing some obscure mental disturbance also responded. The latter gave a history of fifteen years' standing.

22. **Pellagra.**—The peculiarities of this disease on the plains seems to be that the disease is much more severe than in the lower altitudes of Texas. The cases which have been observed by Inmon presented all the usual symptoms, except one case, in which the patient's mind was not affected to within ten hours of death. As a rule, pellagra on the plains runs a short course and very promptly terminates in death.

Bulletin of Johns Hopkins Hospital, Baltimore

October, XXII, No. 248, pp. 351-382

23 Problem of Typhoid in Baltimore. W. W. Ford and E. M. Watson, Baltimore.
24 Recent Epidemic of Diphtheria in Johns Hopkins Hospital and Medical School: General Procedures Adopted. W. W. Ford, Baltimore.
25 *Infection of Urinary Tract by Bacillus Lactis Aerogenes, with Consideration of the Mode of Entrance of Bacteria into Bladder. J. A. Luetscher, Baltimore.
26 Combined Adenocarcinoma and Mixed-Cell Sarcoma of Ovary. E. K. Cullen, Baltimore.
27 *Blood-Picture in Hodgkin's Disease. C. H. Bunting, Madison, Wis.
28 *Transplantation of Free Flaps of Fascia. J. S. Davis, Baltimore.

25. **Infection of Urinary Tract by Bacillus Lactis Aerogenes.**—Luetscher summarizes his conclusions as follows: The *B. lactis ærogenes* is a rare cause of cystitis. The great majority of infections are due indirectly to the introduction of instruments. Infections of the bladder, in cases in which no instruments have been introduced, are very frequent in women and rare in men. In infections of the bladder in women, without a history of the introduction of instruments, the route of infection is usually an ascending one and due to the direct invasion of the bacteria from the urethra. Such direct invasion of the bladder also occurs in the male and probably much more frequently than is usually supposed. The introduction of a catheter or instruments into the bladder is a very serious procedure, since it may produce a pyuria if the local conditions are favorable, or a bacteriuria which later may be converted into a pyuria when the local conditions become favorable.

27. **Blood-Picture in Hodgkin's Disease.**—One of the most marked characteristics of the blood-smears of Hodgkin's disease, according to Bunting, is the presence of a large number of blood-platelets, inclusive of unusually large platelet forms, practically megalokaryocyte pseudopodia. This was observed in all the eleven cases forming the basis of this report, both in early and in late cases, and over considerable periods of time in cases in which blood-counts have been made at intervals. From this constant finding and from pathologic findings in autopsy material from cases of Hodgkin's disease, it was suggested in a previous report that the toxin of the disease acted as strongly on the platelet-forming elements as on the lymphocytes. An eventual necrosis of megalokaryocytes in the bone-marrow was found. One case of the present series, showed a low platelet-count in the circulation. After having shown a high platelet content of his blood in counts at intervals from Nov. 9, 1909, to September, 1910, the boy returned to the hospital in April, 1911, with serious hemorrhages from the mucous membranes, with a secondary anemia, a leukopenia, 3,500 to 4,000, and fewer platelets than leukocytes, as shown by repeated examinations made during April and May. However, while exceptional or terminal cases may show this platelet exhaustion, the excessive number would appear to be constant in the course of the disease. Coincident with this platelet study, careful study of the leukocyte picture in the disease has been made and has led to the conclusion that in the combined platelet and leukocyte picture one has features that are very characteristic and, in fact, almost pathognomonic of Hodgkin's disease.

While from his experience Bunting believes that the diagnosis may be made from examination of the blood-smear, he would not recommend the method to the exclusion of the histologic examination of an excised gland. The blood-smears have been stained with Wright's stain for the purposes of the counts, although Ehrlich's triple stain has been used for the determination of certain features. Five hundred cells have been the routine and the smallest number counted, but in some cases this has been exceeded. The leukocytes have been grouped into seven classes, except in a few of the early counts wherein but six were made. These groups are: (1) Polymorphonuclear neutrophil (N.); (2) eosinophil (E.); (3) basophil (mastzell) (B.); (4) small lymphocyte (S. L.); (5) large lymphocyte (L. L.); (6) large mononuclear (L. M.); (7) transitional (Tr.). The most striking feature in the counts, perhaps, is the constant high percentage of the so-called transitional cells. This high percentage occurs not only when the total leukocyte count is approximately normal, but also is maintained even when there is a sharp leukocytosis. With a normal total count of leukocytes the percentage of transitionals approximates 10; with a very marked leukocytosis one may have a reduction (6.4 per cent.); while in a leukopenia the percentage rises to 17.8 in a total of 4,800. The series indicates, then, that throughout the disease there is a relatively large number of these cells in the circulation. When one recalls that similar cells are found in smears from normal lymph-glands and also that in Hodgkin's disease there is a marked proliferation of the endothelial elements of the glands, it is difficult not to draw the conclusion that such a proliferation results in this excessive transitional content of the blood. The lymphocyte-count has varied much in these cases, but there is a definite tendency for a percentage decrease from a normal or slightly increased count in early and active stages to a very low count in later stages. With this decrease in lymphocyte percentage, there occurs a corresponding increase in the polymorphonuclear count, from a relatively normal count during the course of the disease, to a relatively high count (76.2, 79.4, 81.8, 84 per cent.) in the terminal stages or when the periglandular infiltration and induration are marked. Eosinophils are found in the glands in large numbers. The highest count found was 8.6 per cent. There is no striking change in the basophil-count, or in that of the large mononuclears.

28. **Transplantation of Free Flaps of Fascia.**—In one group of experiments made by Davis, free fascia flaps were successfully transplanted into the subcutaneous tissue, into fat, on muscle, periosteum, bone, cartilage, tendons and ligaments. Microscopic examination of the specimens showed that the fascia retained its own structure after transplantation and was apparently healthy and well nourished. This was true even after the fascia had been kept in cold storage for thirty-five days and then transplanted into another animal. A second group shows that muscle and tendon defects may be bridged by three flaps of fascia. Muscle defects may be bridged by means of fascia flaps and thus a certain amount of the muscle function saved. The fascia united firmly with the muscle ends and formed a strong symmetrical band between them. A third group shows that free flaps of fascia may be transplanted successfully around arteries, veins and nerves, without in any way interfering with the lumen of the vessels, or compressing the nerves. In a fourth group free flaps of fascia were successfully transplanted into joints and also to take the place of patellæ which had been removed. A fifth group shows that flaps of fascia inserted in skull defects between the dura and bone edges will heal and give a strong membrane which will resist considerable pressure from within and without. When the dura is removed in addition to the bone the fascia flap tucked under the bone edges will unite with the dura and also become tightly adherent to the bone edges. There was in each instance a single fine adhesion of the cortex to the center of the fascia flap. This group also shows that free flaps of fascia may be successfully used to cover prepared defects in the trachea, without subsequent infection and that the mucous membrane grows across the fascia covering the defect. A sixth group shows that free flaps of fascia may be sutured into peritoneal and muscle fascia defects in the abdominal wall and that it will incorporate itself with the surrounding peritoneum and muscle edges. A small omental adhesion was present on examination of the specimen in each instance, but in no case was there adhesion of the gut or any other abdominal organ to the fascia. When a hernia was produced by the removal of a portion of the abdominal wall, except the skin, it was readily cured several weeks later by the transplantation of fascia flaps. In group six, free fascia flaps were successfully transplanted onto the stomach, the intestine and the bladder. The fascia seemed to incorporate itself with the peritoneum. In group seven free flaps of fascia were successfully transplanted on the liver, kidney and spleen.

In several experiments fascia was drawn taut and sutured around firm rubber tubes 0.8 to 1 cm. in diameter and then inserted in the subcutaneous tissue. These specimens were removed after forty-nine and fifty-four days. The structure of the fascia could easly be seen. Microscopic examination showed normal staining fascia with no signs of degeneration. This is interesting as it shows that fascia will receive sufficient nourishment if only one surface is exposed to living tissue. Once or twice the fascia flap was accidentally allowed to partially dry out before it was transplanted, but, in spite of this, it was moistened with salt solution and transplanted. The results were excellent and the fascia was nourished and grew in its new position.

Lancet-Clinic, Cincinnati

October 14, CVI, No. 16, pp. 381-406

29 Radio-Activity of Mineral Waters from Mt. Clemens and Vicinity. G. A. Persson, Mt. Clemens, Mich.
30 Surgery of Lungs. B. M. Ricketts, Cincinnati.
31 External Malleolar Reflex; Chaddock's Sign. R. Ingram, Cincinnati.

New York Medical Journal

October 14, XCIV, No. 16, pp. 765-812

32 Treatment of Portal of Entry of Systemic Diseases. G. Wilson, Baltimore.
33 Newer Teaching of Gastro-Intestinal Diseases. M. I. Knapp, New York.
34 Recurrence of Scarlet Fever. J. P. C. Griffith, Philadelphia.
35 Some More Important Legal Aspects of Practice of Medicine. H. M. Friedman, New York.
36 Use of Nuclein Solution in Surgery. H. J. Achard and H. H. Redfield, Chicago.
37 Complications Following Submucous Operation on Nasal Septum. I. H. Alexander, New York.
38 Few Suggestive Experiments for Cutaneous Reaction for Diagnosis of Syphilis. M. J. Schoenberg and E. Burchill, New York.
39 *Rôle of Extensor Toe Reflexes in Neurologic Diagnosis. T. B. Throckmorton, Cherokee, Iowa.

39. See The Journal, May 6, 1911, p. 1311.

Journal of Missouri State Medical Association, St. Louis

October, VIII, No. 4, pp. 135-180

40 Our Rural Schools. E. H. Miller, Liberty, Mo.
41 Explanation of External Malleolar Sign Made with View to Incite Study to Determine Its Place in Semeiology. C. G. Chaddock, St. Louis.
42 Blindness Following Administration of Organic Arsenic. A. W. McAlester, Kansas City, Mo.
43 Cardiospasm with Sacculation of Esophagus: Its Diagnosis and Treatment. J. S. Myer, St. Louis, Mo.
44 Some Examples of Extragenital Syphilis. J. W. Marchildon, St. Louis.
45 Roentgenotherapy of Goiter. J. N. Scott, Kansas City, Mo.
46 Rebreathing in Ether Administration with Special Reference to Carbon Dioxid Content. W. E. Leighton, St. Louis.
47 Venous Anesthesia. G. A. Lau, St. Joseph, Mo.
48 Menace to Eyesight from Trachoma. J. Green, St. Louis.
49 *Buttermilk as Infant Food. F. C. Neff, Kansas City, Mo.
50 Dietetics of Infancy. J. M. Brady, St. Louis.
51 *Treatment of Pneumonia in Adults. H. A. Killian, Portageville, Mo.

49. **Buttermilk as Infant Food.**—Neff does not believe that buttermilk should be considered as a substitute for sweet milk in the feeding of healthy infants. His experiences prove that the cases for the feeding of buttermilk as for any other form of milk should be selected, and that the daily weight and other evidences of gaining should be closely watched. Buttermilk is more especially suited to sick infants, those with marasmus, chronic enterocolitis, exudative diathesis and those that are commonly termed difficult feeding cases. It may be given for a period of several months without causing unfavorable symptoms and top milk may be gradually added if desired. It is especially of value in the summer months, at which season it will be better tolerated and will produce

better stools than the same case would have done on a sweet milk mixture. Chilling and proper handling of a clean fresh milk is essential to the successful administration and good results in buttermilk feeding.

51. **Treatment of Pneumonia.**—Killian's treatment is entirely symptomatic. He says that to maintain life the careful management of the stomach by suitable diet to prevent distention and the consequent cardiac embarrassment is of the highest importance. To support the heart; the best drugs for this purpose are strychnin, caffein, alcohol, digitalis, camphor and adrenalin. Treat the symptoms as they arise; not the pneumonia. but the patient with pneumonia.

St. Paul Medical Journal

October, XIII, No. 10, pp. 421-482

52 Laboratory Methods in Diagnosis of Syphilis. H. L. Ulrich, Minneapolis.
53 Rambles Through Hospitals Abroad. F. Leavitt, St. Paul.
54 Diseases of Gall-Bladder. .R. C. Dugan, Eyota, Minn.

Western Medical Review, Omaha

October, XVI, No. 10, pp. 495-546

55 Preventive Medicine. W. H. Wilson, Lincoln, Neb.
56 Therapeutic Points in Reference to Neuroses. G. A. Young, Omaha, Neb.
57 Vacuum Treatment of Ear, Nose and Tonsils. H. B. Lemere, Omaha. Neb.
58 Venereal Diseases, Their Causes, Prevention and Cure. W. O. Henry, Omaha, Neb.
59 Scientific Problems of Nature's Secrets. P. E. Koerber, Yutan, Neb.

Journal of Biological Chemistry, Baltimore

October, X, No. 3, pp. 168-294

60 Nitrogen Fixation by Yeasts and Other Fungi. C. B. Lipman, San Francisco.
61 Phytase in Lower Fungi. A. W. Dox and R. Golden.
62 Determination of Calcium in Presence of Magnesium and Phosphates: Determination of Calcium in Urine. F. H. McCrudden.
63 Study of Optical Forms of Lactic Acid Produced by Pure Cultures of Bacillus Bulgaricus. J. N. Currie, Madison, Wis.
64 *Rôle of Carbohydrates in Creatin-Creatinin Metabolism. L. B. Mendel and W. C. Rose, New Haven, Conn.
65 *Inanition and Creatin Content of Muscle. L. B. Mendel and W. C. Rose.
66 *Excretion of Creatin in Infancy and Childhood. W. C. Rose, New Haven.
67 *Prevention and Inhibition of Pancreatic Diabetes. F. P. Underhill and M. S. Fine, New Haven, Conn.
68 An Improved Apparatus for Determination of Amino Groups. D. Klein. Madison, Wis.
69 Shaffer's Method for Determination of β-Oxybutyric Acid. R. A. Cooke and E. E. Gorslin, New York.

64. **Creatin and Creatinin Metabolism.**—Two fundamental facts are emphasized by the experiments of Mendel and Rose: (1) An increase in the elimination of total creatinin (i. e., creatin plus creatinin) is always accompanied by an increase in the output of total nitrogen; and (2) carbohydrates, in contrast to the other foodstuffs, are capable of preventing the excretion of creatin and are therefore indispensable for normal creatin-creatinin metabolism. They found that the excretion of creatin induced by starvation, is inhibited in rabbits by feeding a diet of carbohydrates absolutely free from proteins and fats. When the carbohydrates are given in liberal amounts, creatin entirely disappears from the urine. The creatin elimination is not reduced by feeding a diet of fat alone, or by a diet of fat and protein. Experimental interference with carbohydrate metabolism leads to the elimination of creatin. After phlorhizin diabetes which depletes the store of carbohydrates and during phosphorus poisoning, which disturbs the glycogenic functions, the output of creatin in dogs is decidedly increased. An increase in the output of creatin plus creatinin (total creatinin), is always accompanied by an increase in total nitrogen elimination. This parallelism of total creatinin and total nitrogen outputs in inanition and with nitrogen-free diets is ascribed to a common source, namely, true tissue or endogenous metabolism. The metabolism of exogenous or reserve proteins is not accompanied by the production of creatin or creatinin. The intimate relation of creatin excretion (or the failure of conversion into creatinin) to carbohydrate metabolism, is discussed in detail.

65. **Inanition and Creatin Content of Muscle.**—The authors are convinced that there occurs an increase in the percentage of creatin in the muscles of rabbits and fowl during inanition. Two possible explanations for the larger amount of creatin suggest themselves. The increase may be due (1) to a removal of the non-creatin portion of the muscle, leaving the creatin intact; or (2) to an increased formation of creatin. The first explanation seems improbable, for if the creatin is loosely combined with muscle as Urano ('07) believes, there is no reason for assuming that the non-creatin material could be withdrawn and leave the creatin intact, any more than for assuming that the reverse could occur. An increased formation seems to be the most plausible explanation.

66. **Excretion of Creatin in Infancy and Childhood.**—In view of the observations that creatin is a normal constituent of the urine of sucklings Rose attempted to determine the age at which this product disappeared. Thirty-nine specimens of urine from children of different ages were analyzed. With the exception of two cases, creatin was present in all specimens from children under 15 years of age. A boy of 10 and a girl of 13 failed to have creatin in their urines. No progressive decrease in the percentage of the total creatinin in the form of creatin coincident with increase in age is apparent; neither is the percentage of creatin constant for the same individual. For instance, one specimen obtained from a child of 5 years contained 24.2 per cent. of the total creatinin in the form of creatin, while a second sample from the same child a few days later, contained 79.2 per cent. ot the total creatinin as creatin. It was impossible to obtain information as to the amount and kind of food eaten by the children. Most of the specimens were obtained from the city orphans home or from private families, and the subjects of the experiments were probably ingesting more or less meat. It is possible, therefore, that the oxidation or conversion of creatin into creatinin may be difficult for young individuals to accomplish and in this case the creatin of the urine may in part, represent ingested creatin; or the glycogenic functions may be imperfectly developed and the store of carbohydrates be insufficient to exert its regulatory influence over metabolism during childhood.

67. **Hydrazin and Pancreatic Diabetes.**—The authors found that removal of the pancreas from normal dogs may be followed by the appearance of sugar in the urine within a period of two hours. Glycosuria fails to manifest itself after pancreas extirpation in dogs that have received previous injections of hydrazin. In general this effect is produced by a single subcutaneous injection of 50 mg. per kilo hydrazin sulphate. The influence of the hydrazin administration lasts between two and four days. A single injection of 25 mg. per kilo hydrazin sulphate does not prevent sugar elimination in the urine, under the experimental conditions, after pancreas removal. The blood-sugar content of animals treated with hydrazin and then depancreatized remains below the normal, or at least hyperglycemia is not in evidence. Hydrazin introduced into dogs during pancreatic diabetes is capable of completely inhibiting the excretion of sugar by the kidney. After hydrazin administration the presence of adrenalin in the adrenals may still be demonstrated. In this respect hydrazin differs from phosphorus. The authors assume that there is an interrelation between the pancreas, the adrenals and the liver by the equilibrium of which the sugar content of the blood is kept practically constant. To accomplish this the pancreas is assumed to pour an internal secretion into the blood which tends to increase carbohydrate catabolism, hence to diminish the blood-sugar. This influence they have called the pancreas secretion factor. On the other hand, the adrenal is assumed to give an internal secretion to the blood which has the opposite effect, namely, it has a tendency to check carbohydrate catabolism; hence leads to an accumulation of sugar in the blood. This action they have designated the adrenal secretion factor. According to this idea of what occurs to keep blood-sugar content normal, the quantity of glycogen which will be taken from the liver's store to accomplish this purpose is entirely dependent on which of the two factors is predominant at any given moment. Applying these ideas to pancreas extirpation or adrenal removal, the effects which should theoretically follow according to their scheme agree perfectly with recorded observations which for the most part have universal acceptance.

Laryngoscope, St. Louis

September, XXI, No. 9, pp. 891-970

70 History of Bronchoscopy and Esophagoscopy. G. Killian, Berlin.
71 Bronchoscopy and Esophagoscopy: Their Indications and Contra-Indications. D. O. Kahler, Vienna.
72 Esophagoscopy and Gastroscopy. C. Jackson, Pittsburgh.
73 Consideration of Mechanism of Pressure in Production of Vertigo. C. J. Blake, Boston.
74 Rachiocentesis in Treatment of Aural Vertigo. J. J. Putnam, Boston.
75 Method of Obliterating Naso-Frontal Duct and Catheterizing Frontal Sinus. H. P. Mosher, Boston.
76 Modern Operative Procedures in Ear Affections. H. B. Graham, San Francisco.
77 Relation of Internal Carotids and Optic Commissure to Hypophysis. O. H. Maclay, Chicago.
78 Remarkable Case of Intranasal Destruction from Disease Without Any Deformity. O. J. Stern, Chicago.

American Journal of Surgery, New York

October, XXV, No. 10, pp. 309-340

79 Advantages of Nitrous Oxid-Oxygen Narcosis. R. C. Coburn, New York.
80 Surgical Formulary, Equipment, Method of Preparation and Sterilization Employed at Mount Sinai Hospital, New York. A. V. Moschcowitz, New York.
81 Surgical Essentials. F. E. Neef, New York.
82 Treatment of Impaired Function After Fractures About Ankle. S. Epstein, New York.
83 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
84 Useful Method of Continuous Stomach Drainage for Cases of Postoperative Dilatation, Intestinal Obstruction and Peritonitis. A. Bassler, New York.

Southern Medical Journal, Nashville

October, IV, No. 9, pp. 657-724

85 Surgical Treatment of Dyspepsia. S. McGuire, Richmond, Va.
86 Home Treatment of Tuberculosis, with Comments on Use of Tuberculin. C. M. Nice, Birmingham, Ala.
87 Rudolf Virchow. W. A. Bryan, Nashville, Tenn.
88 Improved Diagnostic Methods in Kidney Surgery. J. M. Mason, Birmingham, Ala.
89 Some of the Unfamiliar, Atypical Forms and Controverted Phases of Tuberculosis. R. Matas, New Orleans, La.
90 Practical Value of Ross "Thick Film" Method in Diagnosis of Malaria. W. M. James, Canal Zone.
91 Treatment of Pulmonary Tuberculosis. F. S. Meara, New York.
92 Dysmenorrhea. J. R. B. Branch, Macon, Ga.

Boston Medical and Surgical Journal

October 19, CLXV, No. 16, pp. 587-628

93 Some Considerations of Ether Anesthesia. D. F. Mahoney, Boston.
94 Local, Spinal and General Anesthesia. F. Allen, Boston.
95 Intratracheal Insufflation as Anesthetic Method. W. C. Quinby, Boston.
96 Apparatus for Administration of Ether by Intrathoracic Insufflation. A. Ehrenfried, Boston.
97 Hints on General Anesthesia. R. W. Hornabrook, Melbourne, Australia.
98 Anesthesia. W. M. Boothby, Boston.
99 Management of Spinal Curves. E. H. Bradford, Boston.
100 Coexistent Epidemic Cerebrospinal Meningitis and Malaria. W. B. Collins, Northampton, Mass.
101 Nitrous Oxid and Oxygen Anesthesia. A. H. Mandell, New Bedford, Mass.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 7, No. 2649, pp. 781-868

1 *Transplantation of a Segment of Small Intestine to Repair Resected Sigmoid Flexure. W. S. Fenwick.
2 Dermatitis Produced by East Indian Satinwood (Chloroxylon Swietenia). J. T. Cash.
3 Cystic Ovary in Pelvis. E. L. Gowlland.
4 Varieties and Treatment of Asthma. G. A. Gibson.
5 Diagnosis of Fever Without Physical Signs. W. H. White.
6 *Lung Syphilis. J. D. Stanley.
7 Simple Method for Therapeutic Inhalation of Carbonic Acid Gas. W. Ewart.
8 Colon Dyspepsia. T. S. Wilson.
9 *Recent Advances in Cardiac Therapeutics. F. W. Price.
10 Treatment of Drug Addiction and Prophylaxis of Relapse. W. O. Jennings.
11 Clinical Determination of Blood-Pressure by Means of Pachon's Sphygmo-Oscillometer. J. F. Dally.
12 *Mania Following Pneumonia. W. J. H. Tyson.
13 Acute Subcutaneous Emphysema. J. S. Goodall and W. N. Kingsbury.
14 Vascular Diseases of Skin and Their Relation to Other Morbid States. T. C. Fox.
15 *Unusual Case of Skin Pigmentation. G. H. Lancashire.
16 Treatment of Eczema. G. G. S. Stopford-Taylor.
17 Certain Affections of Skin Resulting from Degeneration of Blood-Vessels. J. Galloway.
18 Case of Pruritus Vulvae. J. G. Tomkinson.

1. **Transplantation of Segment of Small Intestine.** In the case cited, Fenwick did a colotomy for cancer of the sigmoid. Three months afterward he resected the growth and did the following transplantation: A loop of ileum fairly low down was taken and a portion about 5 in. in length was double clamped off. The bowel was divided between the clamps and the mesentery, with great caution to avoid blood-vessels towards its root, for a distance of $2\frac{1}{2}$ inches. The continuity of the small gut was next restored by uniting the cut ends in front of the mesentery of the freed segment. The segment of the small intestine, it was found, could easily be brought into excellent position between the cut ends of the large. It was decided to employ two Murphy buttons, no risk of leakage existing because the colotomy was above the proposed junctions. This was accordingly done and proved not very difficult. After the anastomoses were completed a few stitches were placed, drawing together the cut edges of the mesenteries to avoid the possibility of internal hernia. Finally, the abdomen was closed rapidly by interrupted fish-gut sutures, and a rubber tube, with some gauze packing, was inserted at the lower end of the incision. The whole operation, from first incision to the last stitch, occupied ninety minutes. There was little or no shock.

On the seventh day after the operation the Murphy buttons were found free, the upper in the colotomy, the lower in the rectum. Twenty days after the resection, an attempt was made to close the colotomy under local anesthesia (eucaine). This proved very difficult but was eventually effected. A normal motion was passed just over three weeks after the major operation. The bowels now move naturally every morning and the patient states that very little fecal matter comes through the fistula and then only when straining at stool. Throughout the rest of the day he suffers no inconvenience.

6. **Lung Syphilis.**—In a series of 1,000 cases, notified as phthisis, Stanley found two certain of syphilis and one doubtful. In the last seven years he has collected fifteen cases, some of which have come to post-mortem examination and some are still under observation—observation which confirms the opinion that they are syphilitic and not tuberculous. The lesions produced by syphilis are various and may affect the lungs and pleura only, or the trachea and bronchi. There may be lesions in the secondary or tertiary stages. Those due to secondary syphilis are not of much clinical importance, but at the same time should not go unrecognized. The chief interest, however, is in the lesions produced in the tertiary stage. They are various and a clear idea of them is necessary for diagnosis during life and it must be admitted that descriptions of the morbid anatomy of late syphilitic lung lesions are not clear. The trachea, bronchi, lung tissue and pleura may be affected separately or all together. There may be diffuse mediastinitis. It is the incidence of the lesions in these structures that determines the clinical character of the case. The trachea is particularly liable to tertiary ulceration.

As concerns the lung tissue, the early effects produced by syphilis are: (1) An intense cell proliferation which fills the alveoli and infiltrates the septa, peribronchial, subpleural, and perivascular tissues. It is specially marked in the alveolar walls, causing the epithelium to desquamate. The vessels show the typical changes of syphilis. The process may be general or affect portions only of the lung. It gives a peculiar gelatinous appearance and may be called syphilitic pneumonia. The process is fairly rapid, judging by a case Stanley had under observation, in which the lungs were extensively involved in five or six weeks. It is, in fact, an acute interstitial pneumonia. The next variety he calls early diffuse sclerosis. The lung, which is not misshapen, looks, and still more, feels tough. It is pale in places, in others intensely mottled. It shows great increase of connective tissue in all situations, the alveolar walls particularly. Miliary gummata are plentiful. The most striking change, however, is the large quantity of proliferating elastic tissue. Stained with lithia carmine and thymol fuchsin, it may be seen penetrating in all directions, forming a dense network in the septa around the bronchi and the vessels in the pleura. Proliferation of elastic tissue occurs in tubercle, but in tertiary syphilis the process is much more intense. The alveolar changes are also marked. The spaces are often filled with large cells loaded with pigment. The changes in the vessels are those characteristic of syphilis. The third form is a dense sclerosis. The lung may be contracted and misshapen, the pleura, whether adherent or not, is much thickened. Lastly, while there may be gelatinous infiltration, diffuse early sclerosis or intense fibrosis without coarse gumma, Stanley has not seen coarse gumma without some or all of these lesions. Thus one may regard the infiltrative and fibrosing lesions as the most important.

The symptoms and signs vary. There may be none definite when the lung is undergoing partial gelatinous infiltration and even when the lesion is an extensive sclerosis they are difficult to appreciate fully. Weakening of the breath sounds is considered an important sign and was noted in three of Stanley's cases. Symptoms and signs of lung syphilis are much more definite when the lesions are chronic. Hemoptysis is more suggestive of slow ulceration of a bronchial surface in its mucosanguineous appearance and its tendency to last for several weeks. Cough is irregular and may be paroxysmal, as happened in four of Stanley's cases. It may be very slight in proportion to the actual amount of lung lesion, for in another case it was never a prominent symptom, but on the postmortem examination there was extensive lesion of the lung tissue, but none of the bronchi, trachea, or glands. In a case quoted it was particularly interesting to note pyrexia, sweating and wasting, symptoms which occurred in some of the other cases and have been recorded by other observers. They may be regarded as intercurrent and due to mixed infection, but they certainly help in the imitation of phthisis by syphilis. Their rapid disappearance under antisyphilitic treatment is striking.

9. See The Journal, October 14, 1911, p. 1325, abstract No. 64.

12. **Mania Following Pneumonia.**—The cases to which Tyson calls attention are those in which the mania follows the pneumonia and he has had the opportunity of seeing three of these cases; the literature contains only six others. The following are the characteristic points in this form of pneumonic mania: The pneumonia is of the stenic or classical type. The people affected are mostly of a neurotic temperament. It generally happens in youngish people under 40 years of age. It is associated with great sleeplessness and there seems great difficulty in the treatment of this symptom. The disease need not necessarily be very acute or much lung involved. In fact, the amount of lung involved does not seem to bear any relation to the amount or length of stay of the mania. It occurs after the crisis. The delirium that occurs early in the disease is a much more severe type of mania than the mania following the crisis. The pathology, Tyson supposes, is toxic, but he is unable to say why some suffer in this way and others do not. The prognosis of this mania is good and it should be looked on as part of the pneumonia and should not be specially treated as a case of mania *per se*, and the question of asylum treatment need not be considered. Tyson mentions this point because in one of his cases the physician in attendance considered the mania should be treated in an asylum. Perhaps the most important thing in this trouble is to treat the sleeplessness. Food is the best hypnotic, but it may be necessary to give some morphin or some other narcotic. The bowels should be attended to. A tactful, wise and firm nurse is a necessity, and convalescence, if possible, should be carried out in the country.

15. **Skin Pigmentation.**—As a child Lancashire's patient had a patch of dark skin on the throat, which slowly increased in size. When 16 years old this patch was treated by some strong "peeling" process, after which it remained stationary in size and depth of shade. About last Christmas the discoloration began to spread from the region of the old patch down the neck toward the chest and shoulder on the left side. Recently the extension had become much more rapid. Since the onset the patient had been much troubled by attacks of shooting and stabbing pains in the pigmented area; these came on several times during the day and night and were growing daily more severe. The pain usually lasted a few minutes and—this was the interesting feature—appeared to be rapidly followed each time by a fresh deposit of pigment. The pigment involved the whole area between the sternomastoids and the left side of the neck also the deltoid region of the left shoulder and a considerable part of the left pectoral region down to the nipple level. The pigmented area is sharply demarcated from the right part of the chest wall by a straight-lined border just to the right of the sternum and therefore just beyond the middle line of the body. The pigment itself is seen to be deposited in the form of large freckles of varying shades from dark brown to café-au-lait. On the chin there was on both sides a much fainter and more diffuse pigmentation, so slight as to be scarcely noticeable. The general health was fair. There were no signs of organic disease. Rest, a bromid draught at bedtime and an anodyne application for the shooting pains produced a remarkable improvement. The pains had ceased and there was no fresh pigmentation. On the other hand, there had been remarkable absorption of pigment, which was everywhere considerably paler.

Journal of Tropical Medicine and Hygiene, London

September 15, XIV, No. 18, pp. 269-284

19 Enteric Fever in South India. P. E. Turner.
20 Transmission of Amakebe by Means of Rhipicephalus Appendiculatus, the Brown Tick. A. Theiler.
21 Blackwater Fever. L. G. Fink.
22 Mosquito-Borne Diseases in Queensland. E. S. Jackson.

Lancet, London

September 30, CLXXXI, No. 4596, pp. 931-986

23 *Possible Toxic Origin of Some Kinds of Insanity. E. Goodall.
24 *Surgical Treatment of Some Forms of Epilepsy. W. Alexander.
25 *Viability of Human Carcinoma in Animals. C. L. Williams.
26 *Experimental Comparison Between Salvarsan, Mercury and Iodid of Potassium as Antisyphilitics. J. McIntosh and P. Fildes.
27 Case of Intussusception of Appendix Vermiformis in Adult. J. H. Watson.
28 *Foreign Bodies in Vermiform Appendix. L. A. Bidwell.
29 Case of Erysipelas Complicated with Meningitis Following Intranasal Operation; Recovery. L. A. Parry.
30 Septic Infections of Hands and Fingers. C. A. Pannett.
31 Case of Congenital Atresia of Duodenum. W. F. Roe and E. H. Shaw.

October 7, CLXXXI, No. 4597, pp. 987-1054

32 Research in Medicine and Women in Research. Sir H. T. Butlin.
33 Lucidity in Writing. H. A. Miers.
34 Middlesex Hospital of To-Day and Yesterday. C. Berkeley.
35 *Consumption and Order of Birth. W. C. Rivers.
36 Two Cases of Tumor of Prefrontal Lobe in Criminals. W. C, Sullivan.
37 *Strangulation by Volvulus in an Abnormal Sac Lying Within General Peritoneal Cavity. R. L. Knaggs.
38 Bradycardia in Association with Uremia. E. E. Laslett.
39 Open-Ether Anesthesia. J. Robertson.
40 *Case of Persistent Chyluria Markedly Influenced by Posture. F. Charteris.
41 Case of Necrosis of Almost Entire Clavicle. R. E. Halahan.
42 Representation of Honorary Medical Staffs on Boards of Management of Voluntary Hospitals. E. S. Reynolds.
43 Some Administrative Defects of the National Insurance Bill. G. P. Forrester.

23. Abstracted in The Journal, Oct. 28, 1911, p. 1491.

24. **Surgical Treatment of Epilepsy.**—There are some cases of epilepsy, says Alexander, that prove intractable to general medical and hygienic treatment, and these, unless the disease be somehow arrested, will soon terminate in imbecility and death. In these cases the affected motor area is covered by more or less edema of the pia-arachnoid and this edema probably so affects the cells of the cortex as to predispose to, or cause, the epilepsy and imbecility. Alexander says we can, by the operation of fenestration of the dura mater, drain these edematous areas and prevent reaccumulations. By the operation the progress of the disease has always been retarded in twenty cases under his operation. In several the fits have stopped and in many have been reduced to fractions of the original number.

25. **Viability of Human Cancer in Animals.**—The method adopted by Williams was that of implanting subcutaneously, with aseptic precautions, several selected portions of a malignant growth, freshly excised (pieces being put aside for microscopic observation) and following up the changes taking place in the cells of the growth by reference to sections of the implanted masses, removed for examination at different periods. The time elapsing between separation from the human body and the completion of implantation varied between twenty and twenty-five minutes. Implantation was effected by puncturing the skin with a straight cataract knife

and introducing on the point of the knife a piece of tissue having the form of a cube of 1 to 1.5 mm. The portions of tumor implanted were removed at intervals of one to thirteen days. The number of tumors used for implantation was forty-one; ten tumors were, however, employed in connection with unsuccessful implantations, so that only thirty-one need be referred to here. Of these, nineteen were epithelioma (seventeen primary growths, two secondarily infected glands), ten were scirrhus of the breast (nine primary growths, one secondarily infected gland), one was spheroidal-celled carcinoma and one rodent ulcer.

Implantation was made on the monkey (twenty tumors), rabbit (four tumors), pigeon and guinea-pig (each two tumors), cat, rat and mouse (each one tumor). The usual causes of unsuccessful experiments were suppuration and failure to recover the pieces of tumor implanted. Suppuration was not met with so frequently as was expected, even in the case of growths ulcerated on the surface; when present sometimes every piece of a tumor used for implantation became the seat of suppuration, in other cases suppuration occurred at some of the sites of implantation, while at others no inflammatory reaction occurred. A more serious difficulty was failure to recover the portion of tumor implanted. Portions of human carcinoma implanted into animals were observed during the first five days to retain their vitality and to exhibit mitosis after implantation. After the expiration of this period no evidence of vitality was observed. Mitosis was markedly inhibited within twenty-four hours of implantation, while the life of the implanted cells was abolished less rapidly.

26. **Salvarsan, Mercury and Iodid of Potassium as Antisyphilitics.**—The authors found that salvarsan in experimental syphilis of the rabbit possesses spirocheticidal properties much in advance of mercury. Potassium iodid is not a direct antisyphilitic.

28. **Foreign Bodies in Vermiform Appendix.**—Bidwell has found a foreign body in about 20 per cent. of the appendices which he has removed. The interesting point is that a foreign body by itself sets up very little irritation and does not produce acute inflammation; it is only when a fecal concretion forms around it that acute appendicitis will occur. According to many authorities, no foreign body or fecal matter can enter a healthy appendix, and it is stated that some previous inflammation must occur in order to make it possible for the body to enter. If this is the case, a foreign body by itself could not have very much influence in producing appendicular disease. It is, however, more reasonable to suppose that the irritation of the foreign body excites an extra secretion of mucus, which is deposited on the body, producing the concretion and so becomes the starting point of an attack of appendicitis.

35. **Consumption and Order of Birth.**—Rivers observed in patients' case-sheets which showed ordinal position in the family, a large number of entries of eldest-born children, and from this observation conceived the idea that clinical pulmonary tuberculosis might affect such persons more than others. Brehmer's and Riffel's reports show that both first- and second-born offspring appear subject to consumption at a very much higher rate than younger members of a family. Rivers' own observations in 263 cases confirm those of other clinicians. Mitchell, among 443 idiots and imbeciles, found 138 first-born, or 31.1 per cent. Langdon Down claims liability to idiocy among primiparous children because 24 per cent. of the 2,000 idiots (illegitimate largely excluded) examined by him were first-born children. Among Wilbur's 675 there were 191 first-born; among 100 of Beach's, twenty. Thus, respecting the exact amount of increased risk of developing phthisis that an eldest child runs, no direct data exist from which to calculate. As matters stand, one may say that whereas in 1,228 consumptives (494 upper middle-class Germans; 353 middle- and lower-class inhabitants of Lancashire, London, and Northumberland, and 381 mainly lower-class Lancastrians) one should find 196 eldest children, one actually does find 281, i. e., eldest-born consumptives are in excess, say, 40 per cent.

Of 141 of Rivers' last cases there is one patient with diabetes mellitus, three who suffer from hay fever, and three the subjects of congenital xeroderma. The diabetes patient is an eldest child; two of the hay fever patients are likewise, while the remaining one is second-born, and two of the ichthyotics are eldest-born. Yet the first- and second-born of these 141 only number fifty-eight and the first-born alone only twenty-eight. This, in Rivers' opinion, would seem to point to the conclusion that the tendency of the eldest-born to become consumptive is an innate tendency and the hypothesis is strengthened, he says, if we appeal to the literature of the subject. Lunatics and idiots are certainly very liable to consumption, and, as has been seen, it is exceedingly likely that they are disproportionately often eldest-born. Again, if faulty upbringing by inexperienced parents is to be made responsible for elder-born criminals, lunatics, idiots and perhaps men of genius, this would render ordinary human responsibility sufficiently formidable. The existing evidence negatives the view that infection is the sole cause.

37. **Strangulation by Volvulus.**—In the mid-region of the abdominal cavity in Knaggs' case was a large rounded cyst or sac, through the semi-transparent wall of which distended coils of bowel could be seen. The upper coils were large and pale and had a somewhat transverse direction; the lower were black, as if the subject of strangulation, and had an obliquely vertical arrangement. Below the cyst, the lower portion of the abdomen, which was little more than the pelvis, was occupied by coils of black small intestine which concealed the terminal portion of the large gut. Above the cyst and encroaching on its shelving upper surface, lay the liver, and in the left hypochondrium the stomach. The great omentum was huddled up into a mass which fitted into the space between the cyst and the stomach. The colon was not visible, but it was found to encircle the cyst, except at its lowest part, and to be attached to its wall. To permit of the further investigation of parts the strangulated small bowel occupying the area below the cyst was removed. It was a single loop some 3 or 4 feet long and the two ends of the loop passed into the cyst through an aperture on its lower surface. The two ends were tied a few inches from the aperture. The whole loop was deeply congested, of a purplish-black color and infiltrated with blood. It was not constricted at the neck and the finger could be introduced alongside the gut through the aperture into the cyst. The entrance to the sac looked downward and was on the level of the promontory of the sacrum. It was large enough to admit three fingers. The cyst occupied the small intestine area within the arch of the colon.

To continue the examination it was opened by a central vertical incision through its whole length which terminated by dividing the boundary of the aperture. The two cut ends of the strangled loop were continuous with similarly affected coils within the sac. There had been no strangulation by the neck of the sac and no signs of constriction were presented by the portions of bowel that occupied it. The greater part of the ileum was in this deeply congested state, which was evidently due to a twist of the lower portion of the mesentery, but the exact mechanism was not made out, as owing to the inexperience of the manipulator the relations were disturbed and lost, and the previous removal of the loop outside the sac added to the difficulties of its demonstration. The jejunum was distended but not strangled. On the posterior surface of the sac was the quite normal attachment of the mesentery. It lay entirely within the sac. At the upper part the third and fourth parts of the duodenum were in their natural position and covered as usual by peritoneum. The terminal portion of the ileum passed out of the opening to join the cecum, which lay just outside and to the right of the mouth of the sac. The ileum at this point was attached by its mesentery, which blended with the margin of the aperture on the right side. The condition may be fairly described as a second and abnormal lesser peritoneal sac, whose natural contents were the small intestine and its mesentery. Some of the contents had escaped through the orifice into the general peritoneal cavity.

40. **Persistent Chyluria.**—When Charteris' patient was upright the urine was practically free from fat, but if he reclined at an angle greater than 45 degrees, he promptly began to pass milky urine; but if he sat in an upright chair the urine remained clear. The most milky urine was passed when he lay flat on his back. On the other hand, he could lie flat on his face without the urine becoming milky, but it became milky as soon as he turned round and lay on his back. The conclusion Charteris came to was that the chyluria was due to some intermittent pressure exerted on the thoracic duct by some factor which only became operative when the patient assumed certain attitudes. Probably the obstruction was a pedunculated calcareous gland. There was no enlargement to be felt in any of the abdominal glands and a Roentgen-ray examination failed to reveal any calcareous masses.

Bristol Medico-Chirurgical Journal

September, XXIX, No. 113, pp. 201-287

44 Medical Organization and Growth of Medical Sciences in Seventeenth Century, Illustrated by Lives of Local Worthies. G. Parker.
45 End-Results of Operations on Stomach and Duodenum. A. R. Short.

Annales de Gynécologie et d'Obstétrique, Paris

September, XXXVIII, No. 9, pp. 497-560

46 Influence of Syphilis in Producing Deformity in the Fetus. (De l'influence de la syphilis sur la genèse des anomalies et des monstruosités fœtales.) P. Rudaux and V. Le Lorier.
47 Primary Chorio-Epithelioma in Broad Ligament Six Years After Last Pregnancy. P. Lecène.
48 Abnormal Insertion of Umbilical Cord; Three Cases. (Insertion vicieuse du cordon.) L. Job.

Annales de l'Institut Pasteur, Paris

September, XXV, No. 9, pp. 625-704

49 *Experimental Research on Defense of Organism Against Tuberculosis. (Sérothérapie-immunité.) A. Calmette and C. Guérin.
50 Thoracic Tuberculosis in Cattle Generally of Digestive Origin. (A propos du mémoire de M. Chaussé.) A. Calmette and C. Guérin.
51 Passage of Diphtheria and Tetanus Antitoxin into the Aqueous Humor. (Sur le passage de l'antitoxine diphtérique et tétanique dans l'humeur aqueuse.) V. Morax and G. Loiseau.
52 Antibodies in Aqueous Humor of Immunized Animals. (Recherches sur la présence des anticorps dans l'humeur aqueuse des animaux immunisés.) Y. Manouélian.
53 Aqueous Humor Not Bactericidal for Anthrax Bacilli. (Recherches sur la prétendue action bactéricide de l'humeur aqueuse à l'égard de la bactéridie charbonneuse.) Y. Manouélian.
54 Trypanosomes in Frogs and Toads in Indo-China. (Trypanosomes des batraciens du Toukin.) C. Mathis and M. Leger.
55 Zymase is a Diastase. (La Zymase est-elle une diastase?) A. Lebedeff.
56 The Inulase of Aspergillus Niger. J. Boselli.

49. See editorial in The Journal, October 28, p. 1461.

Presse Médicale, Paris

September 9, XIX, No. 72, pp. 721-728

57 Leprosy. (Etat actuel de nos connaissances sur la bactériologie et l'étiologie de la lèpre.) E. Jeanselme.

September 23, No. 76, pp. 753-760

58 *Polyneuritis and Polyneuritic Pseudotabes with Gastric Ulcer. (Les complications nerveuses de l'ulcère de l'estomac.) M. Klippel and M. P. Weil.

September 27, No. 77, pp. 761-768

59 Syphilitic Lesions of Meninges and Vascular System. (Etude biopsique de la méningo-vascularite syphilitique.) P. Ravaut.
60 Country Wells. (Hygiène rurale. Les puits.) E. Arnould.

September 30, No. 78, pp. 769-784

61 *Surgery of the Spleen. (Chirurgie de la rate.) M. Hartmann.
62 Extension Appliance for Fracture of Forearm. (Attelle à extension continue pour les fractures de l'avant-bras.) H. Judet.
63 *Post-Typhoid Epilepsy. (De l'épilepsie consécutive à la fièvre typhoide.) J. Chalier and Juilhe.
64 Alternating Arhythmia. (Le rythme alternant.) C. Lian.

58. **Nervous Complications of Gastric Ulcer.**—Klippel and Weil think that they were the first to call attention (1909) to polyneuritis developing as a complication of gastric ulcer. Their assertions were confirmed by Couréménos and Conos. Other disturbances in the digestive tract have been incriminated as the cause of nervous disturbances, Christani having reported a case of polyneuritis from coprostasis, and Duvernay one of peripheral neuritis from stasis of stomach content, and cured by a gastro-enterostomy. Babinski ascribes peripheral neuritis in some cases to auto-intoxication from the intestine and Klippel has reported cases of neuritis from changes in the liver. In the two cases reported in detail the diagnosis of gastric ulcer was unquestionable, as also in a case cited from the literature; all had paresis with loss of the deep and superficial reflexes while the nerves and muscles were more or less tender—the syndrome indicating flaccid quadriplegia resulting from polyneuritis. There was nothing to suggest tabes, but in one case the neuritis was more of the Korsakoff type. In another case reported the clinical picture suggested tabetic gastric crises in an old syphilitic, but the trouble proved to be a polyneuritic pseudotabes complicating gastric ulcer in a syphilitic. As the gastric ulcer had caused no appreciable symptoms, the pain had been the first sign of trouble. It is probable that many of the cases published as hemorrhagic tabetic gastric crises belong in this category of gastric ulcer complicated by polyneuritis. There have been thirteen of these hemorrhagic gastric crises cases reported in French literature.

61. **Surgery of the Spleen.**—Hartmann describes with fifteen illustrations the surgical treatment of spleen affections and discusses the results to date in various clinics. The high mortality with rupture of the spleen imposes an immediate operation, he says, and splenectomy offers the best prospect for success. With the enlarged spleen of malaria, splenectomy seldom does much good unless the spleen is compressing the neighboring organs. Fevrier found a mortality of 26 per cent. in 117 cases of this kind, but it was only 13 per cent. in Johnston's sixty-one cases since 1900, and if the splenectomy is restricted to a movable malarial spleen, the mortality is still less, there having been only one death in Bessel Hagen's twenty-six cases.

63. **Epilepsy Consecutive to Typhoid.**—Chalier and Juilhe report the case of a previously healthy young man who developed epilepsy after a severe attack of typhoid, the seizures typical of true epilepsy during the six years to date. Dide found typhoid antecedents in seven of 120 epileptics examined. The typhoid evidently induces injury of the nerves and the resulting cicatrix becomes one of the causal factors of the epilepsy. Such a cicatrix may remain latent until some disturbance in the circulation or other insignificant cause may bring on what Pierret calls recall phenomena. These phenomena may be motor, sensory or psychic, or they may be of the type of the epileptic seizure.

Archiv für Gynækologie, Berlin

XCIV, No. 3, pp. 599-925. Last indexed Sept. 9, p. 933

65 Atresia of Follicles in Mammalian Ovaries. (Follikelatresie in Säugetierovarien.) W. Benthin.
66 *Placenta Prævia. (Zur Behandlung der Placenta praevia.) B. Schweitzer.
67 Acetonuria During Pregnancy and the Puerperium. (Die Acetonkörper des Harnes bei Gebärenden und Wöchnerinnen.) B. H. Jägerroos.
68 The Muscle Fibrils in the Uterus and in Uterine Tumors. (Zur Kenntnis der Myofibrillen im Uterus und in Uterusgeschwülsten.) F. Daels.
69 *Retroflexion of the Uterus. (Retroflexio uteri.) F. Lehmann.
70 Research on Syncytiotoxin. (Experimentelle Studien mit menschlichen Syncytiotoxin.) W. Weichardt, F. Mosbacher and E. Engelhorn.
71 Hormone from the Ovaries and the Uterus Musculature in Origin and Arrest of Uterine Hemorrhage. (Rolle der Ovarien und der Uterusmuskulatur bei der Entstehung und dem Verlaufe der Uterusblutungen.) A. Theilhaber.
72 Influence on Lactation of Placenta, Fetus and Ovaries. (Placenta, Fötus und Keimdrüse in ihrer Wirkung auf die Milchsekretion.) B. Aschner and C. Grigoriu.
73 Histogenesis of Adenocancroids of the Uterus. O. Büttner.
74 Modifications of Blood-Pressure and Heart Action in Pregnancy and Puerperium. (Blutdruck und Herzarbeit in der Schwangerschaft, während der Geburt und im Wochenbett.) R. T. Jaschke.
75 Psammoma Sand in the Ovary. (Ueber Psammomkörner im Ovarium.) C. Koch.
76 *Tuberculosis in 3,514 Female Cadavers. (Die Tuberkulose bei der Frau, insbes. die Bauchfell- und die Genitaltuberkulose, die Tuberkulose des uropoetischen Systems, die Tuberkulose während Schwangerschaft und Wochenbett, auf Grund von 3,514 Sektionen.) H. Schlimpert.

66. **Placenta Prævia.**—Schweitzer reviews the experiences in the last four years with 100 cases of placenta prævia at the Leipsic maternity in charge of Zweifel. These later experiences teach, he says, the advantages of hastening delivery when there is severe hemorrhage in the second half of pregnancy. Rupture of the fetal membranes is the prefer-

able procedure, but when this does not succeed in arresting the hemorrhage or the presentation is not favorable he uses the inflatable bag if the mother and child are in good condition; he prefers combined version if the mother is growing weak and the child is dead or not viable. Cesarean section should be preferred for the cases of threatening hemorrhage, the cervix still closed; in the infected cases, combined version with perforation or perforation alone at once. He advises in the home, combined version and patient waiting for spontaneous expulsion. Every effort should be made to insure asepsis and prevent further loss of blood. His observation having shown that the blood has less coagulating power when there has been considerable hemorrhage, he uses an astringent tampon, the gauze dipped in alcohol or a solution of alum instead of the ordinary iodoform gauze. Hysterectomy may be required for threatening after-hemorrhage from laceration or atony.

69. **Retroflexion of the Uterus.**—Lehmann has examined 100 women, including fifty with retroflexion and fifty without, after filling the bladder as full as possible and having the women recline or stand alternately and then examining them again half an hour after the bladder has been emptied. He devotes twenty-four pages to the tabulated findings in each case to study whether the bladder functioning can alter the position of the uterus, his conclusions being negative. Other experiments showed that the uterus can correct its position by contraction of the musculature under the influence of induced electricity, but the long application and the strength of the current required render the procedure scarcely applicable in the clinic to date. Of the total 2,000 patients with dislocations of various kinds, thirty-seven were permanently cured by pessary treatment alone; there were no complications in seven cases, but thirty patients with some slight affection in the ovaries or tubes or around the uterus had the displacement cured by the pessary treatment alone. His experience thus indicates that mild complications rather favor pessary treatment.

76. **Tuberculosis in 3,514 Female Cadavers.**—Schlimpert found signs of tuberculosis in 2,173, that is 61.8 per cent. of the total 3,514 cadavers, but in only 29 per cent. had it been diagnosed during life. His figures show further that nearly 50 per cent. of the population furnishing the material die of tuberculosis. The highest mortality from tuberculosis was between 20 and 30, next in the three following decades. The lungs were affected in 84.3 of the 2,173 tuberculous cadavers, the intestines in 32.3, the peritoneum in 4.9 and the genitals and meninges in 3.35 per cent. each, the pericardium in 2.2 and the urinary system in 1.4 per cent. No evidence of a primary isolated tuberculosis of the genital organs or of the urinary apparatus was discovered in any instance. A blood-borne origin was possible in the majority of the genital cases, probable in twenty-eight of the seventy-three cases and certain in five. The peritoneum was involved in 42.5 per cent. of the seventy-three cases of genital tuberculosis. There was no case in which the genital tuberculosis seemed to have been the cause of death; in 95.9 per cent. death was due to tuberculous lesions elsewhere. In the tuberculosis of the urinary system, infection was blood-borne and descending in most cases. Nearly 8 per cent. of the 3,514 women were pregnant or had just been delivered, and 139 of these 273 were tuberculous, that is, 15.9 per cent. The data confirm the assumption that tuberculosis is aggravated by child-bearing.

Berliner klinische Wochenschrift

October 2, XLVIII, No. 40, pp. 1785-1828

77 Salvarsan in Syphilis. (Die Salvarsan-Behandlung der Syphilis—Betrachtungen über die Nomenklatur der Syphilis.) M. v. Zeissl. (Der weitere Verlauf der Salvarsanbehandlung im Kl. Marinelazarett Kiel-Wik.) W. Gennerich.
78 Tuberculosis Mortality in Prussia in 1910. B. Fränkel.
79 Sugar Content in the Blood in Addison's Disease. (Ueber den Blutzuckergehalt bei Addison'scher Krankheit.) S. Bernstein.
80 Determination of Diastase in the Urine. (Bestimmung des Diastasegehalts des urins.) A. Galambos.
81 Simulation of Albuminuria by Mother of Child Patient. S. Hadda.
82 *Biologic Action of Radio-Active Mesothorium. (Biologische Wirkung des Mesothoriums. II. Strahlenwirkung und Verdauungsfermente.) D. Minami.
83 Advantages of Lime in Culture Medium. (Ueber Bakterienwachstum auf kalkhaltigen Nährböden.) A. Kindborg.
84 Permeability of Collodion and "Transpellicular" Treatment in Dermatology. (Ueber transpellicular Behandlung, insbesondere mit Schälcollodium.) P. Unna, Jr.
85 *Pfannenstill's Two-Route Method of Treating Lupus. (Ueber die Behandlung des Lupus vulgaris im Gaumen mit Jodnatrium und Wasserstoffsuperoxyd nach Dr. Pfannenstill's Methode.) J. Schaumann.
86 Operative Treatment of Pes Equinus. (Behandlung des Spitzfusses.) G. Müller.

82. **Mesothorium.**—This is a radio-active substance which is being extensively investigated in Germany, as there is no production of radium in that country, while mesothorium is an accessible by-product. The present article reports research on the action of the rays on the digestive ferments, part of the research now under way on the biologic action of mesothorium.

85. **The Two-Route Hethod in Treatment of Lupus.**—Schaumann describes excellent results in a case of lupus of the face and hard palate in which he applied Pfannenstill's method, acting on the lesion by potassium iodid taken internally and application of ozone or a dioxid externally. The latter was applied by means of a prothesis fitting over the hard palate, holding the impregnated cotton against the lesion. He ascribes the benefit to a caustic action of the combining drugs, as the efficacy depends on the setting up of an ulceration. He therefore warns that the method is not applicable to lesions on the face as it is liable to induce mutilation which is unnecessary by the Finsen method of radiotherapy.

Correspondenz-Blatt für Schweizer Aerzte, Basel

October 1, XLI, No. 28, pp. 961-992

87 *Treatment of Heart Disease. (Behandlung von Herzkrankheiten.) H. Eichhorst.

87. **Heart Disease.**—Eichhorst reviews the general principles of treatment of heart disease, insisting that the general practitioner often fails to appreciate the wonderful benefit that can be derived from rest and nourishing food, without drugs. He is liable to ascribe the benefit to the drug he happens to prescribe, but it cannot be emphasized often enough, Eichhorst insists, that complete repose is the most indispensable measure in treatment of weakness of the heart muscle whether drugs are given or not. Next in importance is the diet, especially milk. Milk is easily digested, nourishing and has a diuretic action, but even this should not be allowed in excess and not for too long. The Karell cure often renders good service in heart disease with edema. The patient is given only 200 c.c. of milk four times a day for four days, and the edema disappears and the heart action improves remarkably even in cases refractory to drugs. He warns, however, that the Karell cure may induce collapse in rare cases, so that it is scarcely advisable outside of an institution. If repose and a milk diet have proved inadequate by the end of twenty-four or forty-eight hours to strengthen the myocardium, it is time to give a heart tonic unless conditions had imposed the necessity for this from the start. Another measure which he has often found useful is upward stroking of the edematous legs, the feet raised for a time morning and evening, with passive flexion of the legs at the ankles, knees and hip joints, striving to pump the edema out of the legs. Mechanical measures, puncture or incision, have been known to entail fatal collapse, as also hot air baths, but venesection often gives surprising relief. When the heart has recuperated, the physician must insist on physical and mental rest; physicians seldom recognize the importance of emotional factors in heart disease. Eichhorst reports three cases in which young people with well compensated heart trouble died suddenly after a sudden emotion of anger or delight. Strict individualization is necessary in deciding as to marriage for girls with valvular defects; he has a patient of 39 who has borne seven children without mishap, notwithstanding mitral stenosis since the age of 10, but delicate, anemic, sensitive girls should be dissuaded as a rule from matrimony.

Deutsches Archiv für klinische Medizin, Leipsic

CIII, Nos. 5-6, pp. 423-618. Last indexed October 28, p. 1496

88 Elimination of Creatin and Creatinin in Disease. (Kreatinin- und Kreatinausscheidung unter pathologischen Verhältnissen.) A. Skutetzky.
89 *Spectroscopy in Diagnosis of Occult Hemorrhage in Gastro-Intestinal Canal. (Bedeutung der spektroskopischen Blutproben.) K. Csepai.

90 Epilepsy and Convulsions in Relation to Gastro-Intestinal Disease. (Die Epilepsie und andere Krampfformen in ihren ätiologischen Beziehungen zu den Erkrankungen der Verdauungsorgane.) W. Ebstein.
91 *Folds in the Rectal Mucosa. (Falten der Mastdarmschleimhaut.) H. Lindenberg.
92 *Inhibition by Serum of Mercuric Chlorid Hemolysis. (Die Sublimathämolyse und ihre Hemmung durch das Serum.) F. Port.
93 The Symptoms of Prolonged Anuria. (Die klinischen Erscheinungen bei langdauernden Anurie.) W. Brasch.
94 The Electrocardiogram. (Zu der Klinik des Elektrokardiograms.) W. v. Wyss.
95 Variations in Concentration of the Serum in Health. (Schwankungen der Serumkonzentration beim gesunden Menschen.) A. Böhme.
96 Elimination of Nitrogen and Salt Through Skin in Kidney Disease. (Welche Mengen von Stickstoff und Kochsalz werden durch die Haut von Nierenkranken ausgeschieden?) F. O. A. Loofs.
97 *What Becomes Later of "Growth Hypertrophy of the Heart" and "Juvenile Arterioscleros̈is?" (Wie verhält sich die sogen. "Wachstumshypertrophie des Herzens" und die "juvenile Arteriosklerose" im späteren Lebensalter.) A. Faber.
98 Anatomic Changes in Sweat Glands During Internal Diseases. (Gibt es anatomische Veränderungen der Schweissdrüsen bei inneren Krankheiten?) W. Veil.

89. **Spectroscopic Diagnosis of Occult Blood.**—Csepai asserts that examination of the stools for traces of invisible blood with the spectroscope gives far more reliable findings than chemical or other tests for occult hemorrhage. The reagents needed for the work are cheap and durable while the technic is simple and rapid. He has the patient refrain from meat and green vegetables for three days before the examination. Then to 5 gm. of the stool are added 5 c.c. of concentrated acetic acid plus 5 c.c. ether and 5 c.c. alcohol. The mixture is ground up well in a mortar and then filtered through an unmoistened pleated filter until 2 or 3 c.c. of fluid collects in the test tube. He then adds 1 or 2 c.c. of pyridin to the extract, then 1 or 3 drops (no more) of ammonium sulphid solution; the spectroscope then shows the spectrum for hemochromogen if there are traces of blood in the fluid. The test is complete in six or eight minutes. The reagent $(NH_4)_2S$ must be made up fresh and be kept in a dark colored bottle with glass stopper. It keeps perfectly for ten days. No time is to be lost after adding the reagent before examining with the spectroscope as the spectrum soon fades. An ordinary spectroscope with artificial light answers the purpose. He tabulates the comparative findings with this and other tests, all showing the reliability of this simple technic and that it is as sensitive as the catalytic tests.

91. **Ridges in Rectal Mucosa.**—Lindenberg found one to six folds or valve-like protrusions in the rectal mucosa in all but one of nine cadavers examined with the rectoscope.

92. **Mercuric Chlorid Hemolytic Test.**—Port examined the serum of thirty-one patients with various affections to determine the relative protecting power of the individual serum against the hemolytic action of mercuric chlorid and of saponin. The index of the protecting power was abnormally low with gastric cancer, pregnancy nephritis and tuberculosis, while it was abnormally high in diabetes, typhoid and severe parenchymatous nephritis.

97. **What Becomes Later of "Growth Hypertrophy of the Heart" and Juvenile Arteriosclerosis.**—Faber has been reexamining lately thirty persons who in youth presented signs of what was called at the time "growth hypertrophy of the heart" or juvenile arteriosclerosis. He tabulates the clinical findings then and now; in very few has the cardiovascular system developed to entirely normal conditions since. There is still in the majority some evidence that this system is a little below par.

Deutsche medizinische Wochenschrift, Berlin

September 28, XXXVII, No. 39. pp. 1777-1824

99 The Progress in Infant Feeding In the Last Few Years. (Ueber Säuglingsernährung.) H. Koeppe.
100 Emotional Vasomotor Blood Tides. (Zur Pathologie der psychophysiologischen Blutverschiebung.) J. Citron.
101 Sterilizing Action of Mercuric Chlorid. (Vergleichende Untersuchungen über die Desinfektionswirkung von Sublimat und Sublamin.) F. Croner and C. Naumann.
102 *The Poison of Mosquito and Midge Bites. (Ueber das Gift der Stechmücke. Ein Beitrag zur "Mückenfrage.") C. Bruck.
103 Resistance of Spirochetes to Arsenic. (Experimentelle Untersuchungen über die Arsenfestigkeit der Spirochäten.) M. Rothermundt and J. Dale
104 Combined Salvarsan and Mercury Treatment in Syphilis (Ueber Abortivkuren der Syphilis durch kombinierte Quecksilber-Salvarsanbehandlung.) E. Arning.
105 Behavior of Salvarsan in the Organism. (Verhalten des Salvarsans im Organismus.) G. Stümpke and P. Siegfried.
106 Experiences with Salvarsan in Syphilis. (Weitere Erfahrungen mit der intramuskulären und intravenösen Salvarsaninjektion.) N. Joannidés.
107 *Cancer of the Bladder. (Blasenkarzinome und -sarkome.) H. Riese.
108 Gunshot Wound from Pistol, the Muzzle in Rectum: Recovery. (Zur Kasuistik der Bauch-Schussverletzungen.) R. Herzenberg.

102. **Mosquito Poison.**—Bruck has isolated from the common mosquito its toxin, which he calls culicin. He obtained it by grinding the mosquitoes, *Culex pipiens*, in a mortar with salt solution containing a little glycerin and centrifugating. He found that culicin contained a hemolysin and an urticaria-producing principle, and describes research with it and research on mosquitoes to find whether they could convey the syphilis spirochetes. He never was able to get the mosquitoes to bite a syphilitic lesion; they always avoided the morbid tissues and settled only on the sound tissue encircling them. At the same time he found that the mosquitoes can take up spirochetes on their feet and thus transmit infection. In his one positive experiment in this line, from a mosquito that had been in contact with a primary sore on a rabbit and, fifteen minutes later, had had its legs rinsed with salt solution, he obtained a motile, unmistakable *Spirochaeta pallida*, which was found in the rinsing water.

107. **Cancer of the Bladder.**—Riese removed a carcinoma from the bladder of a woman of 66 over a year ago and there has been no sign of recurrence since. In another case the patient died of senile weakness four years after removal of a carcinoma occluding the mouth of the left ureter in the bladder. There was no sign of recurrence in this case and neither in a third case in which the interval since has not been so long. He removed the bladder on account of sarcoma in a girl of 10 with gonorrhea, but the debilitated child succumbed an hour later. Notwithstanding the fatal outcome in this case, he is convinced that removal of the bladder for malignant disease is not a difficult operation, comparatively speaking, and it offers good prospects in appropriate cases.

Deutsche Zeitschrift für Chirurgie, Leipsic

August, CXI, Nos. 1-3, pp. 1-320

109 *Operative Treatment of Pulsating Exophthalmos. (Die chirurgische Behandlung des durch Aneurysma arteriovenosum der Carotis int. im Sin. cavernosus hervorgerufenen pulsierenden Exophthalmus.—Ein neues Verfahren.) O. Zeller.
110 When Should Interval Appendicectomy Be Done? (Wann soll im Intermediärstadium und Spätsadium der akuten Appendizitis operiert werden?) W. Merkens.
111 Research on Fat Embolism. (Untersuchungen über Fettembolie.) N. B. Grøndahl.
112 Laceration of the Spleen. (Subkutane Zerreissungen der gesunden und kranken Milz.) Vorwerk.
113 Unusual Complications of Cholelithiasis. H. Finsterer.
114 Isolated Dislocation of the Scaphoid Bone. (Isolierte Kahnbeinverrunkungen am Fuss.) W. Goebel.
115 *Nerve Blocking for Anesthetizing the Legs and in Treatment of Sciatica. (Ueber Leitungsanästhesie an der unteren Extremität mit Bemerkungen über die Technik von Injektionen an den Nervus ischiadicus bei Behandlung der Ischias.) A. Läwen.
116 Bladder Diverticulum. (Zur Diagnostik und Behandlung des angeborenen Blasendivertikels.) F. Kroiss.
117 Cured Rupture of Duodenum. (Ein geheilter Fall von Duodenalruptur.) W. Wolf.
118 Extradural Anesthesia. (Experimentelle Untersuchungen über Extraduralanästhesie.) A. Läwen and W. v. Gaza.

109. **Pulsating Exophthalmos.**—The exophthalmos may be the result of an arteriovenous aneurysm of the internal carotid in the sinus cavernosus. When this is the case the symptoms are characteristic, especially the cessation of the pulsation and noises when the carotid is compressed. Systematic compression of the common carotid is suggested by Zeller as a logical method for relieving and curing the trouble, permitting a collateral circulation to develop, while the heart is trained to its increased task and it is determined whether the patient is able to stand the exclusion of the carotid. If symptoms on the part of the brain develop under compression of the carotid, ligation of the carotid is contra-indicated. If the systematic compression fails to relieve, Zeller severs the internal carotid between two ligatures as close to the base of the skull as possible. The external carotid should not be

ligated. for reasons which he enumerates. A course of tonics and heart stimulants should precede the operation if necessary, and it should be restricted to the severest cases. It can be done under local anesthesia. If no brain symptoms develop under systematic compression of the carotid, the ligation is not contra-indicated even in the elderly. Heart tonics and venesection may be needed after the operation. He discusses the experiences in this line on record to date, with the various attempts that have been made to cure pulsating exophthalmos, and reports a case of traumatic origin. His cases teach the value of ligation of the internal carotid in these cases and that ligation of the external branch is useless. Complications in his case prevented a successful outcome, but the phenomena observed in this case possibly point the way to successful management of such cases in future.

115. **Nerve Blocking in the Thigh.**—Läwen has been studying the best technic for injecting an anesthetic into the thigh to block conduction of pain in the sciatic nerve, similar to Braun's *Leitungsanästhesie* of the leg. The anesthetic seems to diffuse into the nerve trunk or the special ganglia or even into the spinal cord, and thus arrest the pain. The anesthesia thus induced permits in thin patients a painless amputation. The patient lies in the ventral decubitus and the needle is inserted at a point 2 cm. outside of the tuberosity of the ischium, and about 20 or 30 c.c. of fluid is injected perpendicularly at the assumed depth of the nerve trunk. Then the needle is partly withdrawn and pointed outward and a little more of the anesthetic is injected. The perpendicular injection blocks the tibial nerve, especially if a little stronger oncentration of the anesthetic is used at this point. Then the needle is introduced again at a point 3 cm. inside of the greater trochanter, slanting it inward a little and ejecting he liquid at three depths. pointing it so that all the soft arts between the two injecting points are infiltrated with he solution. In one of the ten cases reported in detail he hus blocked the nerves, including the femoral, tibial and bturator, using a total of 1.8 gm. novocain in thirty minutes, vith the result that the whole leg became insensible to eedle pricks and the leg was amputated without the slightest ain. not even when the nerves were pulled. He thinks this echnic for the injections is promising for treatment of ciatica.

Medizinische Klinik, Berlin

October 1, VII, No. 40, pp. 1527-1564

19 *Cholelithiasis. (Erkennung und Behandlung des Gallensteinleidens.) F. Schultze.
20 Prevention of Puerperal Fever. (Verhütung des Kindbettfiebers.) C. J. Gauss.
21 Management of Contracted Pelvis. (Therapie bei engen Becken.) J. Richter.
22 *Treatment of Pleurisy Without Effusion by Fastening Down the Arm. (Behandlung der Pleuritis sicca unter Ruhigstellung durch Armfesselung.) E. Kuhn.
23 *Breathing Cool Air in Treatment of Nasal Catarrh. (Zur Behandlung des Nasenkatarrhs.) C. P. Dannehl.
24 Prophylaxis of Ophthalmia Neonatorum. (Beobachtung aus der Praxis bei der prophylaktischen Einträufelung in die Augen Neugeborener.) J. Frommholz.
25 Operative Treatment of Exophthalmic Goiter. (Umfrage über die chirurgische Behandlung der Basedowschen Krankheit.) A. Neumann, O. Binswanger, A. v. Eiselsberg and Ortner.
26 High Colloidal Nitrogen Content in Urine Not Pathognomonic of Cancer. (Zur klinischen Bedeutung und Kritik eines Harnbefundes bei Carcinomatösen nach Salkowski.) S. Jshioka.

119. **Cholelithiasis.**—Schultze outlines a certain method of rocedure for differentiating gall-stone disease by exclusion. e first seeks to exclude epigastric hernia, the symptoms rom which may simulate those from gall-stones; then he xcludes circumscribed peritonitis, gastric ulcer and cancer. ith the former the pains are connected with the meals, hile in cholelithiasis the attacks of pain may occur at any me, often suddenly in the night. Duodenal ulcer, and affecons of the small and then of the large intestine are next nsidered. Especially with nervous and membranous colitis, e pains are liable to resemble those with gall-stones except at they recur more frequently, and are not accompanied by undice. Appendicitis may induce adhesions causing disrbances similar to those from gall-stones. With acute ncreatitis the collapse is severer than with gall-stone colic d the stomach region generally protrudes while otherwise the trouble may suggest ileus. The possibility of gastric crises should also be borne in mind and the reflexes tested and hyperesthetic zones sought for. Schultze has had cases of coincident gastric crises and gall-stones. Calculi in the kidney may be excluded by roentoscopy and wandering kidney by manual examination. With pain from spastic conditions in the stomach or intestine, the gall-bladder is not specially tender. Differentiation of cholelithiasis is unusually difficult when the patient is inclined to hysteria. Tenderness on palpation of the right hypochondrium and especially at the point where the ninth intercostal nerve pierces the rectus muscle, is the most reliable sign of gall-stone trouble when connected with colics. Another characteristic sign is the radiation of the pain to the right shoulder and into the right arm. In some cases this radiated pain dominates the clinical picture, and the patients are treated for years for assumed neuritis until passage of a gall-stone cures the "neuritis." When "neuralgia" of this character is complained of, the skin of the upper abdomen should be tested for extrasensitiveness to contact. The right upper abdominal wall is also liable to be left rigid during and after gall-stone colic. Schultze insists on bed rest, possibly for weeks, for patients with gall-stone pains until the region is no longer tender. Hot compresses to the upper abdomen and hot water internally aid in the cure, supplemented by plenty of water to drink and five meals a day of readily digestible food to keep the bile flowing freely. The meal is the best cholagog, he adds, and no pharmaceutical means are known to dissolve or expel gall-stones.

122. **Immobilization of the Arm in Treatment of Pleurisy.**—Kuhn ties the wrist of the affected side to the thigh on the other side, thus preventing any movement of the arm and shoulder and giving the inflamed pleura a chance to heal. He has found this measure very useful in several cases of pleurisy without effusion, fastening the arm down under the clothing and not releasing it until the temperature was permanently normal. He warns that tuberculosis contra-indicates this measure as the immobilization is not complete enough to be beneficial in this infection; the partial immobilization thus induced tends rather to aggravate a chronic process.

123. **Breathing Exercises in Treatment of Nasal Catarrh.**—Dannehl applies cool air to reduce the congestion in the nose, having the patients breathe moderately deep through the most congested side, expelling the warmed air rapidly through the mouth, inspiration longer than expiration. The best method is to do these exercises during a tranquil walk morning and evening. If they have to be done in the house, he has the patient recline on each side in turn during the breathing exercises. He reports excellent results from them even in chronic catarrh.

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 6, pp. 281-324

127 Chemical Means for Keeping Drawn Breast Milk. (Ueber Konservierung von Frauenmilch durch Perhydrol.) W. Knape.
128 Fermentation of Flour and Oatmeal. (Weitere Untersuchungen über die Gärung von Weizen- und Hafermehl.) M. Klotz.
129 A Motor Neurosis Probably Responsible for Rumination in Infants. (Zur Pathogenese der Rumination im Säuglingsalter.) F. Lust.

Münchener medizinische Wochenschrift

September 26, LVIII, No. 39. pp. 2041-2096

130 Treatment of Myoma. (Myombehandlung.) E. Opitz.
131 Prevention and Treatment of Postoperative Peritonitis. (Verhütung und Behandlung der postoperativen Bauchfellentzündung.) E. Holzbach.
132 *Babinski's Sign Preceding Uremia. (Die diagnostische Bedeutung des Babinskischen Phänomens im präurämischen Zustand.) H. Curschmann.
133 Pigs and Rats as Hosts of Trichina. (Rolle von Schwein und Ratte als Trichinenwirte.) C. Stäubli.
134 Roentoscopy of Peristalsis of Large Intestine. (Zur genaueren Kenntnis der grossen Kolonbewegungen.) G. Schwarz. (Dickdarmperistaltik im Röntgenbilde.) L. Fischl and F. Porges.
135 Transient Glycosuria with Phlegmon. (Vorübergehende Glykosurien bei phlegmonösen. Erkrankungen.) G. Becker.
136 Experimental Kala-Azar. (Histologische Veränderungen und parasitärer Befund bei einem an Infektion durch Leishmania-Donovani verendeten Meerschweinchen.) G. Franchini.
137 Case of Idiosyncrasy to Ten Substances. V. E. Mertens.
138 Sulphur as Antidote for Mercurial Poisoning. (Ueber therapeutische Versuche bei Sublimatvergiftung.) C. Bruck.

132. **Diagnostic Importance of the Babinski Sign with Impending Uremia.**—Curschmann called attention some years ago to the great importance, both for diagnosis and prognosis, of modifications in the reflexes as a sign of the morbid condition preceding the uremia syndrome. The various reflexes may be exaggerated or abolished, but he has invariably found the Babinski sign permanently positive from the start, even in cases with loss of all the other tendon reflexes. Little attention has been paid to his statements in regard to the importance of this sign of impending uremia and he here reaffirms them anew and relates a number of typical examples. The first patient was a boy of 10 with acute nephritis but unimpaired consciousness, the tendon reflexes abnormally weak, the abdominal wall reflex abolished, but the Babinski sign phenomenon was pronounced on both sides, and Curschmann, solely from this fact, assumed impending uremia and began prophylactic treatment, venesection, saline infusion and heart tonics. Sixteen or eighteen hours later the uremia made its presence known by convulsions, but the next day improvement was evident and the boy recovered, the Babinski sign subsiding as the convulsions ceased. The contrast between the behavior of this sign and of the other reflexes is particularly characteristic of impending uremia; in some cases the other reflexes may be exaggerated during the uremic phenomena but the Babinski sign warns of danger hours before. He has witnessed in some cases exaggeration of the tendon reflexes during suburemic phases of chronic nephritis. This characteristic behavior of the Babinski is liable to occur with all forms of nephritis, except that he found the forms tending to edema more inclined to exaggeration of the reflexes than the nephritis without this tendency. In conclusion Curschmann discusses the mechanism of and theory for this behavior of the Babinski sign as the purest expression of the loss of cerebral inhibition.

Virchows Archiv, Berlin

CCV, No. 2, pp. 161-320

139 Blastoma in Mice. M. Friedmann.
140 Neoplasms induced by Injections of Rottenstone. (Künstlich hervorgerufene Neoplasmen nach Kieselgur-Injektionen.) J. I. Schirokogoroff.
141 Goiter in Silesia. (Ueber den Schlesischen Kropf.) C. Davidsohn.
142 Postbranchial Body and Branchial Passages in Man. (Zur Kenntnis des postbranchialen Körpers und der branchialen Kanälchen des Menschen.) S. Getzowa.
143 Closure of the Ductus Venosus and Anatomy of the Portal Vein. (Verschluss des Ductus venosus Arantii nebst Bemerkungen über die Anatomie der Pfortader.) E. Richter.
144 Pathologic-Anatomic Changes in Certain Organs After Poisoning with Various Chemotherapeutic Substances. N. Andreew.
145 Passage of Feces Past or Around Old Retained Feces. (Mechanismus der Kotpassage bei Kotretention auf Grund einschlägiger Obduktionsbefunde.) A. Brosch.
146 Comparative Research on the Indophenol-Oxydase Reaction in Salivary and Lacrimal Glands in Mammals. R. Spanjer-Herford.
147 Amyloid Bodies in Interior of Ganglion Cells. (Vorkommen amyloider Körperchen im Innern der Ganglienzellen; zugleich ein Beitrag zum Studium der amyloiden Substanz im Nervensystem.) G. R. Lafora.
148 Physiologic and Irritation Motor Phenomena in Leukocytes. (Physiologische und Reizbewegungserscheinungen an Leukozyten.) B. Ullmann.
149 Contribution to Embryology of Human Kidney. (Polyzystisches Nierenrudiment bei Fehlen des Ureters und Vas deferens, appendikulärer Schwellkörper des Penis und zahlreiche andere Missbildungen bei einem 8 monatlichen Fötus.) G. Rosenow. Concluded in No. 3.

Wiener klinische Wochenschrift, Vienna

September 28, XXIV, No. 39, pp. 1351-1382

150 Uterus Bicornis. (Vorzeitige Deziduaaustossung bei Uterus bicornis nebst Bemerkungen zur Physiologie der Verdopplungen der Gebärmutter und zur Menstruation während der Schwangerschaft.) K. J. Bucura.
151 *Placenta Prævia. (Placenta praevia cervicalis.) R. Hofstätter.
152 *Tuberculin Treatment of Urogenital Tuberculosis. R. Bachrach and F. Necker.
153 Early History of Theory of Internal Secretions. (Théophile de Bordeu—1722-1776—als Vorläufer der Lehre von der inneren Sekretion.) M. Neuburger.

151. **Placenta Prævia.**—When the placenta is inserted in the cervix the lip of the os protrudes, the cervix ballooning, resembling the aspect of an abortion impacted in the cervix, the suggestion of abortion being reenforced by the signs of pregnancy and preceding hemorrhages. Sometimes the cervix is friable. If the external os is open a little, crumbling masses can be palpated above it, which bleed at a touch, in the early stages the condition resembling malignant disease. Hofstätter reports a case in which the diagnosis was correctly made: the patient recovered notwithstanding profuse hemorrhage from the inability of the lower segment of the uterus to contract properly. In future in such a case he would at once remove the uterus by the vagina unless there had been only a slight loss of blood, in which case he would try to master the situation by delivering the child, separating the placenta and applying a firm tampon, ready to do hysterectomy at once in case the hemorrhage persisted. He warns that it is impossible to count on spontaneous separation of the placenta from the site in the cervix.

152. **Tuberculin Treatment of Urogenital Tuberculosis.**—In this communication from Zuckerkandl's surgical service the experiences with twelve patients with tuberculosis of the kidneys given tuberculin treatment are reviewed, the conclusions being that operative cases do not require tuberculin treatment unless the tuberculosis involves other organs besides the kidney; in this case tuberculin treatment is advisable. In the rare cases in which the tuberculosis is detected in its early stages by discovery of tubercle bacilli in the urine without essential suppuration or impairment of kidney functioning, tuberculin treatment may give fine results. The experiences related do not show that the focus is liable to heal under tuberculin treatment, but the general health improves and the patients gain in weight. The tuberculin treatment should never be carried to a point to induce reaction. In the inoperable cases it may be applied as a last resort.

Zeitschrift für klinische Medizin, Berlin

LXXIII, Nos. 3-4, pp. 169-385. Last indexed Oct. 14, p. 1332

154 Râles at the Apices. (Rasselgeräusche über den Lungenspitzen.) Külbs.
155 Resistance to Poisons of Known Chemical Constitution. (Resistenz gegenüber Giften bekannter chemischer Konstitution.) P. Fleischmann.
156 Urobilinuria in Croupous Pneumonia. (Bedeutung der Urobilinurie für Diagnose und Prognose krupösen Pneumonie.) W. Hildebrandt.
157 Registration of Blood-Pressure in Arhythmia. (Graphische Blutdruckbestimmungen bei unregelmässiger Herzwirkung.) R. Wybauw.
158 Excretion of Urine and Salt in Diabetes Insipidus. J. Forschbach and Weber.
159 Comparison of Phonoscope Heart Findings with Electrocardiograms. (Registrierung von Herztönen und Herzgeräuschen mittels des Phonoskops und ihre Beziehungen zum Elektrokardiogramm.) O. Weiss and G. Joachim.
160 Determination of Viscosity of Blood. (Weiteres zur Kritik der Viskosimetrie.) H. Determann.
161 Roentotherapy of Tumors in Mediastinum. (Zur Kenntnis der Mediastinaltumoren und ihrer Behandlung mit Röntgenstrahlen.) E. Steinitz and G. Joerdens.
162 Physical-Chemical Changes in the Blood After Paracentesis, Thoracocentesis, Venesection and Subcutaneous Infusion. (Beitrag zur Dynamik der Transsudate.) A. Barlocci. (Physikalisch-chemische Veränderungen des Blutes nach Aderlass und subkutaner Infusion.) C. Oliva.
163 Radium Emanations in the Blood Under Treatment. (Ueber den Gehalt von Radium-Emanation im Blut des Lebenden bei den verschiedenen Anwendungsformen zu therapeutischen Zwecken.) F. Gudzent.
164 "Large Lymphocyte" Leukemia. (Zur Lehre von der grosslymphozytären Leukämie.) K. Thomas.
165 Coincident Diabetes Insipidus and Mellitus. (Fall von gleichzeitige Diabetes insipidus und Diabetes mellitus.) K. A. Heiberg.
166 Dissociation in Liver Functioning. (Zur funktionellen Leberdiagnostik. II.) F. Falk and P. Saxl.
167 Consumption of Oxygen in the Lungs. (Der intrapulmonale Sauerstoffverbrauch des Menschen.) A. Pütter.
168 *Influence of Injections of Gelatin on Kidney Disease. (Zur Frage des Einflusses der subkutanen Gelatineinjektionen bei Nierenerkrankungen.) J. B. Studzinski.

168. **Injections of Gelatin in Kidney Disease.**—Studzinski reports his experiences and analysis of the findings in fourteen cases of kidney disease and in two healthy persons with sound kidneys, all given subcutaneous injections of gelatin in the hope of influencing a hemorrhagic tendency. He did not find any modification of the amount or specific gravity of the urine in any case with the ordinary technic. With chronic interstitial or parenchymatous nephritis without parenchymatous hemorrhages, the injections did not seem to do any special harm as only in one case did they transiently increase the amount of albumin and formed elements in the urine. When the kidney disease was accompanied by a tendency to parenchymatous hemorrhage in the kidney, the injections not only failed to arrest the hemorrhages but dis-

tinctly aggravated this local hemorrhagic tendency. Internal administration of the gelatin, on the other hand, is free from danger and may be of some use without causing any untoward by-effects. The case of uremia reported by Bauermeister in which fatal symptoms of uremia followed the internal administration of gelatin, is probably explainable by the preexistence of the uremia. This patient was given the gelatin for uterine hemorrhage and epistaxis, but the treatment had been preceded by evidence of chronic parenchymatous nephritis inducing uremic disturbances.

Zentralblatt für Gynäkologie, Leipsic

September 30, XXXV, No. 39, pp. 1361-1392

169 Pituitary Extract as Preliminary to Cesarean Section and to Promote Labor Contractions. (Pituitrin als Vorbereitung zum Kaiserschnitt und als Mittel gegen Wehenschwäche.) P. Kroemer.
170 Total Amount of Blood During Pregnancy and Puerperium. (Untersuchungen über die Gesamtblutmenge in der Graviditat und im Wochenbett.) L. Zuntz.
171 *Spontaneous Puerperal Infection. W. Poten.

171. **The Question of Spontaneous Puerperal Infection.**—Poten thinks that this question can be decided only by comparison of long series of parturient women with and without internal examination. In the last three years the vagina was left untouched in about half of the 3,171 maternity cases in his service, and yet two of these women succumbed to septic fever during the puerperium. To deny the possibility of spontaneous infection is to shut one's eyes to facts, he asserts.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 19, XXXII, No. 113, pp. 1195-1202

172 Streptobacillus Isolated from Moribund Pellagrins. (Su di un reperto batteriologico positivo in casi gravissimi di pellagra.) N. Ramella.

September 21, No. 114, pp. 1203-1210

173 Mechanism of Action of Glycosuria-Checking System. (Contributo sperimentale sul meccanismo di azione dei sistemi antiglicosurici.) P. Paolucci.

September 24, No. 115, pp. 1211-1226

174 The Integral Interrelations Between the Organic Fluids, and the Theory of Hormones. (L'integrazione umorale dell'-organismo e la teoria degli ormoni.) F. Bottazzi.
175 Fracture of the Skull: Three Cases. (Tre craniectomie per frattura complicata della volta cranica.) A. Franchini.

September 26, No. 116, pp. 1227-1234

176 Diagnostic Comparative Determination of Starch Digesting Ferment in Saliva, Stool and Urine. (Evoluzione comparata dell'amilasi nella fecce e nell'urina degli infermi.) A. Sampogna.

Policlinico, Rome

September 24, XVIII, No. 39, pp. 1225-1256

177 Precipitin Reaction in Diagnosis of Tuberculosis. (La precipitoreazione nella diagifosi della tuberculosi.) F. Fasani-Volarelli.
178 Intoxication from Quinin Without Jaundice or Hematuria. (Alcuni casi di intossicazione da chinino senza itterizia ed ematuria.) S. Spampinato.

September, Medical Section, No. 9, pp. 381-428

179 Research on the Heart Sounds. (Ancora intorno alla genesi del primo tono o suono del cuore.) D. Salvatore.
180 Research on the Cardiovascular Murmurs. (Sul meccanismo dei rumori di soffio cardio-vascolari e sulla loro propagazione.) C. Pezzi.
181 *The Wassermann Reaction in Foundlings. (La reazione di Wassermann sugli esposti.) M. Flamini.
182 Roentographic Diagnosis of Gastric Cancer. F. Perussia.

September, Surgical Section, No. 9, pp. 385-432

183 Fracture of the Second Cervical Vertebra Without Injury of the Spinal Cord. (Frattura dell'epistrofeo, senza lesioni nervose, e frattura dello sterno per caduta da cavallo.) R. Dalla Vedova.
184 The Elastic Network in the Walls of Varicose Veins. (Il sistema delle "gitterfasern" nella parete delle vene varicose.) G. Razzaboni. Commenced in No. 8.
85 Phenomena After Removal of Thyroid, Parathyroids and Testicles or Ovaries. (Tiro-paratiroidectomia e castrazione.) F. Purpura.
86 *The Cobra Reaction with Surgical Lesions. (La cobrareazione di Calmette in talune affezioni chirurgiche.) G. Aperlo.
87 Antitoxic Power of Lymphatic Glands. (Sul potere antitossico delle glandole linfatiche.) F. Lofaro.

181. **The Wassermann Reaction in Foundlings.**—Flamini obtained a positive reaction in thirteen of 170 foundlings at he Rome asylum. This proportion of 7.5 per cent. is about he same as that obtained at the Milan asylum. It is much ower than the proportion of positive reactions in the blood rom the umbilical cord obtained in maternities. He thinks hat this testifies to the presence in the blood of substances rom the maternal blood which give the Wassermann reaction.

186. **The Cobra Reaction in Surgical Affections.**—Aperlo has been applying Calmette's cobra venom test in fifteen cases of surgical tuberculosis, three of sarcoma, four of carcinoma and eight with various other surgical affections. The reaction was positive in all the sarcoma cases and negative in the carcinoma. In the tuberculous cases the cobra reaction alone was positive in three, the cutaneous reaction alone in four, and both were positive in five other cases. He reports these findings without drawing any general conclusions from them.

Riforma Medica, Naples

September 25, XXVII, No. 39, pp. 1065-1092

188 Staining Technic for Differentiating Cancer. (La dimostrazione delle fibrille reticolari con il metodo Bielschowsky per la diagnosi differenziale tra sarcoma ed epitelioma.) C. Licini.
189 Action of Pituitary Extract and Epinephrin on the Fatigue Curve. (Azione di alcuni estratti di glandole a secrezione interna sulla curva della fatica.) A. Trerotoli.

Norsk Magazin for Lægevidenskaben, Christiania

October, LXXII, No. 10, pp. 1003-1056, and Supplement

190 *Obstacles to Marriage from the Medical Standpoint. (Om egteskapshindringer fra et medicinsk synspunkt.) Holmboe.
191 Cholecystitis with Pure Cultures of the Micrococcus Melitensis. (Cholecystit med renkultur av Micrococcus melitensis.) P. Bull and H. M. Gram.
192 *The Wassermann Reaction and Its Clinical Importance. (Den Wassermannske reaktion og dens kliniske betydning.) R. Krefting.

190. **Obstacles to Marriage from the Medical Standpoint.**—Holmboe was commissioned by the Norwegian government to report on this subject, and he here presents the results of his study. The questions involved were principally determination of the lowest age-limit for candidates for matrimony, mental or physical disease or consanguinity as an obstacle to marriage, and whether persons known to the authorities to be suffering from contagious or heritable diseases should be allowed to marry, and whether medical examination of candidates for matrimony should be made compulsory. He states that according to the statistics at hand, the girls of the wage-earning classes in Norway as a rule begin to menstruate late, one-fourth not until after the seventeenth year, consequently he thinks that the lower limit for matrimony should not be under 18. It is 16 according to the present legislation. His conclusions are unfavorable to compulsory medical examination of candidates as liable to prove illusory for reasons which he enumerates.

192. **The Wassermann Reaction.**—Krefting's monograph is published as a separate pamphlet of 152 pages and discusses the Wassermann reaction from different points of view, including the historical and life insurance standpoints. He has been studying the reaction for nearly three years and has made 2,500 Wassermann tests. In 322 cases of latent syphilis the reaction was negative in 75 per cent. and he is convinced that these negative patients are more liable to be spared further manifestations of their syphilis than those giving a positive reaction. He has examined a number of these negative patients repeatedly during the last two and a half years and has never obtained a positive response, and this persisting negative reaction is a favorable sign. A positive reaction must be accepted, he thinks, as a sign of active syphilis, no matter what the stage of the disease in question. One of his patients with syphilis of ten years' standing and who had had the disease apparently in a very mild form, gave a positive reaction when tested a year ago after a long period of freedom from manifestations, and yet a month after the test had given positive findings a gumma developed on the thigh. In another case a man of 45 with infection of eighteen years' standing applied for relief from incipient cataract and the Wassermann test was positive. A month or so later a gumma was discovered on the shoulder. Another patient of the same age, with a history of infection seventeen years before but so slight that some physicians doubted the correctness of the diagnosis, gave a positive reaction when tested two years ago and a year later had to be taken to an asylum with acute paralysis, fatal in three months. Some of the patients giving a positive reaction, but apparently free from manifestations of the disease complain a little of their hearts so that there is probably some aortitis or aneurysm develop-

ing although no physical signs of such can be detected. In regard to life insurance, Krefting states that he has applied the test a few times on behalf of insurance companies but is not aware that they acted on the outcome of the test; he thinks, however, that the companies will in time have to take the Wassermann reaction into account in dubious cases, and as it is in the interest of the companies, they will have to assume the expense. An interesting chapter relates Krefting's experience with the Wassermann findings under mercurial and salvarsan treatment. It seems to indicate that salvarsan has a more regular and a more pronounced action on the syphilis than any other treatment. He even reports a case of apparent reinfection after the patient had been presumably cured under salvarsan of his primary syphilis. He applied for treatment January 19, with a primary sore swarming with spirochetes, the Wassermann negative. Three intravenous injections of salvarsan were given between January 21 and March 10, the Wassermann reaction constantly negative, and no manifestations of the syphilis were observed beyond the primary sore. June 3 the young man returned with two primary sores both swarming with spirochetes and the Wassermann reaction was positive; infection had occurred six weeks before. The syphilis this time ran a somewhat livelier course with roseola and some glandular involvement. Krefting remarks that this is the most carefully investigated case of presumable reinfection known to him, the primary sores each time having been diagnosed as such by other physicians. Krefting never obtained a positive reaction in primary syphilis until seven or eight weeks after infection. He obtained a positive reaction in every one of the 317 patients with syphilis in the secondary stage, including eighty-two women, and in eighty-four of eighty-seven syphilitics in the tertiary stage, the interval since infection ranging from two to thirty years. Among his 322 cases of syphilis free from symptoms, three to forty years after infection, the reaction was positive in 27 per cent.; among the 233 negative cases the patients at some time had had tertiary manifestations.

Ugeskrift for Læger, Copenhagen

September 28, LXXIII, No. 39, pp. 1403-1450

193 Hygienic Necessity for Pure Food Legislation. (Hygiejniske Krav til Kontrollen med Levnedsmidler.) A. Erlandsen.

Upsala Läkareförenings Förhandlingar

N. S. XVI, No. 7, pp. 481-590. Last indexed Sept. 9, p. 836

194 Experiences with Orthopedic Exercises and Surgery, 1910. (Från Dr. Haglunds gymnastisk-ortopedisk-kirurgiska privatanstalt i Stockholm.) P. Haglund.

195 Alkaptonuria and Ochronosis. (Ett och annat om alkaptonuri och okronos.) C. T. Mörner.

196 Inhibition of Action of Invertin. (Om hämning af invertinets verkan.) A. Eriksson.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Lippincott's New Medical Dictionary. A Vocabulary of the Terms Used in Medicine, Dentistry, Veterinary Medicine, and the Allied Sciences with Their Pronunciation, Etymology and Significance, Including Much Collateral Information of a Descriptive and Encyclopedic Character. By Henry W. Cattell, A.M. (Laf.), M.D. (U. of P.), Editor of International Clinics. Second Edition. Flexible Leather. Price, $5 net. Pp. 1108, with illustrations. Philadelphia: J. B. Lippincott Co., 1911.

The Diseases of Infancy and Childhood. For the Use of Students and Practitioners of Medicine. By L. Emmett Holt, M.D., ScD., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York, assisted by John Howland, A.B., M. D., Professor of Diseases of Children in Washington University, St. Louis. Sixth Edition. Cloth. Price, $6 net. Pp. 1112, with 240 illustrations. New York: D. Appleton & Co., 1911.

A Text-Book of Physiological Chemistry. By Olof Hammarsten, Emeritus Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized Translation from the Author's Enlarged and Revised Seventh German Edition by John A. Mandel, ScD., Professor of Chemistry in the New York University and Bellevue Hospital Medical College. Sixth Edition. Cloth. Price, $4 net. Pp. 964. New York: John Wiley & Sons, 1911.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Third Edition. Cloth. Price, $5 net. Pp. 791, with 194 illustrations. New York: D. Appleton & Co., 1911.

A Manual of Pathology. By Guthrie McConnell, M.D., Professor of Pathology and Bacteriology, Temple University, Medical Department, Philadelphia. Second Edition. Flexible Leather. Price, $2.50 net. Pp. 531, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Diseases of the Ear, Nose and Throat, Medical and Surgical. By Wendell Christopher Phillips, M.D., Professor of Otology, New York Post-Graduate Medical School and Hospital. Cloth. Price, $6 net. Pp. 847, with 545 illustrations. Philadelphia: F. A. Davis Co., 1911.

Transactions of the Fourth Annual Meeting of the Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical Association. Held at St. Paul, Minn., Nov. 16 and 17, 1910. Paper. Pp. 173. John H. Rishmiller, Secretary, Minneapolis, Minn.

Applied Anatomy and Oral Surgery. For Dental Students. By Robert H. Ivy, M.D., D.D.S., Assistant Oral Surgeon at the Philadelphia General Hospital. Cloth. Price, $1.50 net. Pp. 280, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

Sixth Annual Report of the Associated Committees of the Massachusetts Medical Society for the Prevention and Control of Tuberculosis. September, 1911. Paper. Pp. 63. John B. Hawes, 2d, M.D., Secretary, 3 Joy Street, Boston.

Food Values. Practical Tables for Use in Private Practice and Public Institutions. By Edwin A. Locke, A.M., M.D., Instructor in Medicine, Harvard Medical School, Boston. Cloth. Price, $1.25 net. Pp. 110. New York: D. Appleton & Co., 1911.

Bibliographie der Neurologie und Psychiatrie für das Jahr 1910. Von der Redaktion der Zeitschrift für die gesamte Neurologie und Psychiatrie. Paper. Price, 10 marks. Pp. 202. Berlin: Julius Springer, 1911.

Report of the Veterinary Director General and Live Stock Commissioner, J. G. Rutherford. For the Year Ending March 31, 1910. Paper. Price, 10 cents. Pp. 128. Ottawa: C. H. Parmelee, 1911.

Annual Report of the School Medical Officer, Robert A. Lyster, M.D., Ch.B., B.Sc., D.P.H. For the Year 1910. Paper. Pp. 74. Public Health Department, The Castle, Winchester.

Eighth Annual Report of the Barlow Sanatorium (Incorporated). Chavez Ravine, Los Angeles, Cal. Paper. Pp. 48. Dr. W. Jarvis Barlow, Secretary, Los Angeles, Cal.

Medical Communications of the Massachusetts Medical Society. Volume XXII. Paper. Pp. 408. W. L. Burrage, Secretary, 282 Newbury Street, Boston.

New Patents

Patents of Interest to Physicians

1,000,481.	Truss, William H. Allen, Imperial, Cal.
1,000,706.	Respirator, Dana D. Barnum, Worcester, Mass.
1,000,732.	Making nitric oxid, Friedrich Hausser, Kaiserslautern, Germany.
1,000,423.	Solid oil containing medicine, Otto B. May, New York, N. Y.
1,000,433.	Manufacture of cream of tartar, John B. Moszozenski, New York, N. Y.
1,000,750.	Wrapping for hydrotherapeutic purposes, Maria P. P. B. Nerli, Florence, Italy.
1,000,852.	Solid perfume mixture containing artificial musk, Alexander Stapler, Charlottenburg, Germany.
999,950.	Apparatus for use in administering anesthetics, Albert Berthelot and P. Rosenthal, Paris, France.
999,758.	Operating mechanism, Louis E. Dietz, Cincinnati, O.
1,000,332.	Pocket filter, Henry H. Dyer, Somerville, Mass.
1,000,001.	Vacuum apparatus for hyperemic treatments, Robert A. C. Holz, Cleveland, O.
1,000,335.	Thermo-electric fountain syringe, Norman E. Houser, St. Louis, Mo.
1,000,178.	Medical spoon, William F. Kahl, Detroit, Mich.
999,855.	Hospital appliance, Lincoln P. Parkhurst, Grand Rapids, Mich.
1,000,294.	Electromagnetic vibrator for local application to the person, Augustus Rosenberg, London, England.
1,000,298.	Preparation for slowly liberating oxygen, Leopold Sarason, Hirschgarten, near Berlin, Germany.
1,000,214.	Preparing extractive compounds of the suprarenal gland, Charles E. Vanderkleed, Collingswood, N. J.
1,000,138.	Obtaining bicarbonate of soda, Noah Wrinkle, and R. G. Paddock, San Francisco, Cal.
999,294.	Sterilizing apparatus, Gustav Bengs, Fort Wayne, Ind.
999,484.	Artificial arm and hand, William T. Carnes, Kansas City, Mo.
999,362.	Case for vials, etc., Everett B. Chapman, Marlboro, Mass.
999,551.	Manufacture of oxalic acid and other oxygenated carbon products, Auguste Delss, Marseilles, France.
999,451.	Inhaling apparatus, Frederik A. Holleman, The Hague, Netherlands.
999,225.	Vibroscope, Charles F. Hopewell, Newton, Mass.
999,667.	Converting pinene into camphene, Louis Montaland, Villetaneuse, France.
999,289.	Medicinal cup, Morris Zuckerman, New York, N. Y.
999,003.	Obtaining nitrogen, Charles E. Acker, Ossining, N. Y.
999,083.	Soluble casein, Carl A. Baechler, Zurich, Switzerland.
999,084.	Soluble casein, Carl A. Baechler, Zurich, Switzerland.
999,010.	Ankle support and protector, Henry J. Collis, Taunton, Mass.
998,618.	Stereoscope plate changer, Edwin W. Kelly, Philadelphia, Pa.
998,850.	Automatic stereoscopic radiography, Edwin W. Kelly, Philadelphia, Pa.
998,977.	Water bag, James A. Murray, New Haven, Conn.
998,996.	Attachment for invalid beds, Josephine M. Swenson and T. S. Olsen, New York, N. Y.
999,078.	Cooler for soda fountains, Will B. Wood and B. L. Warner, St. Louis, Mo.

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VARIATIONS IN THE PHAGOCYTIC AND OTHER POWERS OF LEUKOCYTES *

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In the course of the recent study of phagocytosis, naugurated by the discovery of opsonic substances in he blood and other fluids, it has been observed by arious investigators that, contrary to the original belief f Wright and others, the phagocytic power or activity f the leukocytes is subject to considerable variation ndependently of variations in the opsonic content of he blood. It is the purpose of this article to review riefly the observations touching variations in the phagoytic and allied powers of leukocytes under different onditions, because it seems to me that the results at and have a direct bearing on the larger problem of he anti-infectious powers of the blood as a whole.

The phagocytic power of leukocytes from a particular ource may be compared with that of other leukocytes y finding the amount of phagocytosis performed by ach under strictly comparable conditions. For such urpose the phagocytic mixtures, which would be the ame in all respects save for the sources of the leukoytes, self-evidently must contain the same number of eukocytes. Hence standardized suspensions of leukoytes, that is, neutrophil leukocytes, the chief bacterial hagocytes, must be prepared. The number of polymorhonuclear cells in the same volume of each leukocytic uspension, made in the usual way, is determined by ounting, and then the stronger suspensions are diluted ith salt solution so that all acquire the same density. n other respects the procedure is quite the same as that sed for determination of the opsonic content of serum. f course, the samples of blood and of other fluids conaining the leukocytes that are to be studied must be ollected at the same time, and all the subsequent anipulations must be carried out under the same conitions in all respects.

This in brief is the general plan of the investigations f the subject in hand, made in this institute by Rosenow, Tunnicliff, Boughton and Eggers. In the ase of at least some of the investigations made elsehere, it is not always clear from the reports in the iterature that due attention was given to this matter f having an equal number of phagocytes in the mixures made for the comparison of the phagocytic power f leukocytes from different sources. This criticism robably applies to one of the earliest observations bearng on this question, namely, that by Ledingham and Bulloch[1] to the effect that the leukocytes of the leukocytosis produced in rabbits, by injection of sodium cinnamate, are less active phagocytically for staphylococci than the leukocytes of normal rabbits. It is quite evident—and Fleming[2] has shown it to be the case—that in mixtures containing an unequal number of leukocytes there will be less phagocytosis per phagocyte in the mixture containing the larger number of leukocytes, and vice versa. In other words, an apparent difference in phagocytic power may result from inequality in the number of leukocytes in the mixtures studied. Using numerically standardized leukocytic mixtures, Rosenow,[3] who also was one of the very first to make extensive studies of the question under discussion, obtained results indicating that in pneumonia the leukocytes have a greater inherent phagocytic power than in health, owing, he suggests, to the preponderance in the pneumonic leukocytosis of younger forms. Not only did he find that pneumonic leukocytes would take up more easily phagocytable pneumococci than normal leukocytes under the same conditions, that is, under the influence of the same serum, but also that the pneumonic leukocytes would take up pneumococci that would resist phagocytosis by the leukocytes of normal blood. Rosenow also observed that pneumonic leukocytes are more resistant to heat, and that after having been heated to the thermal death-point and then resuspended in serum, these leukocytes exercise greater attraction for pneumococci than normal leukocytes—a fact that points to a difference from the normal in the chemical or physicochemical constitution of the leukocytes in pneumonia. Rosenow notes, too, that the leukocytes of acute appendicitis and of puerperal infection also appear to be endowed with increased powers of phagocytosis.

Continuing the review of the articles concerning the question in hand in an approximately chronologic order, we find that Potter and Krumwiede's[4] results seem to indicate that during the height of the pneumonic attack the leukocytes are less active with respect to pneumococci than normal leukocytes, but during the crisis, and just afterward, the phagocytic power rises and then returns to normal.

Park and Biggs[5] found that leukocytes from different normal persons may vary in their phagocytic power for staphylococci.

Several studies have been made on the relative phagocytic power of the different kinds of polymorphonuclear leukocytes according to Arneth's classification, but with

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* From the Memorial Institute for Infectious Diseases.

[1] Ledingham and Bulloch: An Experimental Inquiry Into the elationship of Leukocytes to the Opsonic Content of the Blooderum, Aberdeen Univ. Stud., 1906, No. 21, p. 321.

[2] Fleming: Some Observations on the Opsonic Index with Special Reference to the Accuracy of the Method, and to Some of the Sources of Error, Practitioner, London, 1908, lxxx, 607

[3] Rosenow: The Rôle of Phagocytosis in the Pneumococcocidal Action of Pneumonic Blood, Jour. Infect. Dis., 1906, iii, 683.

[4] Potter and Krumwiede: Some Observations on Opsonins in Pneumonia and in Four Streptococcus Infections, Jour. Infect. Dis., 1907, iv, 601; Further Observations on Opsonins in Normal and Pathologic Serums, The Journal A. M. A., Nov. 30, 1907, p. 1815.

[5] Park and Biggs: The Opsonic Index as a Guide to Regulate the Use of Vaccines in the Treatment of Disease, Jour. Med Research, 1907, xvii, 77.

rather divergent results. Kaplan[6] found that, so far as staphylococci are concerned, the cells with one nucleus are most active phagocytically and those with four, least active. On the other hand, Briscoe[7] and Pottenger[8] conclude that the leukocytes of Arneth's Classes II and III are the most active (staphylococci and tubercle bacilli), while Busse[9] assigns an equal phagocytic value to all classes of neutrophilic leukocytes in health as well as in conditions of inflammatory and postoperative leukocytosis. In so far as these observers used normal blood, it may be assumed that they used mixtures with the same relative number of different leukocytes.

Achard, Raymond and Foix[10] found the eosinophils in normal blood and in the blood of a case of myelogenous leukemia to be without phagocytic activity; the eosinophils in a pleural exudate were phagocytic, however, and in a case of infection with *Filaria loa* Rattan-Launier and Parvu[11] found them markedly active phagocytically.

Ledingham and Bulloch[1] found the polymorphonuclear leukocytes of subnormal activity in native serum in myelogenous leukemia; in chronic lymphatic leukemia, however, the phagocytic power was greater than normal. In a patient with splenomyelogenous leukemia Bushnel[12] found the polymorphonuclear leukocytes less active phagocytically for staphylococci and tubercle bacilli than normal. In myelogenous leukemia Parvu[13] observed that the polymorphonuclear cells were deficient in phagocytic power for typhoid bacilli and staphylococci; the large mononuclears, on the other hand, were active phagocytes. Kentzler[14] also holds that in myelogenous leukemia the neutrophils are below par in phagocytic power. In these cases, however, the question arises whether the actual comparisons made are based on the study of leukocytic suspensions of the same numerical strength. According to Achard, Raymond and Foix,[10] in the leukemias the leukocytes of the normal types have the usual properties but the abnormal cells almost wholly lack phagocytic power.

Shattock and Dudgeon[15] made the following observations: Washed pneumonic leukocytes accomplished more phagocytosis in pneumonic serum than normal leukocytes, while in puerperal streptococcus infection the leukocytes of the puerpera were less active as phagocytes than normal leukocytes in the same serum. As phagocytable objects they used melanin granules from the eye of the horse and colon bacilli. They conclude that the leukocytes from cases of infectious diseases may be more or less active phagocytically than normal leukocytes and recommend for determination of the total phagocytic power of the blood in a given case—hemophagocytic index—a modification of Leishman's technic, but they do not emphasize sufficiently the requirement of working with suspensions holding the same number of leukocytes.

Bayly[16] observed reduction in the phagocytic power of the leukocytes in conditions of fatigue in tuberculosis. Eggers,[17] who tested the activity of the leukocytes in pulmonary tuberculosis with respect to tubercle bacilli, pneumococci, streptococci and staphylococci, failed to find any striking deviations from the normal; in advanced cases the activity seemed somewhat less than in the early cases.

Glynn and Cox[18] made extensive comparative studies of the inherent phagocytic powers, with respect to tubercle bacilli and staphylococci, of the leukocytes of three normal persons, of one case of mild staphylococcus infection and of several miscellaneous cases. Their results show that there may be variations in the phagocytic power on the part of leukocytes from different persons and from the same person at different times. In conditions of health such variation is probably nonspecific. Glynn and Cox use the term "cytophagic index" to indicate the relative phagocytic power of leukocytes from a given source, as compared with that of leukocytes from a different source used as the standard, the two mixtures being made with the same opsonic serum; and the term "opsono-cytophagic index" has been introduced to indicate the relative phagocytic powers of the leukocytes and serum of one individual, as compared with the phagocytic powers of the leukocytes and serum of another individual used as the standard. Naturally this index, called by Shattock and Dudgeon the hemophagocytic and by Nikolsky[19] the opsono-phagocytic index, yields information of larger significance than the opsonic index which tells us only the relative amount of opsonic substances in the blood and is determined by finding the amount of phagocytosis accomplished by normal, or presumptively normal, leukocytes under the influence of the serum in question.

The article by Glynn and Cox gives a mass of interesting and valuable technical details. They recognize fully the necessity of conducting determinations of the cytophagic and opsono-cytophagic indexes with numerically equalized suspensions of leukocytes which they, however, attempted to secure by counts of the red corpuscles in the mixtures of washed blood rather than by the more direct, and surely more accurate, method of counting the leukocytes themselves.

In various infectious diseases Achard and his associates[20] find the phagocytic activity of the leukocytes with respect to yeast-cells below normal in the early part of the attack, rising later to normal or higher in case of recovery, but not otherwise. As the investigators made no effort to equalize the number of leukocytes in the mixtures prepared, it is difficult to form any opinion as to the value of their results.

In a case of cystitis caused by pseudodiphtheria bacillus, Rosenow[21] found that subcutaneous injections of the specific vaccine caused a moderate degree of leukocytosis and a definite and specific increase of the phagocytic power of the leukocytes in the mixtures containing their own, that is, the patients' serum.

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[6] Kaplan: Diagnostic and Prognostic Value of Enumeration of the Nuclei of the Neutrophilic Leukocytes and Their Relative Phagocytic Power, New York Med. Jour., 1907, lxxxv, 683.

[7] Briscoe: Phagocytic Power of Different Forms of Polymorphonuclear Leukocytes and the Origin of Opsonin, Brit. Med. Jour., 1907, ii, 1423.

[8] Pottenger: Phagocytosis in Relation to Arneth's Classification of Neutrophils, The Journal A. M. A., June 19, 1909, p. 1980.

[9] Busse: Phagozytose und Arneth's Blutbild, München. med. Wchnschr., 1910, lvii, 70.

[10] Achard, Raymond and Foix: Compt. rend. Soc. de biol., 1909, lxvi. 56.

[11] Rattan-Launier and Parvu: Recherches sur le pouvoir phagocytaise des polynucleaires éosinophiles, Compt. rend. Soc. de biol., 1909, lxvi, 514.

[12] Bushnel: Brit. Med. Jour., 1907, ii, 1422.

[13] Parvu: Pouvoir phagocytaire des globules blancs et indice opsonique dans la leucémie myélogène, Compt. rend. Soc. de biol., 1908, lxv, 480.

[14] Kentzler: Untersuchungen über Phagozytose und Opsonin, Ztschr. f. klin. Med., 1909, lxvii, 131.

[15] Shattock and Dudgeon: Observations on Phagocytosis Is Carried Out by Means of Melanin to Ascertain More Particularly Whether the Opsonic Index is Identical with the Hemophagocytic Index, Proc. Roy. Soc., B, 1908, lxxx, 165.

[16] Bayly: The Cell as a Factor in Phagocytosis, Lancet, London, 1908. i, 1073.

[17] Eggers: Unpublished observations.

[18] Glynn and Cox: Variations in the Inherent Phagocytic Power of Leukocytes, Jour. Path. and Bacteriol., 1909, xiv, 90.

[19] Nikolsky: Zur Frage der Bestimmung des Opsonischen Index Centralbl. f. Bakteriol.. i, Orig., 1910, liii, 544. This author also observed variation in the phagocytic activity of the leukocytes but he did not use suspensions in which he had determined that the number of leukocytes was the same.

[20] Loc. cit. p. 66 and p. 1031 et seq.

[21] Rosenow: Immunologic Observations on Ulcerative Cystitis Caused by a Pseudodiphtheria Bacillus, Jour. Infect. Dis., 1909, vi 296.

In certain cases of recurring and chronic erysipelas, Boughton[22] observed peculiar relations between the serum and the leukocytes. In one case in particular, of relapsing and recurrent erysipelas of long standing, which he studied with special care, the opsonic index for the infecting streptococcus was usually much lower when determined with the patient's leukocytes than when determined with the leukocytes of a normal person. There existed some peculiar relation between the leukocytes and the serum of the blood of the patient which reduced the amount of phagocytosis. This result is shown clearly in the following experiment which, like his other experiments of similar nature, was made with leukocytic suspensions of equal density:

Patient's serum + normal leukocytes = 5.5 streptococci per leukocyte. Normal serum + normal leukocytes = 3.13 streptococci per leukocyte. Opsonic index of patient's serum *1.76*.

Patient's serum + patient's leukocytes = 0.76 streptococci per leukocyte. Normal serum + patient's leukocytes = 3.56 streptococci per leukocyte. Index (opsono-cytophagic) of patient's blood *0.21*.

As the phagocytic power of the patient's leukocytes was subnormal in native serum but at par in normal serum, it is evident that the reason of the low phagocytic action of the patient's blood resided in the patient's serum, even though this serum gave a high opsonic index. From the experiments that Boughton made to analyze the mechanism of action of the patient's serum in this case, one cannot determine whether the depressing effect of the serum on the corresponding leukocytes was caused by the absence of some necessary element or by the presence of some inhibitive substance. Boughton found that the addition of a minute quantity of normal serum to mixtures of the leukocytes and serum of the patient's blood promptly raised the phagocytic activity of the leukocytes to normal. Furthermore, the leukocytes of the patient, on being treated with normal serum and then washed with salt solution, would retain normal phagocytic power in the presence of the patient's serum. Hence it does look as if the normal serum did supply some lacking element, and yet there may have been present in the patient's serum an inhibitory substance or quality which normal leukocytes could overcome, but against which the patient's leukocytes were powerless unless in the presence of normal serum or after being treated therewith. That the restorative effect of normal serum was not due to the thermolabile opsonic element is shown by the fact that this patient's serum after being heated was not reactivated by the addition of a small amount of fresh serum. Here, then, is a striking example of reduction of phagocytic power of the leukocytes by obscure changes of a specific character in the homologous serum. It would be strange if conditions like the one described by Boughton do not have a direct bearing on the continuation and progress of the infection. In this particular case the injections of fresh horse serum seemed to have a detrimental effect. Injections of fresh human serum were not given, and it would seem desirable to study the effect of such injections in similar cases.

Rosenow[23] has made extensive studies of the anti-pneumococcus powers of the blood in several cases of chronic pneumococcus endocarditis. In such cases he finds that there may be considerable variation in the phagocytic power of the leukocytes. At times when there is leukocytosis the phagocytic activity may be greater than normal; more often it is subnormal, especially if the test is carried out with the serum of the same patient as the leukocytes, and occasionally this reduction is limited specifically to the pneumococcal strain causing the infection. In all the experiments bearing on this point as well as on the comparative pneumococcocidal action of the leukocytes, Rosenow used leukocytic suspensions of the same numerical strength, at least as far as the neutrophils are concerned.

Human blood has pneumococcocidal powers. This is easily demonstrable by means of the usual plate method under proper conditions.[24] The pneumococcocidal effect is the result of the conjoint action of the fluid part of the blood and of the leukocytes—by itself either constituent is quite harmless. The first step in this action is opsonification and phagocytosis of the pneumococci; the final step is destruction of the ingested cocci associated with disintegration of the phagocytic leukocytes. Now Rosenow studied particularly the variations in the destructive powers of the leukocytes with respect to pneumococci in cases of chronic pneumococcus endocarditis, and the following in brief are the principal results: While phagocytosis and intraleukocytic destruction of the pneumococci isolated from cases of chronic endocarditis, so to speak, may run hand in hand in mixtures of suspensions of normal leukocytes or of the patient's leukocytes with *normal serum*, this is not always the case in like mixtures with the *patient's serum*. Lowered phagocytic power seems nearly always associated with lowered destructive power, but at times when the phagocytic action of the patient's leukocytes is normal, or greater than normal, there may occur an apparently complete failure of destruction of the pneumococci taken up by the leukocytes in native serum. That is to say, the patient's leukocytes may take up pneumococci readily in native or normal serum, but exercise destructive power only in normal serum. More rarely, this is true of normal leukocytes as well. As illustration I give the results of one experiment:

PATIENT'S LEUKOCYTES

Mixtures	Phagocytosis—figures give average number of pneumococci per leukocyte after 15 min.	Pneumococcocidal action as determined by number colonies on blood agar plates inoculated with equal amounts	
		Immediately	After 24 hours
Normal leukocytes + normal serum..	1.6	30	14
Normal leukocytes + patient's serum.	1.1	35	2500
Patient's leukocytes + normal serum..	1.2	28	15
Patient's leukocytes + patient's serum.	1.4	22	1550

The addition of a small amount of normal serum to the patient's serum restored the phagocytic and destrucive powers of the mixtures with this serum; even the mere washing of the leukocytes in normal serum may accomplish this result, showing conclusively that the serum exercises a definite influence on the activities of the leukocytes which is quite independent of its opsonic influence.

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[22] Boughton: Interaction of Serum, Leukocytes, and Bacteria in Phagocytosis, Jour. Infect. Dis., 1910, vii, 111; Peculiarities of Phagocytosis in Some Cases of Erysipelas, Tr. Chicago Path. Soc., 1910, viii, 24.

[23] Rosenow: Immunologic and Experimental Studies on Pneumococcus and Staphylococcus Endocarditis, Jour. Infect. Dis., 1909, vi, 245; Immunologic Studies in Chronic Pneumococcus Endocarditis, Ibid., 1910, vii, 429.

[24] Rosenow: Jour. Infect. Dis., 1910, vii, 440.

The failure of intraleukocytic disintegration to take place in the patient's serum seems to be specific for the infecting pneumococcus, at least in some cases. In attempting to analyze this phenomenon, Rosenow made some experiments in which he used endocarditis pneumococci that had been "sensitized," i. e., previously treated with serum at 37 C. for ninety minutes and then washed. In this case normal leukocytes destroyed the pneumococci sensitized in the patient's serum just as well as those sensitized in normal serum, hence their occasional lack of destructive action in the full presence of the patient's serum must be due to the effect of that serum on the leukocytes. With respect to the patient's leukocytes, it was found that at times they failed to destroy cocci whether sensitized in normal serum or in the patient's serum—hence were lacking in some quality possessed by normal leukocytes—whereas at other times they would destroy only those pneumococci that had been treated with normal serum. These facts point to the existence in normal serum of a substance or quality which promotes the intraleukocytic disintegration of pneumococci. In cases of chronic pneumococcus endocarditis, lowering of the destructive power of leukocytes may be due to a deficiency of this substance or to the presence of a neutralizing substance. In Rosenow's cases, the occurrence of joint involvement and other complications was preceded by a fall in the phagocytic and destructive powers of the blood toward endocarditis pneumococci and succeeded by a rise. These observations also help us to understand that specific inoculations, even though they may increase temporarily the amount of opsonin in the blood, nevertheless may be without any good effect in cases in which leukocytes have lost the power to destroy pneumococci. In such cases, injections of fresh homologous serum would seem indicated.

In a study of the anti-infectious power of infants' blood, Tunnicliff[25] finds that at birth the phagocytic activity of the leukocytes is a little below that of the leukocytes of normal adults so far as streptococci, pneumococci and staphylococci are concerned. During the first months of life the activity falls, but soon a rise begins and the adult standard seems to be reached at about the third year. The opsonic power of the serum describes a similar curve. The low phagocytic power of the leukocytes in infancy as compared with later years would seem to be inherent in the leukocytes because it is demonstrable in phagocytic mixtures prepared with the serum of adults as well as with the serum of infants. Tunnicliff's work indicates, then, that during the first and second years of life the anti-infectious powers of the blood for the bacteria mentioned as measured by the opsonic power of the serum and the phagocytic power of the leukocytes is far below that of adult blood.

Tunnicliff[26] has determined also that the leukocytes in exudates, induced by injections of aleuronat (gluten-casein) suspension in guinea-pigs and dogs, are more active phagocytically than the leukocytes in the blood of the identical animals. To be more specific, in comparable mixtures, using suspensions holding the same number of carefully washed polymorphonuclear leukocytes, the leukocytes of the exudate not only take up a larger number of bacteria (pneumococci, streptococci, tubercle bacilli), but a larger number of leukocytes engage in phagocytosis than in the case of the leukocytes obtained from the blood. Tunnicliff[27] furthermore has shown that, as a rule, there is an increase in the phagocytic power of the leukocytes (cytophagic index) in favorable cases of pneumonia, both before and after crisis. In severe cases the phagocytic power usually is diminished, but rises above normal as improvement sets in. This variation in the phagocytic power of the leukocytes is not specific for pneumococci but is demonstrable also with streptococci and staphylococci. And pneumococcocidal experiments by means of the plate method showed the variation in the phagocytic power to be associated with corresponding and parallel variation in the destructive power. Similar non-specific variations with respect to the leukocytes were observed in severe cases of scarlet fever. In a patient with chronic articular rheumatism there resulted an increase not only in specific opsonin but also in the phagocytic power of the leukocytes after injections of killed streptococci, obtained originally from the patient's tonsil, and this increase in the total phagocytic power of the blood was associated with an increase in the streptococcocidal power of the blood, using normal blood as the standard.

SUMMARY

In determination of the comparative phagocytic power of leukocytes, suspensions prepared under like conditions and holding the same number of leukocytes must be used. Results obtained without these conditions being satisfied are of doubtful value.

It seems that the inherent phagocytic power of the leukocytes of the blood may be subject to some variation, with respect to certain bacteria at least, even in persons in apparently perfect health. Further study on a more extended scale is needed. In the meantime, the idea that the source of the leukocytes for estimation of the opsonic index is wholly immaterial cannot be sustained.

At birth, the leukocytes are somewhat less active phagocytically than in the adult; they grow less and less active during first months of life and then more active, the adult standard for streptococci, pneumococci and staphylococci being reached about the third year (Tunnicliff). On this account, as well as for other reasons, the opsonic index in infants should be determined with leukocytes and serum of infants of the same age as the standard.

There is no conclusive evidence that the different kinds of neutrophils (according to Arneth's classification) differ in phagocytic activity.

There are indications that in myelogenous leukemia the neutrophil leukocytes are below normal in phagocytic power, but further comprehensive studies are necessary in order to obtain conclusive results.

The phagocytic power of leukocytes has been found to be greater than normal, with respect to pneumococci, streptococci and staphylococci, in pneumonia, scarlet fever and other conditions in which there is acute leukocytosis and the outlook is favorable. In pneumonia the leukocytes may be more resistant to heat than normally, they may have greater attraction for pneumococci, and they may take up pneumococci too virulent to be taken up by normal leukocytes (Rosenow).

In pneumonia and in scarlet fever, the destructive powers of the leukocytes for pneumococci and streptococci run parallel with the phagocytic power. In severe cases of pneumonia and scarlet fever, the phagocytic and destructive powers of the leukocytes may be lower than normal.

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[25] Tunnicliff: Observations on the Anti-infectious Power of the Blood of Infants, Jour. Infect. Dis., 1910, vii, 698.

[26] Tunnicliff: Observations on the Phagocytic Activity of the Leukocytes in Exudates, Tr. Chicago Path. Soc., 1911, viii, 208.

[27] Tunnicliff: On Variations in the Phagocytic and Coccidal Power of the Blood in Pneumonia and Scarlet Fever, Jour. Infect. Dis., 1911, viii, 302.

In recent exudates the leukocytes are more active as phagocytes for streptococci, pneumococci, and tubercle bacilli than the leukocytes of the corresponding blood.

The exact causes of the increase in the activity of the leukocytes are not known; it has been suggested that in pneumonia and other acute diseases, in which there is leukocytosis, the increase in activity is owing to the predominance of young leukocytes.

In certain chronic infections, notably chronic pneumococcus endocarditis and chronic erysipelas, the phagocytic activity of the leukocytes may be either above or below normal; at times there may occur a distinct fall in their phagocytic power, which may be specifically limited to the infecting microorganism or observable only in the native serum or both. While the reasons for this fall are yet obscure, it appears to be related closely to changes in the fluid part of the blood because small quantities of normal serum may correct the condition, and so may the mere soaking of the leukocytes in normal serum. What is said of the phagocytic activity appears to apply fully to the processes that lead to intraleukocytic disintegration of the pneumococci in chronic pneumococcus endocarditis. Hence it may be concluded that the fluid of the blood, independently of its opsonic function, directly influences the phagocytosis and intraleukocytic destruction of certain bacteria.

We may say, then, that in acute as well as some chronic infections with pneumococci and streptococci, and possibly also with other bacteria, a real grasp of the specific anti-infectious powers of the blood of the patient is obtainable only by the determination of the combined phagocytic powers of the leukocytes and serum of that blood and of their combined destructive action. In chronic infections, this determination should be made with reference to the infecting strain. Here, especially, the opsonic index alone may be misleading as it may be normal or above normal, and yet the leukocytes of the patient may have less phagocytic power, and, associated therewith or independently thereof, less destructive power than normally.

So far, specific variation in the leukocytic activities with respect to the infecting strain have been observed in infections of long standing only. Such seemingly very special adaptations naturally require time for their development. Further studies along these lines are indicated because the results may lead to a still better understanding of such infections and their treatment.

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ADIPOSITY OF THE MAMMARY GLANDS *

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There are no more interesting and few more mysterious questions in the field of physiologic research than those concerned with the problem of fat metabolism. As a pathologic process, an abnormal fatty condition has been discovered in various organs; one of us (Guthrie) reported a case of necrosis (with fatty change) of the kidney, in the Section on Surgery of this Association at its New Orleans meeting. Reported cases of abnormal adipose conditions of the mammary glands are rare.

Cases of unusual non-neoplastic enlargement of the mammary glands have been reported from time to time as examples of diffuse idiopathic hypertrophy of these structures. One of us (Albert[1]), in reporting a case of this kind a year ago, also reviewed the descriptions of the sixty-nine other cases which had been previously reported. Clinically, cases of idiopathic hypertrophy may be divided into (1), those associated with gestation and (2), those not associated with gestation, most of which are closely related to puberty. Pathologically, the hypertrophied glands are found to consist essentially of a hyperplasia of both the glandular and connective tissue-elements—the hyperplasia of the former predominating in idiopathic gestation hypertrophy, whereas the enlargement of the idiopathic puberty hypertrophy consists principally of fibrous connective tissue.

In the description of the sixty-nine cases referred to,[1] mention is made in only three of the presence of an excess of adipose tissue. Robert and Ammesat,[2] in describing a case of enormous hypertrophy of the mammary glands, stated that microscopic examination indicated an increase especially of adipose tissue.

J. C. Warren,[3] in referring to a case of idiopathic puberty hypertrophy, states that "microscopic examination showed the presence of fat, loose fibrous tissue and atrophied gland-structures."

Beatson,[4] under the title "Hypertrophy of the Female Mamma," refers to the pathology as follows:

> After removal both mammæ presented on section much the same appearance. They were seen to be largely composed of fatty tissue, as if the cause of their excessive size was due to an abnormal growth of fat (lipomatosis). Microscopic examination, however, of the breast-tissue did not support this view. Sections of it showed the glandular elements of a normal breast in a resting condition, but the number of acini seemed to be fewer than normal, while the intra-acinous fibrous tissue was in excess and very dense in character, though scattered through it were spaces filled with a considerable amount of fat. From the appearances observed, it seems very probable that the fat and fibrous tissue went to make up a large part of these hypertrophied mammæ.

The photomicrographic reproduction which accompanied the article suggests that it consists principally of fat.

The case which we are reporting is one in which the enlargement of the mammary glands is due almost entirely to adipose tissue.

REPORT OF CASE

History (Taken May 17, 1910).—The patient, a woman, aged 24, was born in Iowa of German parentage. She is 5 feet 2 inches tall and weighs 164 pounds; is rather stoutly built and fleshy, but not fat. Father's age is 49 and mother's age 45; both are living and well. She has five brothers and four sisters, all living and well. In none of the other members of the family has there ever been any undue enlargement of the mammary glands. In fact, all the sisters, one of whom is more fleshy than the patient, have very small "flat" breasts. Patient began to menstruate at the age of 11. At this time occurred the usual slight enlargement of the breasts. The menstrual periods have always been more or less irregular, being often absent for a period of three or four months.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Albert, Henry: Diffuse Idiopathic Hypertrophy of the Mammary Glands of the Female, THE JOURNAL A. M. A., Oct. 15, 1910, p. 1339.

[2] Robert and Ammesat: L'Union méd., 1851, p. 219.

[3] Warren, J. C.: The Surgeon and the Pathologist. A Plea for Reciprocity as Illustrated by the Consideration of the Classification of the Treatment of Benign Tumors of the Breast, THE JOURNAL A. M. A., July 15, 1905, p. 149.

[4] Hypertrophy of the Female Mammæ, Edinburgh Med. Jour., 1908, New Series, p. 525.

Present Illness.—When patient was 16 years of age she was sick for three weeks with a severe attack of mumps and what was diagnosed as malaria. Near the beginning of this period of illness she suddenly developed, one night, a severe dull aching pain in both breasts, accompanied by some swelling but no redness. Local applications and bandages were applied, but had no effect on the process. During the following six years the glands gradually grew in size until, at the age of 22, they were about the size of a cocoanut and only slightly painful. At that age she was married (March 21, 1908). From the time of marriage to the time of beginning of pregnancy (about five months) the breasts continued to remain about the same as they had been for some time previous to marriage. After the beginning of pregnancy, the mammæ began to enlarge rapidly, but were for some time no more painful than usual. At the end of the fourth month of pregnancy, they became very painful and remained so during the pregnant state. During the sixth month patient had severe edema of the feet and eyelids and was confined to her bed for several weeks. During this time there was an occasional slight hemorrhage from the uterus. At the end of the seventh month of gestation, the physician found it necessary to produce an abortion to save the life of the patient. The child which was delivered is now 14 months old, weight 22 pounds and appears perfectly well. A small amount of milk appeared from the nipples during the first two days after the delivery of the child. The child could not be suckled, however, because of a flattening out of the nipples due to the excessive growth of the glands. Patient made a good recovery from the illness which produced the edema of the feet and eyelids. After the termination of pregnancy the glands became more soft and the pain less intense, although they remained of about the same size as they were during the last few months of gestation, which is practically the same as they are at the present time. During the past three months the breasts have become especially painful, the pain being most severe in the outer, upper quadrant of the glands. The last and only pregnancy was terminated about fourteen months ago. Since that time the menses have appeared quite regularly. Patient was admitted to the University Hospital May 16, 1910. (Hospital No. 9839.)

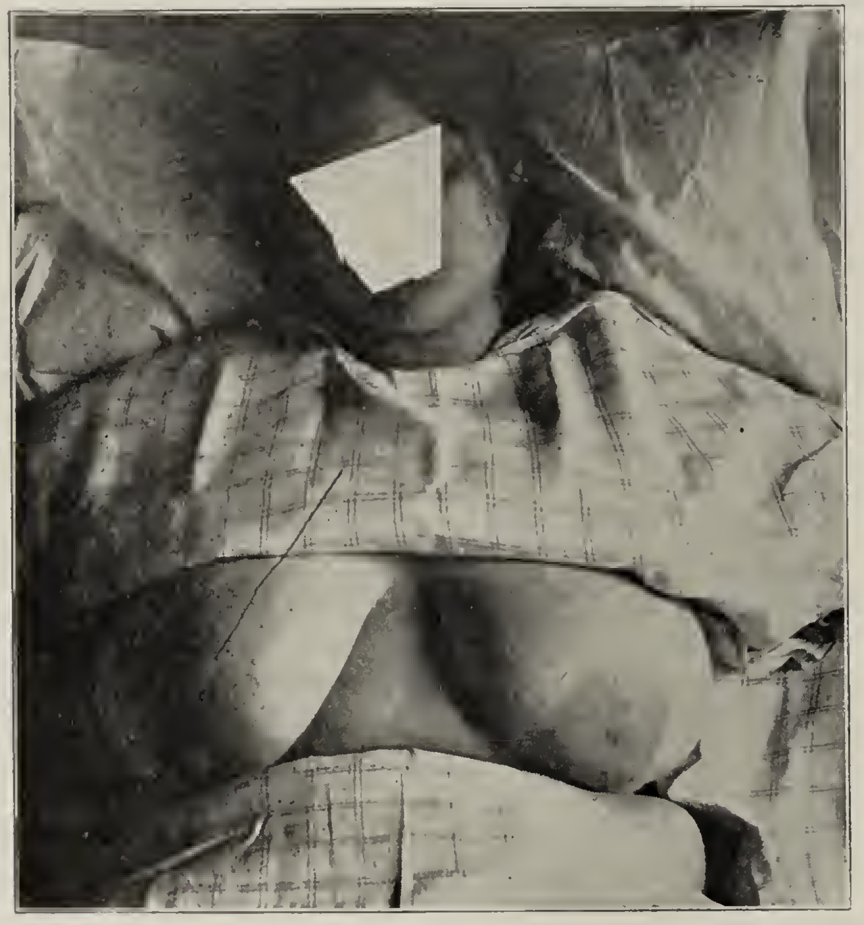

Fig. 1.—Patient with adiposity of mammary glands. From a photograph.

Physical Examination of Breasts.—Both glands were rather uniformly enlarged, more or less spherical in shape and hung down so that the most dependent portion of each was on a level with the umbilicus. The right gland (gland-substance) measured 7½ inches from base to nipple; the left, one-half inch less. On the other hand, the left exceeded the right in circumference (greatest), that of the former being 18 inches and of the latter 17½ inches. The nipples appeared as very slight elevations (about one-twelfth inch) on the lower and anterior surface of the glands. The areolæ, which were each about 2¾ inches in diameter, were well pigmented and quite sharply outlined. The skin covering the glands was smooth and quite uniformly stretched over the underlying tissue. The breasts were rather soft in consistency. The presence of quite firm nodules suggested the presence of localized areas of glandular tissue embedded in a mass of adipose tissue. The upper, outer quadrant of the right gland was of a more uniformly firm consistency than any other portion. On account of the severe and continually increasing pain experienced by the patient during the preceding three months, it was decided to amputate the breasts, which was accordingly done by one of us (Guthrie), May 17, 1910.

Operation.—The patient was prepared in the usual manner and a complete amputation of both breasts performed. The glands appeared, from ocular examination, to consist entirely of fat, and hence the pectoral muscles were left undisturbed. The wound was closed with silkworm sutures and a gauze drain placed in the lower angle of each wound.

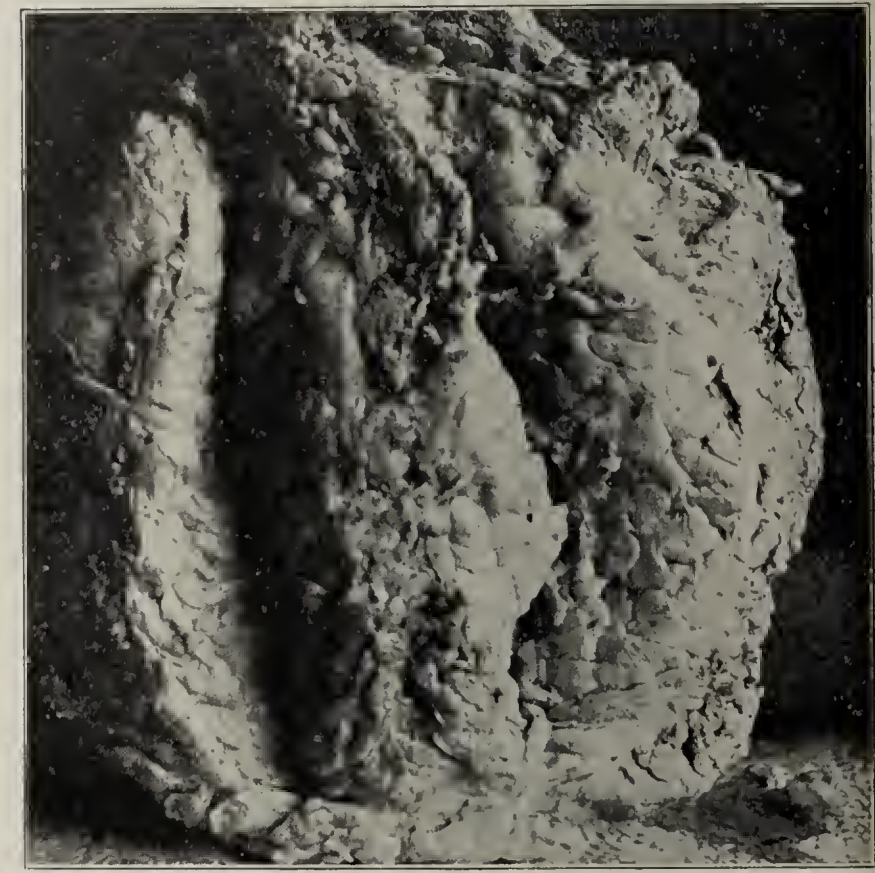

Fig. 2.—Base of left gland, incised, showing lobules of adipose tissue, between which are thin strands of connective tissue.

Postoperative History.—The patient followed a normal course for three days when there developed a mild temperature, the result of a slight infection of the right wound with a rather profuse purulent discharge. The wound was opened, drainage continued a few days, and a reasonably rapid convalescence followed. The patient had no distinct chill at any time.. The discharge was like that frequently seen in very fat abdominal walls with mild infections. Otherwise she made an uneventful recovery and left the University Hospital June 24, 1910. On Feb. 7, 1911, she wrote that she was perfectly well; that she had gained 30 pounds since leaving the hospital, her weight at that time being 150 pounds, and that she could then perform the work of caring for her home. On April 20, 1911, she reported that her weight had increased to 160 pounds, i. e., within 4 pounds of her weight prior to the operation. Monthly periods were regular and free from pain. Her recovery from pain and the incapacitating weight of the gland was complete and she is able to resume entirely her usual work.

Gross Pathology.—The amputated glands together weighed 10¼ pounds, the right 5½ pounds and the left 4¾ pounds. The shape, dimensions and surface contour of the glands changed considerably after they were removed from the body.

The substance of the glands was found to consist of adipose tissue, with the exception of a few strands of connective tissue running here and there between lobule-like areas of the fatty structure.

Pathologic Histology.—A section cut from almost any part of the gland presented the microscopic appearance of ordinary adipose tissue. This was continuous with what appeared to be the subcutaneous fat. The connective tissue was of the normal, fully developed fibrous type. The larger strands of connective tissue were found to contain a few small gland acini lined by a single layer of cuboidal epithelial cells and representing, apparently, the gland elements in a resting stage.

DIFFERENTIAL DIAGNOSIS

The condition which we have described and which we have chosen to designate as "adiposity of the mammary glands," needs to be differentiated from the following processes:

1. An excessive size of the mammary glands as a part of *general obesity.* In such conditions, the breasts, although containing a large amount of fat, still have their real glandular portion quite well circumscribed and relatively free from fat. In the case which we describe, there was no portion which, to the naked eye, contained any evidence of glandular elements. Furthermore, the patient in question, although rather fleshy, had apparently but little more subcutaneous adipose tissue than the average person. Then, too, her glands increased in size and tenderness at a time when there was no increase in her general body weight.

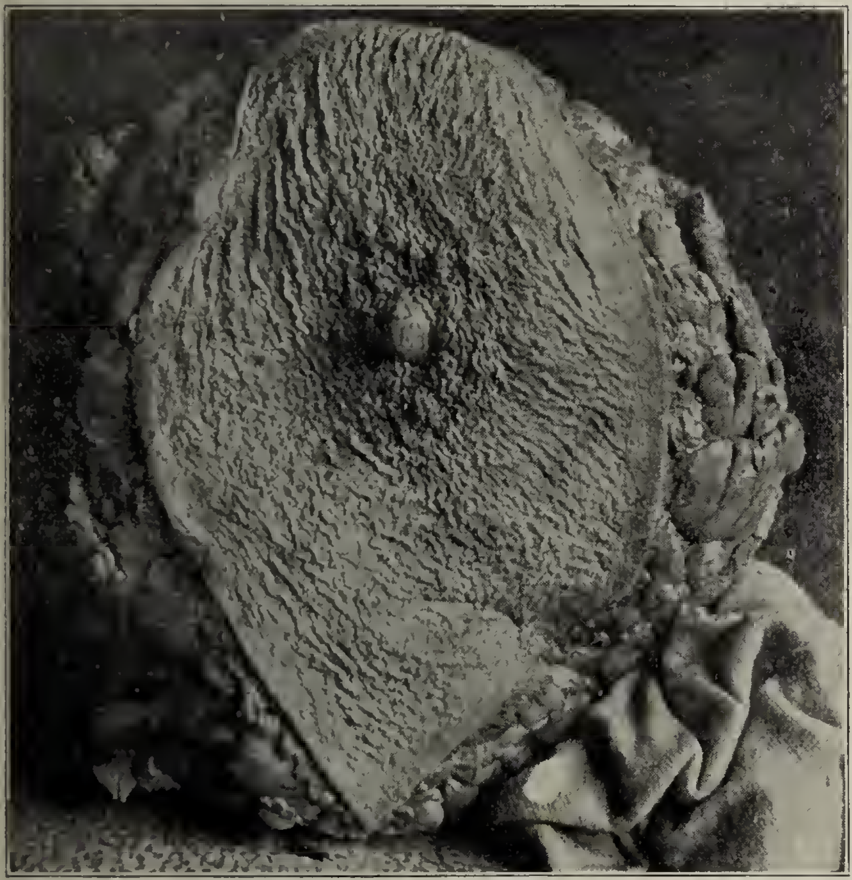

Fig. 3.—Left gland showing lobules of adipose tissue beyond the edges of the skin which has been contracted and wrinkled by the formaldehyd preserving fluid.

2. *Idiopathic hypertrophy,* consisting of a hyperplasia of the connective tissue or the glandular elements. Before the glands were amputated, we believed that we were dealing with a case of this kind. We do not believe that it is possible to differentiate between the two conditions until an incision into the gland and a recognition of its structure is made.

3. *Diffuse lipoma.* A tumor, although often quite diffuse, is more or less circumscribed, tending to push the real glandular structure to one side. In our case there was no suggestion of circumscription and the gland acini were quite uniformly distributed—embedded in the slight amount of connective tissue throughout the gland.

PROGNOSIS

In each of the three cases already cited from the literature of idiopathic hypertrophy of the mammary glands, which we regard as probably cases of adiposity, the glands were amputated and amputation was followed by recovery, as in our case. We have therefore no data as to the prognosis in case amputation is not made.

CONCLUSIONS

1. The condition which we have described, representing an unusual enlargement of the mammary glands and consisting almost entirely of adipose tissue, we have chosen to designate by the term "adiposity of the mammary glands."

2. Of the seventy cases of diffuse idiopathic hypertrophy of the mammæ of which we have found a record in the literature, in one mention is made of the fact that the enlargement was due principally to adipose tissue; in two others attention was called to the large amount of adipose tissue present. We believe that the one, certainly, and the other two, probably, were cases of adiposity of the breasts.

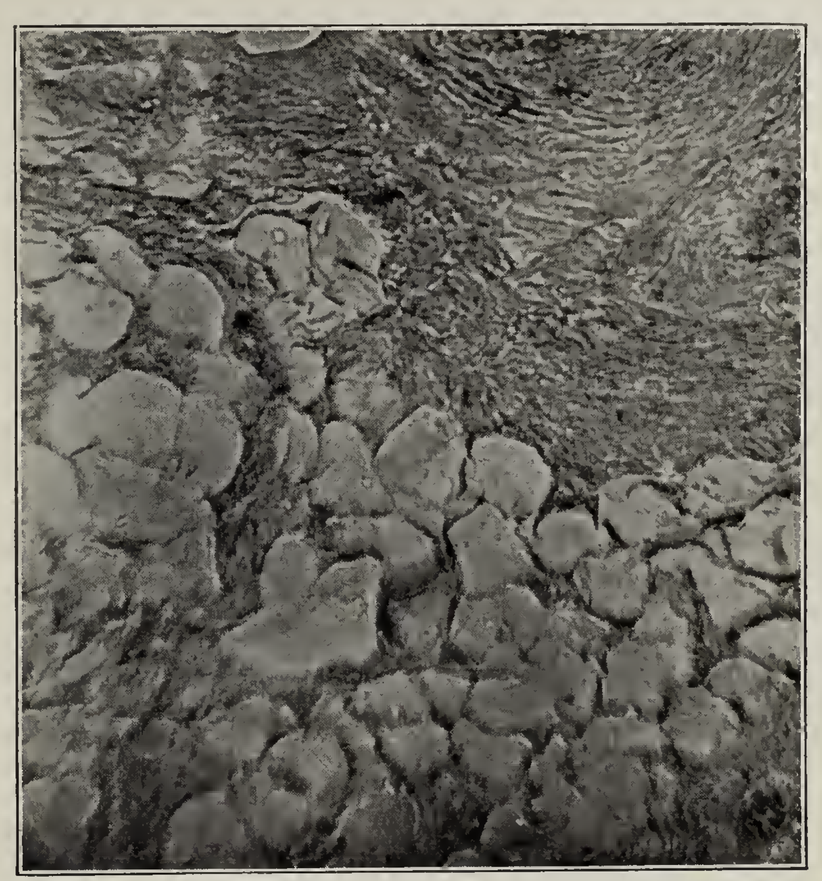

Fig. 4.—Section from piece of left gland showing adipose tissue adjacent to one of the larger strands of connective tissue, in which were found a number of gland acini presenting practically the normal size, shape, structure and arrangement. The mamma consisted almost entirely of adipose tissue of normal appearance.

3. We believe that it is advisable to make more general use of the term "macromastia" to denote enlargement of the breasts due to any cause, and to differentiate between the terms "hypertrophy" and "adiposity," according to whether the enlargement is due to glandular (and possibly also connective) tissue on the one hand, or adipose tissue on the other.

Municipal Health.—No community is so poor that it can afford to permit typhoid for the lack of a filter, or inefficient children for the lack of good schools, or criminals for the lack of playgrounds, or wayward girls for the lack of protection, or exploited childhood for the lack of a factory inspector, or industrial accidents for lack of a compensation law or an insurance system.—Devine in "Misery and Its Causes."

THE TREATMENT OF CERTAIN OBSTRUCTIVE BENDS OF THE INTESTINES DUE TO ABNORMAL MESENTERIC ATTACHMENTS AND INADEQUATE PARIETAL SUPPORT *

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CHICAGO

There are four important portions of the intestinal tract that suffer notable distortion and lead to pathologic results due to an anomalous condition of the mesenteric attachments and inadequate support of the abdominal parietes, viz., the duodenum, the terminal portion of the ileum, the appendix vermiformis and the sigmoid.

The distortion usually occurs as a result of the two principal causes named, but may occur in a less aggravated form with only one of the two causes acting. In a recent paper I dwelt on these causes as they especially affected the terminal portion of the ileum, and the facts given there as an explanation of the distortion occurring at that portion of the intestinal tract apply in principle to the other regions enumerated. In this paper I wish to note briefly a line of postoperative treatment which I consider rational and which has been successfully pursued in a number of the terminal ileum variety of distortions commonly known as the "Lane kink" (Fig. 1).

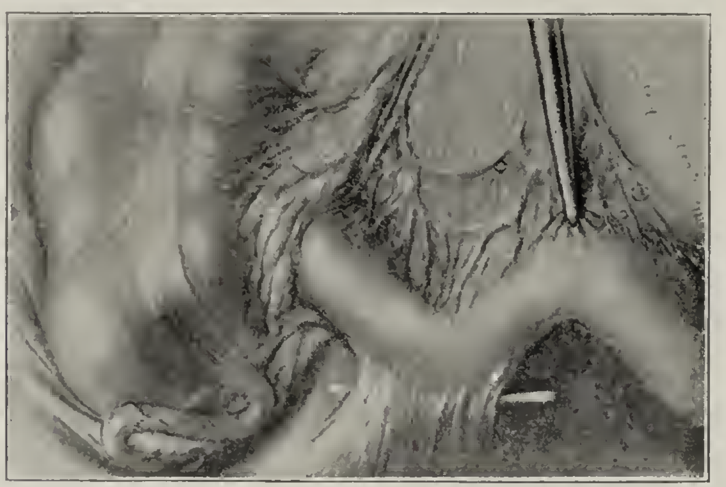

Fig. 1.—A kink with adhesions. Not a marked type. Picture borrowed from C. H. Mayo.

The Lane kink is a term applied to a pathologic bend of the terminal six inches of the ileum. It is manifested by an acute angle of that portion of the bowel complicated by a thickening of its mesentery and the adhesion of the two arms of the angle together, to surrounding intestinal coils, and to its own mesentery in which it is frequently rolled, the whole condition eventuating in more or less intestinal stasis.

I have concluded that the kinking of the ileum within 4 inches of its cecum attachment instead of elsewhere is due to the fact that the ileum at its termination in the large bowel possesses an extremely short mesentery, viz., from 1 to 2 inches. Given this comparatively fixed portion of the compressible tube, there are two factors which lead to its distortion, (a) a too movable or displaced large bowel, and (b) an abnormal disposition of the remaining portion of the small bowel or other viscera.

Adhesions occur from (1) extension of infection from infected appendix in both male and female, and the uterine appendages in the female; (2) from friction of the opposed serous membranes from violent mechanical action resulting from the factors causing the distortion; (3) rarely from direct migration of bacteria through the violated tissues of the intestines.

The different conditions I have observed accompanying pathologic kinks of the last 6 inches of the ileum are as follows:

A. Extreme prolapse of cecum and ascending colon.

B. Extreme prolapse of the stomach with transverse colon prolapsed beneath the stomach, the small intestines filling the pelvis and lower abdomen underneath the stomach and colon, resulting in a definite right angle kink of the ileum near its attachment to the cecum.

C. A condition in which both cecum and small intestines are prolapsed, and in which a tendency to general visceral prolapse is present, resulting in a variety of kinks in the last 6 inches of the ileum, owing to pull on its short mesentery, the shape and direction of the bend depending on the particular influence exerted on it by the abnormal position of the viscera surrounding it.

D. The kinks or bends are in my opinion due, therefore, to a decided displaceability, not only of the cecum, but of all the viscera surrounding the last three inches of the ileum, traumatizing it by undue pulling on its distal end in the case of the cecum, on its proximal end in the case of the balance of the ileum, or by pressing on it and its attached mesentery, and grinding their opposing surfaces together in case of marked displacement of the superimposed viscera, such as the right kidney, the liver or stomach.

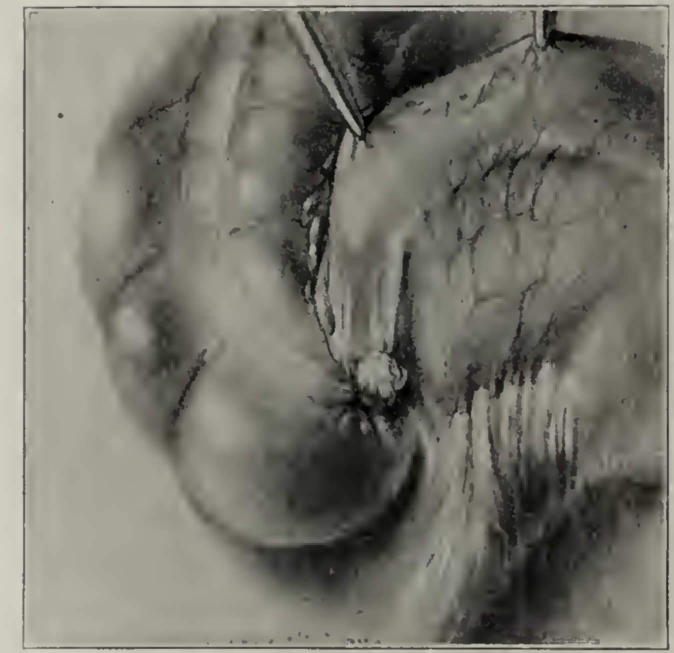

Fig. 2.—Same as Figure 1, with kink obliterated. (From C. H. Mayo.)

The causes leading to a tendency to general visceral ptosis, which is such a strong factor in the production of this obstructive bend, are naturally two in number, viz., congenital and acquired.

The congenital defects are found (a) in the failure of early blending of the peritoneal layer with the parietes which results in the normal individual with an adequate fixation of the stomach, the liver, the spleen, the pancreas, the duodenum, the ascending and descending colon; (b) in a failure of normal development of the muscular parietes of the abdomen and the strong supporting fascia which aid in retaining the viscera at their normal levels in the perpendicular human being.

The acquired defects are brought about by acute or chronic diseases which leave the individual without normal abdominal muscle support, and diseases which deprive the individual of normal fat deposits in the parietes and about the viscera in the abdominal zone.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

As the same treatment applies, with a few obvious variations, to the pathologic bends in the other portions of the intestinal tract after operative correction, and to the general management of abdominal prolapse, I shall describe the treatment as I have carried it out in the management of the Lane kink. I shall not enter into a detailed discussion of the methods of treating this condition, as described and carried out by Mr. Lane, more than to say that I can hardly conceive of a case in which short-circuiting with the lower bowel or the more radical operation of removing the colon, as advocated and carried out by him, can offer a more certain cure (and certainly it is attended with greater risk) than can be obtained by the less radical procedure that I am to describe (Fig. 2).

Very often in the past, the kink at the terminal end of the ileum was discovered in the course of an appendectomy or other exploratory abdominal operation. Finally, the significance of an intestine nearly obstructed by an acute bend and maintained so by strong peritoneal adhesions was forced on the attention of one more thoughtful than the rest, and he was fortunately unconventional enough to say to us that we had been overlooking something. Now, we not only find this important pathologic condition in a large number of cases, but we have learned to realize that it accounts for uncured appendicitis and some of us have demonstrated it by reoperating on our patients.

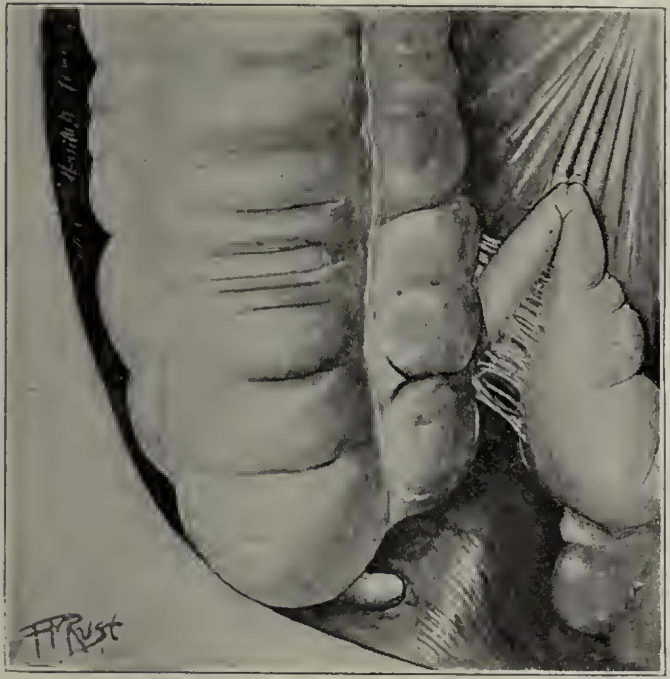
Fig. 3.—A typical Lane kink drawn from one of author's cases.

In the beginning we were satisfied (as we knew nothing else to do) to incise the adhesions, straighten out the bowel, tuck a mass of omentum in the uncovered space, close the abdomen, and as soon as the same condition reoccurred which caused the difficulty, viz., the patient assuming an upright position and pursuing his daily labors, the pathologic kink returned with all its symptoms. The method I have pursued is as follows:

Laparotomy through a right rectus incision. Treatment of any concurrent diseased condition after careful exploration of the abdomen. Separate, especially, the adhesions about the sigmoid and straighten out any acute bends of the intestines, as it is the acute bend in a disadvantageous position made permanent by adhesions which gives rise to symptoms; bring up the head of the cecum with the terminal portion of the ileum. If it is covered with an adventitious membrane (the Jackson veil, Fig. 5, B), as it frequently is, this should be torn through and the underlying structures freed from it. The ileum should then be made taut to reveal the maintaining adhesions and these adhesions carefully divided with a knife, or when particularly frail, with sponge dissection. This releases the intestine and it will unroll (as it is frequently twisted) and straighten out. The patient should be in Trendelenburg position during the operation. After the bend is freed, the cecum and the attached ileum are replaced in their normal positions. These new positions will frequently be much higher than the position in which they were found. The omentum is then spread over the parts treated and the abdomen closed.

Before the last procedure, in severe cases, the radical treatment that has been carried out by Mr. Lane and his followers has been to short-circuit a portion of the ileum above the seat of the obstruction to some portion of the lower bowel, and in extreme cases remove the colon. This procedure has been carried out on the theory that the kink will reoccur at the same portion of the ileum as before, and that the colon has been rendered worse than functionless by the same inherent vicious condition in the dynamics of the abdomen that has produced the kink.

As previously stated, I believe that these pathologic kinks occur as a result of the fact that the portion of the intestine with short mesenteries, the seat of the bend, has been unduly pulled on by the intestinal tube immediately proximal and distal to it, because of abnormal looseness of attachment of these portions to the parietes or the grinding and pressure of overriding, superimposed, prolapsed viscera, and to lack of abdominal support. Therefore, I believe that the rational procedure necessary to prevent a recurrence of the bend is to support the proximal and distal portion of the intestine adjacent to the corrected kink by peritoneal fixation if practicable and by reinforcing, temporarily at least, the abdominal wall by supports; and then by a course of gymnastics, postural treatment and forced feeding, correct permanently the mechanical defects.

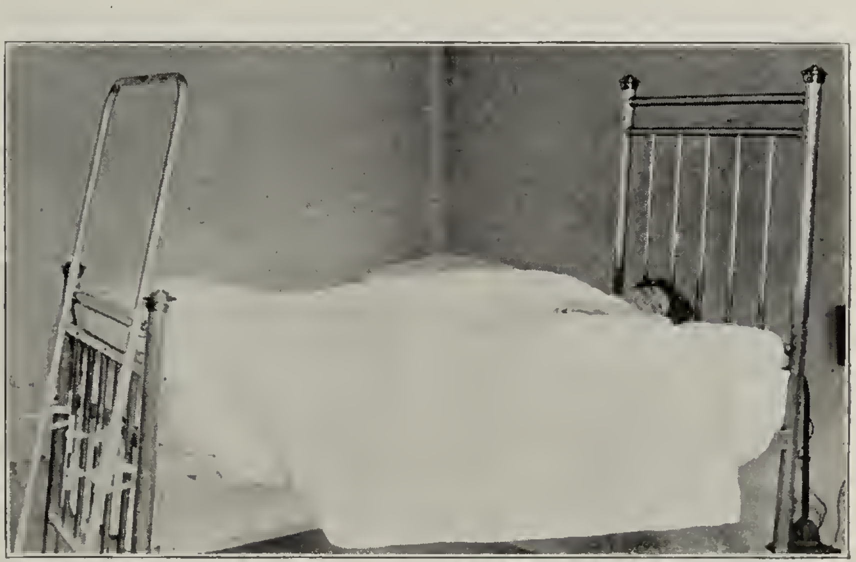
Fig. 4.—Mechanism for supporting the bed in Trendelenburg position. Author's case.

For some time I have endeavored to execute systematically the following procedure: (a) replacement of the adjacent pulling viscera, aided by the Trendelenburg position; (b) the application of a snugly fitting adhesive-plaster abdominal support over a reinforcement, immediately above the pubis, of a combination pad; (c) the transference of the patient from the operating-table to a bed with a 15-degree Trendelenburg inclination (Fig. 4); (d) a careful regulation of the food-supply as convalescence will allow until forced feeding is established; (e) with convalescence from operation, a careful application of a permanent abdominal support or corset to be worn during the day, always applied with patient in steep Trendelenburg; (f) systematic gymnastics of the abdominal wall for fifteen minutes twice a day, night and morning, with patient in Trendelenburg position without the abdominal support; (g) systematic regulation of the diet after convalescence, with the object of increasing flesh and depositing in all portions of the individual a padding of normal fat.

In the operation, careful observance should be made to ascertain, when a prolapsed cecum is one of the etiologic factors of the bend, if the prolapse is due to a lack of normal blending of the ascending colon with the posterior parietes. If the blending has failed to occur, the defect may be remedied by attaching the outer border of the ascending colon to the peritoneum of the parietes, thus imitating Nature's way of obliterating the mesentery in embryo. F. Gregory Connell[1] utilizes a portion of the Jackson membrane (this membrane frequently being present where the ascending colon has failed to attach) as a means of suspending the head of the large bowel, by including a twisted portion of the upper end of the membrane which has been detached, in the muscles of the abdominal wall in closing the parietal wound (Fig. 5, B and C).

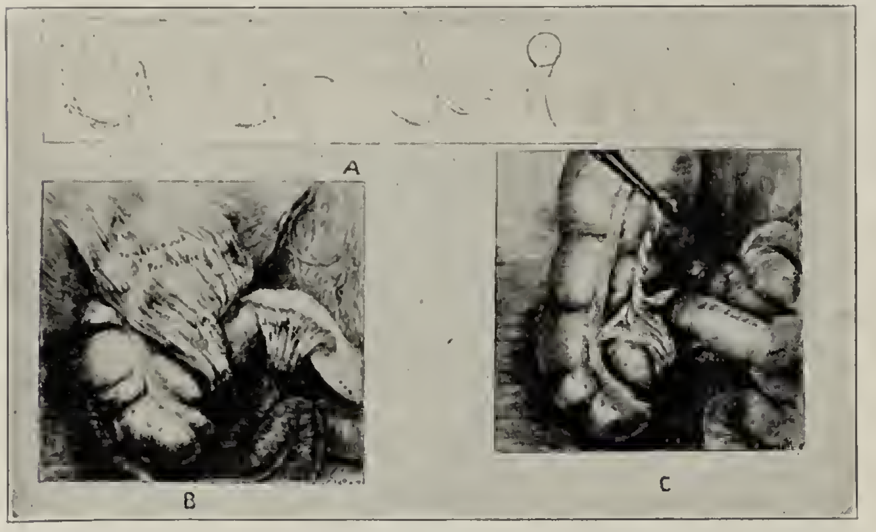

Fig. 5.—(A) Types of Lane kink, from Lane's article. (B) A kink of the terminal ileum covered with a Jackson membrane (one of Connell's cases). (C) Method of utilizing the Jackson membrane in fixing the cecum at its normal level. (Same case from F. Gregory Connell.)

In a large percentage of the cases in which peritoneal blendings have failed to develop, however, there is such a universal visceral prolapse that it is futile to attempt to cure them by any form of "pexies," and I therefore carefully replace the organs, the force of gravity in the Trendelenburg position aiding, and depend on the week in bed with the lowered head and closely fitting bandage to retain the viscera at their normal level until convalescence begins.

Then comes the "tug of war" in the management of these cases. The perpendicular position of the patient with the resumption of routine duties will immediately, without the most strenuous efforts to counteract the effect, precipitate a relapse of the condition of kink with its attending disasters of local distress, stasis, toxemia and obscure anemias, by bringing into play the very factors that caused the difficulty originally.

The patient is fitted with a stout linen bandage constructed in such a manner that it definitely and adequately supports and uplifts the contents of the lower abdomen. These supports can be made after some general pattern (Figs. 6 and 7A), but each one must be carefully fitted by an expert bandage-maker and the surgeon must know that they accomplish the work for which they are intended. The support must be constructed, too, in such permanent shape that its reliability can be depended on. This bandage in women can be replaced later by a properly constructed corset (Fig. 7B).

With this abdominal bandage, the patient may be allowed to assume the perpendicular position and to walk.

Each night before retiring, the patient assumes a position on a Trendelenburg table, improvised or otherwise, with a 15° to 20° inclination and the bandage is removed for the night. After its removal the abdominal muscles should be exercised for fifteen minutes. In a sanitarium or hospital (Fig. 8), this can be superintended by an attendant. At home it can be done by a member of the family. In some cases, if the patient is sufficiently impressed with the necessity for thoroughness, he or she can be trusted to carry out the treatment. The object to be accomplished is the voluntary exercise of the muscles by contracting them against an applied resistance. This resistance can be applied by the hands of the masseur, the patient's own hands or some mechanical apparatus, such as a vibrator or a large wooden ball which can be moved about over the abdomen by the patient. Each portion of the abdomen should be systematically covered and all the muscles made to contract against the applied resistance. An inexpensive home treatment is the tossing or elevating of the ball by successively contracting different portions of the lower abdomen as the ball is moved from place to place.

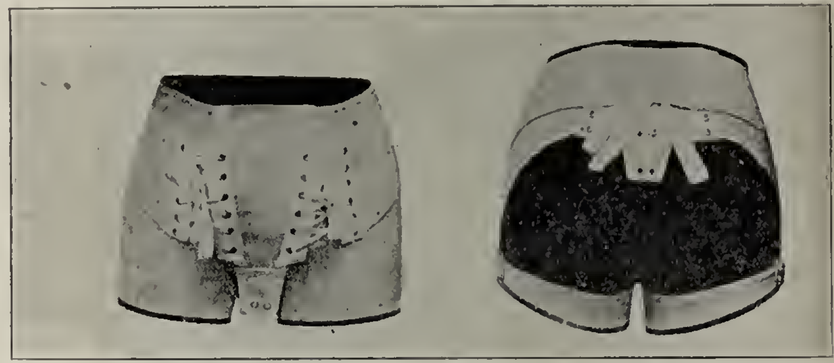

Fig. 6.—Types of bandages employed suitable to both men and women.

The patient then retires after the fifteen-minute exercise of the abdominal muscles combined with the postural treatment. On rising in the morning, before the bath, the same posture is assumed and the exercise repeated. Then after the bath, with the patient still in Trendelenburg position, the abdominal support is applied for the day.

Systematic feeding with the object in view of increasing the flesh, especially the normal deposit of fat of the patient, should be our principal aim in the treatment of these individuals. As a rule this is not a difficult matter after the partial obstruction of the intestines has been removed by the liberation of bands of adhesions and kinks of the intestine which have given rise to the intestinal stasis. Very often a normal, well-selected diet of nourishing food will be readily assimilated and this can be supplemented by cream and, if the bowels are still inclined to require some additional stimulation, a liberal allowance of pure California olive oil may be added, if it is not objectionable to the taste of the individual, the oil aiding in the increase of fat accumulation and its excess acting as a laxative.

If the patient, with the exercise that should be indulged in, is unable to digest a normal liberal diet at the beginning, a careful regulation of predigested foods should be made or the administration of smaller quantities of undigested staple foods at more frequent intervals. I can conceive how it might occasionally be necessary to pursue the careful diet-regulation of the Weir Mitchell method of forced feeding, although in the class of cases under consideration I have not found it necessary. My patients have voluntarily sought a liberal normal diet, and their digestions have been equal to the new demands on the digestive organs.

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[1] Surg., Gynec. and Obst., November, 1911.

The result of this systematic treatment I have outlined, it seems to me, must be obvious. The liberation of the acute kinks of the small intestine and the separation of adhesive bands and adhesion of surfaces of intestine to each other and to their mesenteries, as well as other soft parts, makes patulous hitherto obstructed or partially obstructed intestines (Fig. 9).

Replacing these restored viscera to their normal positions, together with all other displaced viscera which may have influenced their distortion, by means of a laparotomy and then placing the patient while convalescing on an inclined plane in bed, in order to utilize gravity to maintain the corrected viscera at a normal level while healing, prevents immediate relapses, and normal healing temporarily prevents relapse.

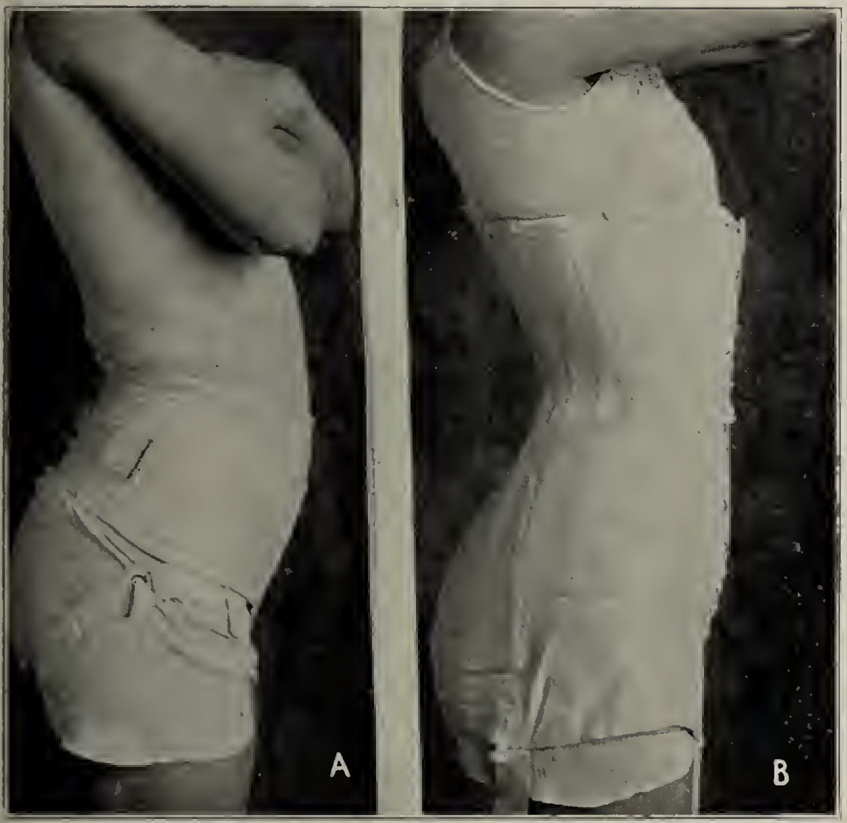


Fig. 7, A.—A type of bandage employed immediately after patient leaves her bed. Worn while patient is in upright position.
Fig. 7, B.—The type of corset that may be used as a substitute for bandage as the patients are convalescing. Author's case.

The application of an adequate day-time bandage as soon as the patient leaves the bed and is prepared to assume the perpendicular, the systematic exercise of the abdominal muscles night and morning while the patient is in steep Trendelenburg, not only restrains a pulling of the otherwise loose viscera on the terminal ileum, but affords an opportunity of restoring tone to the lax and inadequate abdominal muscles and fascia.

While the forced feeding places a zone of fat beneath the parietal peritoneum, a substantial layer of fat between the two leaves of all mesenteries restores the fat in the kidney spaces, reinforces the omentum and thereby stiffens and shortens the peritoneal supports everywhere, pads the loose spaces of the abdomen and actually assists in rendering taut and supportive the whole abdominal content.

This treatment offers substantial relief in all cases under consideration, actually cures the acquired variety and offers the only rational treatment, if conscientiously pursued, that will make permanently comfortable the congenital variety.

SHORT ABSTRACT OF TWELVE CASES

I realize that claims of conclusive importance cannot be deducted from twelve cases with so little time elapsing since operation. The results have been so prompt in all cases, however, that they seem well worth recording.

CASE 1.—Mrs. K., St. Luke's Hospital, Aug. 23, 1910. Appendix removed seven years previously. General visceral ptosis; appendix region free; cecum prolapsed. Taut pull in terminal ileum; apex of kink rolled on itself and lumen obstructed. Terminal arm adherent to cecum and to the descending arm of its proximal portion (Fig. 10, A). Not treated by present line of treatment. Partially relapsed and then placed on postural, support and feeding treatment. Gradually improving but may require another operation to overcome relapsed kink.

CASE 2.—Mrs. S., St. Luke's Hospital, Aug. 13, 1910. Chronic appendicitis accompanied by stomach crises with vomiting; extremely anemic. Rest in horizontal position gave relief. Operation showed appendix adherent beneath prolapsed cecum, a distinct pull on terminal ileum with contracted bowel, and distinct kink at mesenteric pull. Terminal portion adherent to cecum and proximal arm prolapsed in pelvis and adherent to broad ligament (Fig. 10 B). After operation, patient was systematically treated by postural, support and feeding treatment. Gained 15 pounds of flesh and her symptoms have disappeared.

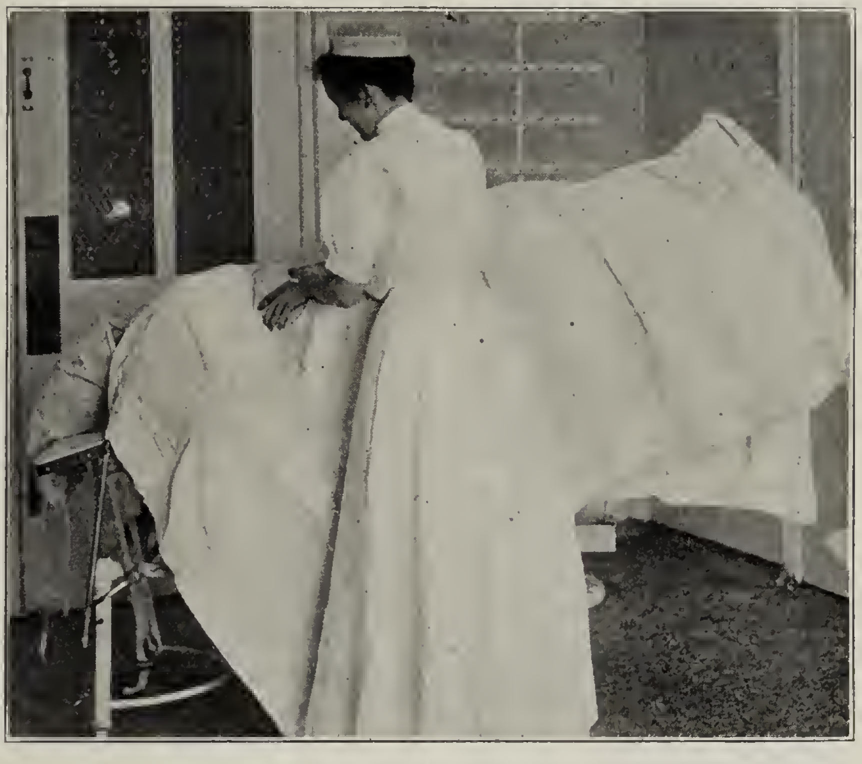


Fig. 8.—Illustrates massage of abdominal muscles with patient in Trendelenburg position. Hospital treatment.

CASE 3.—Mrs. M., St. Luke's Hospital, Sept. 16, 1910. General loss of flesh, following childbirth, with laceration of perineum and uterine prolapse. Pain in right side; occasional attacks of vomiting with extreme prostration. Laparotomy showed cecum prolapsed and partially rotated toward umbilicus. Ileum kinked (Fig. 10, C and D) and its arms adherent; appendix free but stiff and injected. Appendix removed, kink relieved and postural, support and feeding treatment instituted. Patient completely relieved and has regained normal flesh.

CASE 4.—Miss A. K., St. Luke's Hospital, Sept. 7, 1910. Distinctly so-called "neurotic type" with general visceral prolapse. Retroversion and prolapse of uterus with pelvic symptoms. Pain in right side with periodic attacks of stomach trouble manifested by nausea, anorexia and gas distention. Operation revealed head of colon covered with a peritoneal membrane (Jackson), and double kink of ileum (Fig. 10, F).

Case 5.—Mrs. P. D.. St. Luke's Hospital. Indigestion and pain in epigastric and appendicular region; patient suffered with constipation. Operated on once for loose right kidney. General visceral prolapse; neurotic temperament. Liver and all abdominal organs prolapsed and mesenteries long. A distinct Lane kink obstructing the ileum one-third of its caliber. Apex of kink adherent on the broad ligament. Appendix large and patulous (Fig. 10, E).

Case 6.—Mrs. W., Norwegian Tabitha Hospital. Acquired visceral ptosis. Chronic appendicitis with pain in right side, exacerbated when woman was active; symptoms: nausea, indigestion, anorexia and gas distention. Relieved by horizontal position and rest. Loss of flesh and extremely anemic. Operation revealed stiff adherent appendix beneath prolapsed cecum. Terminal ileum kinked and adherent with fine adhesions.

Case 7.—Miss H. M., St. Luke's Hospital. Operated on two years ago for chronic recurrent appendicitis. Patient only had temporary relief while resting during convalescence. The resumption of perpendicular position precipitated old symptoms of pain in right side, attacks of nausea and depression, with loss of flesh, anemia, anorexia, constipation and distention with gas. Always relieved by prolonged rest and bowel regulation.

Diagnosis: Kink of ileum (Fig. 10, G).

Operation revealed well-marked Jackson membrane. Free head of colon but marked kink of terminal ileum with adhesions; general visceral prolapse. Adhesions severed, kink relieved and postural treatment, abdominal support and feeding, with abdominal gymnastics later, completely relieved patient. Gained flesh and all symptoms relieved.

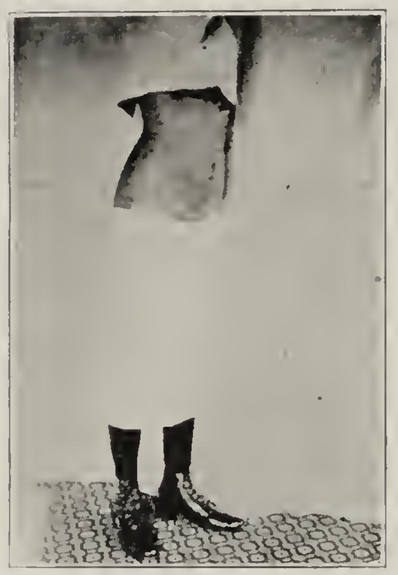


Fig. 9.—An extreme case with visceral prolapse and abdominal protrusion, restored after six months' management. Patient had extreme kink with definite intestinal stasis. Author's case.

Case 8.—Mrs. H., St. Luke's Hospital, Oct. 15, 1910. Chronic pain in right side. Exacerbated at times with nausea, gas distention, anorexia, extreme constipation. Patient lost flesh; extremely anemic. Always improved with prolonged rest in bed. Operation revealed long retrocecal appendix, adherent kink and adhesions of terminal ileum. Ileum rolled in its mesentery and lumen much narrowed. Relief of kink, severing of adhesions with postural, after-treatment, gymnastics and feeding which gave complete relief. (Fig. 10, H.)

Case 9.—Mrs. C., Hinsdale Sanitarium, Dec. 12, 1910. So-called "neurotic type." General visceral prolapse; extreme intestinal stasis. Pain in right side and exacerbation accompanied with extreme stomach pains, nausea, anorexia and most marked anemia. Patient had previously been operated on for cyst of right broad ligament and appendicitis. Operation revealed general visceral prolapse and a mass of adhesions about terminal ileum and cecum. The terminal ileum was looped, the pelvic loop adherent to broad ligament, and through the loop projected an 8-inch loop of distant portion of ileum (Fig. 10, I). All adhesions unraveled and patient treated by postural support, feeding, and later, gymnastics. Patient improved rapidly and promptly. Stasis and pain relieved; digestive disturbances disappeared. Patient gained rapidly in flesh. Two months later, unfortunately, this patient developed a vaginal abscess, which delayed complete recovery, but, notwithstanding, the improvement was remarkable.

Case 10.—Mrs. L. W. I., Hinsdale Sanitarium (aged 42; five children). For five years a sanitarium invalid. Always received benefit from rest, feeding, horizontal position and regulation of bowels. Has had pain in right side with stomach crises, chronic bowel stasis, considerable loss of flesh after each session. Diagnosis: Chronic appendicitis and Lane kink.

Operation showed general visceral prolapse, chronic appendix beneath a prolapsed cecum and well-marked multiple kinks of terminal ileum with adhesions. Patient relieved of kink, appendix removed and adhesions separated. After-treatment instituted, including immediate Trendelenburg, feeding, and, while convalescing and until the present time, postural treatment with abdominal gymnastics. Patient has gained 15 pounds; symptoms completely relieved; toxemia, anemia and stasis disappeared, and patient now is in best of spirits and health (Fig. 10, J).

Case 11.—Mrs. S., St. Luke's Hospital, March 7, 1911. Acquired visceral prolapse. Large woman; one child. Prolapse; retrodeviation. Had appendicitis during previous year. Lost 40 pounds; still weighs 180. Appendix adherent low in pelvis with prolapsed cecum turned to left and adherent to ileum; kink occurring at pull of mesentery. Appendix removed and adhesions separated; ileum replaced and cecum elevated. Uterus suspended on round ligament (Baldy) (Fig. 10, K).

Case 12.—Mr. H. (medical student). Defective type; general visceral prolapse. Had appendix removed five years ago; general adhesions at that time and extensive sepsis following. Since has had intestinal stasis, gradually getting worse. Cathartics of little avail. Considerable anorexia and much gas. Constant pain in right side between umbilicus and McBurney's point; anemia extreme. Diagnosed own case.

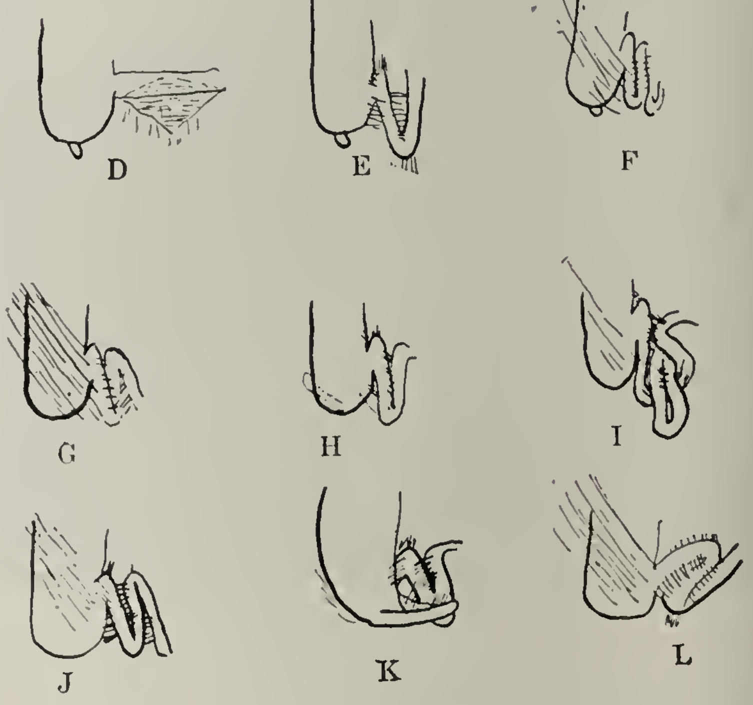


Fig. 10.—Sketches by the author of several of his kink cases.

Operation: Right rectus incision (Fig. 10, L). Cecum low; covered with Jackson membrane but not adherent. Terminal ileum bent acutely 4 inches from its end; apex of bend adherent at bottom of pelvis beneath Poupart's ligament. The two arms of ileum and their two mesenteries firmly adherent for surface of 8 square inches. Adhesions separated and ileum spread out. Patient was treated systematically by posture, bandages and gymnastics in Trendelenburg position. Gained 15 pounds and is now well.

31 North State Street.

ABSTRACT OF DISCUSSION

Dr. W. B. Dorsett, St. Louis: This condition of kinks frequently follows operative procedures. It is not an uncommon thing for the surgeon to say to the patient, "Lie perfectly still." The consequence is that adhesions always occur and frequently produce the condition found in the Lane kink. I have never gone so far as to place my patients in the Trendelenburg position, but have told them that when not in very great ain they may occupy any position in bed except on their feet or head."

DR. **ARTHUR E. HERTZLER**, Kansas City: The pathology of is condition has been described as a "sclerosis mesenterica" Richter. In the inflammatory condition we have an exuate pushing apart the two layers, including the fibrous tissue the mesentery. We can predict what will be the subsequent urse of an exudate of that kind. When that fibrous tissue velops it contracts. Two years ago I ventured a classifiation distinguishing between the newly-formed peritoneum, pseudo-peritoneum and the so-called Jackson membrane, hich is nothing more than a dilatation of the subperitoneal ssels. In the first case one may remove one peritoneum and ave one left. In the other type, if you remove it, you have peritoneum left and deprive the organ of its protection.

DR. **LOUIS J. HIRSCHMAN**, Detroit: Did I understand Dr. artin to state that in the treatment of this kink, after eaking up the adhesions, the ileum was stitched to the rietal wall?

DR. **FRANKLIN H. MARTIN**, Chicago: After breaking up the lhesions about the ileum kink if I find that a long mesenry is present on the ascending colon I imitate Nature's way obliterating the mesentery by stitching the peritoneum of e outer border of the ascending colon to the parietal perineum, but I do not attempt to stitch the ileum.

DR. **LOUIS J. HIRSCHMAN**, Detroit: In case of prolapsed cum we have been led to believe that by stitching prolapses the sigmoid flexure, particularly, and following up the stories of cases in which sigmoidal adhesion to the abdominal all has been performed for the correction of the prolapse, kink forms following operation just beyond the point where fixation was made. We have always believed that in these ses of ptosis with elongated mesentery that it was not itating Nature to suture that to the peritoneum or abdomal walls, but that we should incise the mesentery in a ngitudinal direction and sew it transversely, thereby shorting the mesentery, bringing the viscus back to its proper ace and not creating any pelvic or peritoneal adhesions ere Nature did not intend them.

DR. **C. E. BARNETT**, Ft. Wayne, Ind.: The question just now being somewhat investigated as to the interference with e kidney function of the Trendelenburg posture under anesesia. I should like to ask Dr. Martin whether he has invesgated the quantity of urine passed during this posture? seems to me that our anesthetic hazard is considerable yhow and that if the kidney is crippled at all, the Trendelenrg posture afterward would be a hazard that one could not sk. Regarding oils in the peritoneal cavity, I hope that eir use does good, yet I have never believed in it. I do lieve though that Dr. Martin's method of avoiding adheons would answer better than any other way.

DR. **FRANKLIN H. MARTIN**, Chicago: In answer to the ghtly implied criticism of pexy or fixation of the ascending lon: The large bowel at about the fifth month of embryo e rotates to the right and its whole mesentery becomes tached to the parietes to the right, the posterior layers sappearing after blending with the parietal peritoneum. Now the cecum or larger bowel has failed to rotate—and it has many cases—then we are not doing pexy; we are simply itating Nature's way of obliterating the mesentery. Not ly is it theoretically correct, but practically it works.

Honesty, Soul of Research.—The very soul of research, ally, is the highest degree of honesty. The investigator ould see clearly and accurately with an eye single to the ith. He has to consider not only the observations which fit theory, but any others as well. The erratic cases invariably ke trouble, but they are often disguised blessings. They indeed be of far greater moment than those which have n anticipated, for they may point the way to entirely unsuscted facts. After the investigator has completed his examation of a group of questions which have interested him, his ding idea, his tests and his results must be described with upulous exactness. In thus reporting his work he should ive to be like clearest crystal, receiving the light and transtting it, untinged by any trace of color.—Cannon in *Science*.

FINGER PHENOMENON

A NEW DIAGNOSTIC SIGN OF ORGANIC HEMIPLEGIA
(PRELIMINARY REPORT)

ALFRED GORDON, M.D.
PHILADELPHIA

Since Babinski's discovery of his invaluable toe phenomenon as a pathognomonic sign of an organic involvement of the pyramidal tract of the central nervous system, a number of observers have concentrated their attention on various other reflex manifestations. They all, however, have reference to the lower extremities (Oppenheim, Gordon, Shäfer, Mendel-Bechterew, Grasset, Marie, Throckmorton and others). Hoover also described a valuable phenomenon enabling one to distinguish between an organic and functional disability. Here again it is the lower extremity that reveals the differentiating manifestation.

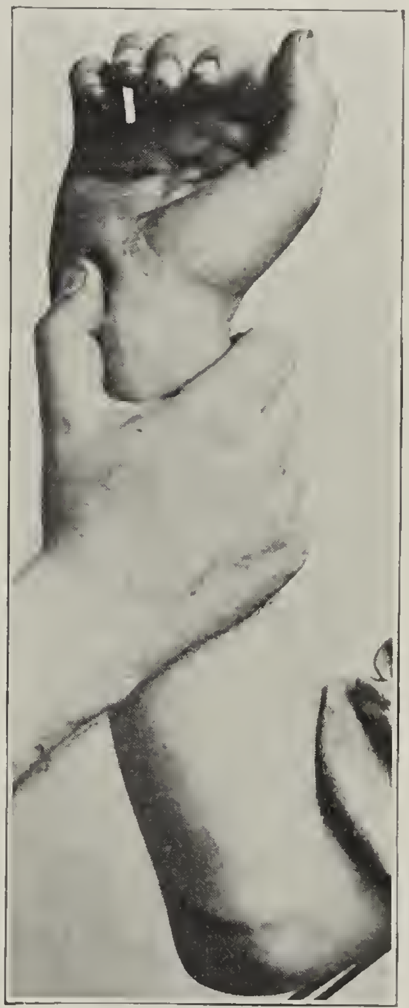


Fig. 1.—Position of thumb on pisiform body before pressure

The upper limb has received comparatively little attention in this respect, or speaking more correctly, very few reflex phenomena have been observed and described with reference to the upper limb, which could be considered as indicative of an organic involvement of the cerebrospinal axis. Bechterew's or scapulohumeral reflex and the more recent "inversion of the radius reflex," described by Babinski are practically the only reflex phenomena which, with few exceptions, may be considered of diagnostic value. By no means, however, do the latter possess the clinical importance of the toe phenomenon. The paucity of diagnostic reflex phenomena in the upper limbs is therefore striking.

Although in the majority of cases there are no special difficulties in recognizing an isolated brachial monoplegia of cerebral origin or a paralysis of an arm, accompanying hemiplegia, nevertheless we encounter now and then isolated cases where the diagnosis of a functional and organic paralysis of an upper limb is made with some hesitation, to say the least.

In a certain small group of cases of hemiplegia dating from infancy, the paralyzed upper and lower limb or one of them (upper) may be free from spasticity and hypertonicity of the muscles, characteristic of ordinary hemiplegia, and present indeed a flaccidity. The latter together with the arrested development of the entire limb (bone as well as muscles), may suggest an old anterior poliomyelitis. In such cases the difficulty of diagnosis may be great, especially when the lower extremity has greatly improved and the upper extremity remained disabled; or when the lower extremity was originally very slightly involved and the largest part of the damage was done to the pyramidal fibers supplying the upper limb (cerebral monoplegia). The need of some diagnostic signs in cases of the category just mentioned is certainly evident. I have observed the following phenomenon in eight cases of complete hemiplegia.

The forearm of the patient's affected limb is elevated and the elbow is placed on a table. The support of the elbow is, however, not essential. The patient's wrist is then lightly embraced by the examiner's hand, with the thumb against the pisiform bone and the other fingers on the dorsal surface of the wrist (Fig. 1). Or one of the examiner's hands may be placed against the back of the patient's wrist, and thumb of the other hand against the pisiform bone. Pressure is then produced with the thumb against the pisiform body and especially on its radial side. Care must be taken not to produce pressure on the dorsal surface of the wrist where the extensor muscles are located. The fingers are then seen to extend and sometimes also to spread in a fan-like form, as Figure 2 illustrates the phenomenon in one of my patients. In some cases the extension is observed only in the last two fingers, in others, all five fingers extend, and in still others, the thumb and the next two fingers. The extension is sometimes more prompt and more distinct when the ring finger is slightly raised before the test and kept raised during the test. This finger must be supported very gently and in a semi-extended position.

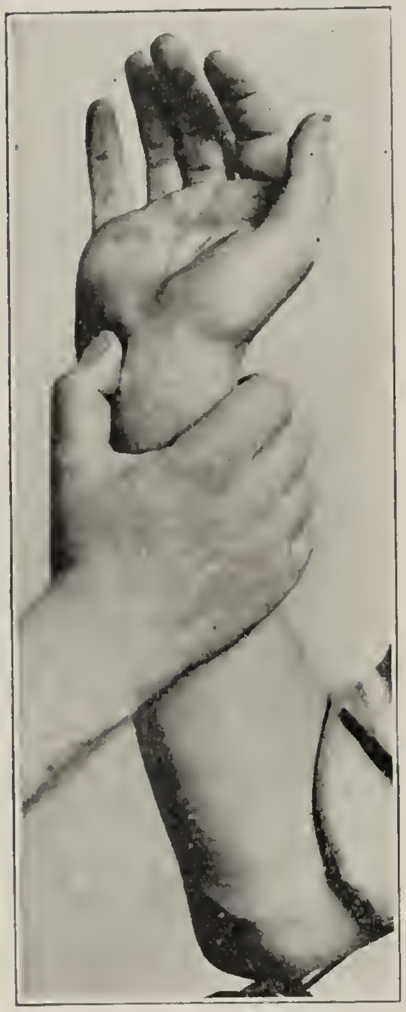


Fig. 2.—Pressure on radial side of pisiform body producing fan-like extension of fingers.

The phenomenon is not very marked in hemiplegias of old standing, in which the contracture of the fingers is very pronounced. In three such cases (not included in the series of eight) I could not obtain this reflex. In six cases of hemiplegia of comparatively recent occurrence, viz.: between two and six months, the reflex was prompt and was obtained at the first attempt. In the remaining two cases the phenomenon was elicited only after two or three tests made in succession. The eight cases examined were present in three children aged between 2 and 13 years, and in five adults. For the purpose of control I examined fifteen normal individuals, four cases of bracial palsy of poliomyelitic origin, and three cases of hysteric hemiplegia. The latter were very striking cases, all occurring after traumatic shocks; the palsy of both arm and leg was complete and rigidity was present. Hemianesthesia of functional type was conspicuous. Although the tendon-reflexes were all increased, Babinski's toe phenomenon was absent. The phenomenon of the fingers described here was absent in every one of them.

The eight hemiplegics, in whom the finger phenomenon was invariably present, do not constitute, of course, a sufficiently large number for generalization. Nevertheless, the continuous presence of the finger phenomenon in them and the absence of the latter in functional cases as well as in fifteen normal individuals warrant me in bringing the phenomenon to the attention of the profession. Further observation on a large number of cases is necessary.

As to the physiology of the reflex, it is well to remember that two muscles are attached to the pisiform bone, viz., flexor carpi ulnaris and abductor minimi digiti. That pressure on the insertions of these muscles should produce an elevation of all the fingers or only of the last two, or of the first three, is certainly an unexpected manifestation. In normal individuals an identical pressure on the pisiform bone (especially on its radial side) produces either no response at all or else a flexion of all the fingers.

An analogy between the finger phenomenon and phenomena observed in the lower extremity is striking. Normally, irritation of the plantar surface causes a flexion of the toes. When the pyramidal tract is involved, extension of the toes will be observed by the same test (Babinski). Normally pressure on the flexor muscles of the leg produces either no response or flexion of the toes. When the pyramidal tract is involved, extension of the toes will follow on the same test (A. Gordon). An identical condition is observed in the mechanism of the finger phenomenon described here: instead of flexion we obtain extension. Similar to the toe phenomenon, the finger phenomenon also strongly indicates an involvement of the pyramidal tract, as apparently it coincides with all other symptoms of a palsy of cerebral origin.

Whether the "finger phenomenon" is constant in hemiplegia, I am unable so far to say, as I have not examined a sufficiently large number of cases. If this phenomenon can be confirmed on a very large number of cases, its importance becomes obvious.

1430 Pine Street.

A CASE OF SPORADIC ELEPHANTIASIS

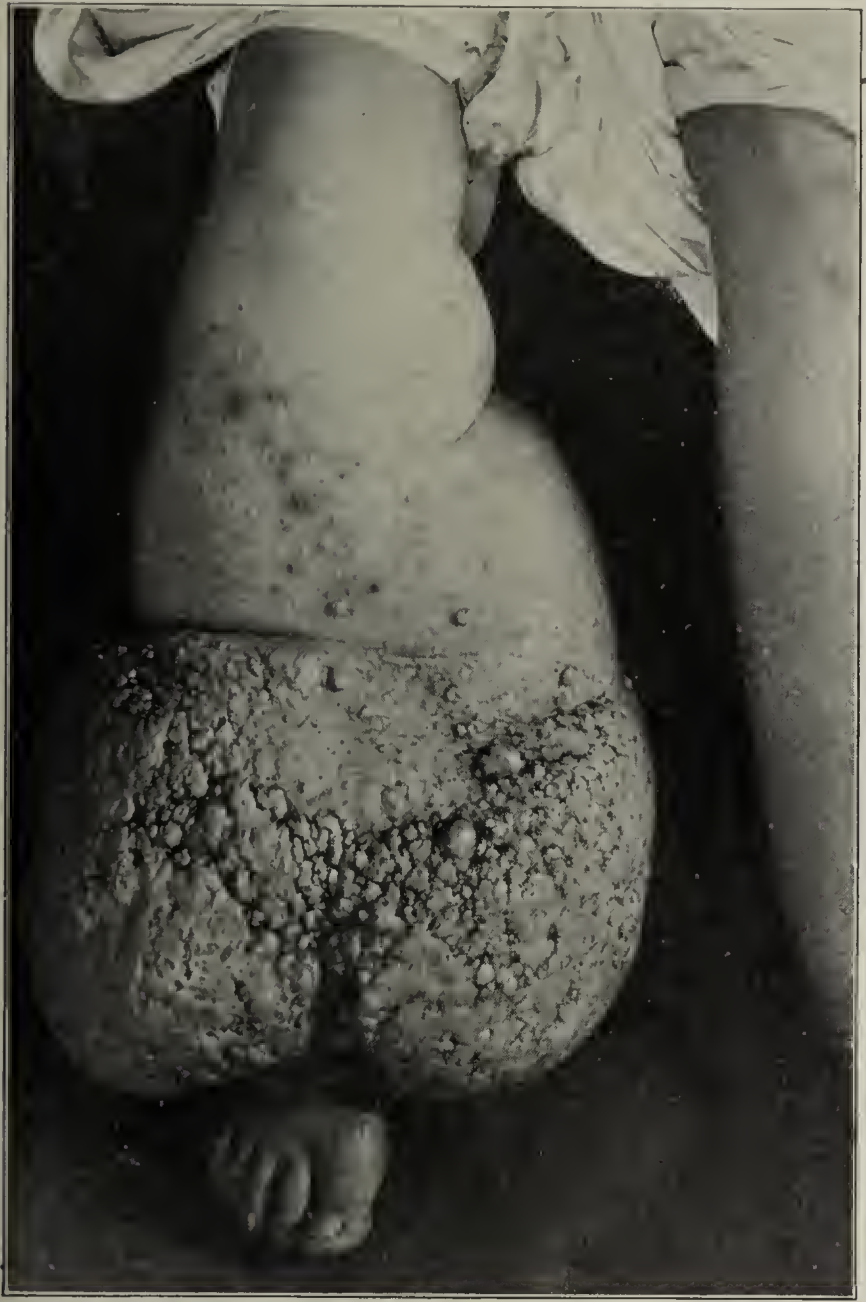
GILMAN J. WINTHROP, M.D.
MOBILE, ALA.

The case reported below is of interest chiefly because of puerperal thrombophlebitis as an etiologic factor.

History.—Mrs. N., white, aged 48, widow, native and resident of Alabama. No family history of tuberculosis, neoplasm or elephantiasis. Patient had measles, pertussis and varicella as a child. At age of 15, she had a mild attack of erysipelas of the left leg, which lasted a week or ten days and gave no further trouble. Menstruation began at age of 15 and has always been normal. She is the mother of five children, the oldest now 25 and youngest 15 years of age. A healthy, active woman until onset of present condition. Following the birth of her second child, twenty years ago, she developed "childbed" fever and a few days later a "milk leg" of the right limb. A painful, red swelling appeared in the right groin and the right ankle became somewhat swollen and edematous but showed no signs of local inflammation. The swelling about the ankle gradually extended to above the middle of the leg but disappeared, in great part, when the patient remained in bed or kept the leg elevated. Occasionally she suffered intense pain in the leg, usually accompanied by an erysipelatous-like inflammation with chills and fever. The skin exuded a milk-like fluid, which was especially profuse if the skin wa bruised or broken, as not infrequently occurred. About ten years ago she noted that the leg was becoming gradually harder and the skin thicker and nodulated. The swelling n longer decreased when she was in bed or elevated the limb This hardening of the tissues and thickening of the skin ha slowly increased and extended toward the knee.

Examination.—The patient is poorly nourished; thoraci and abdominal organs are apparently normal. The right leg below the knee is enlarged, firm and indurated. The skin is thickened and nodulated, especially on the posterior surface of the limb. The sole and dorsum of the foot are not involved, but behind, the hypertrophy begins at the heel and merges into the growth above. Between the folds of hypertrophied skin the surface is foul from moisture and exfoliated epithelium. An eroded area on the inner and posterior part of the growth exudes a serous fluid. The blood shows no filaria after repeated examinations, and the cellular elements and hemoglobin are about normal. The urine is normal.

It would seem that the thrombophlebitis following labor produced chronic edema of the leg or by its extension caused an obliterative inflammation of the lymph-channels about the vein, with resulting lymph stasis. The persistent lymphedema produced a gradual connective-tissue hypertrophy with enlargement and induration of the limb.



Elephantiasis of the leg.

The nodular hypertrophy of the skin and subcutaneous areolar tissue is well shown in the photograph.

204 Conti Street.

For Untrammeled Health Officials.—Mrs. Caroline Bartlett Crane, speaking before the Illinois Woman's Press Association on "Common Problems of American Cities," emphasized particularly the need of an untrammeled health department in every city, with a well-paid health officer who could not be deposed or his work rendered useless by the will of some political boss. Mrs. Crane urged all members of the association to interview personally any health officer accused of inefficiency and ascertain if he were hampered in his work, if he had proper facilities for performing his duties and a sufficient number of assistants.

THE USE OF REBREATHING IN THE ADMINISTRATION OF ANESTHETICS *

W. D. GATCH, M.D.
BALTIMORE

Since the very introduction of ether and chloroform the use of rebreathing in administering them has been under discussion. With chloroform it has seldom been permitted, while with ether until recent years it was considered desirable,[1] and ether was given almost exclusively by means of a closed inhaler of some sort. Since the introduction of the open method of etherization, however, rebreathing has fallen into disfavor, and writers now pretty generally condemn it.[2] It is my purpose to show that, contrary to this common opinion, rebreathing when properly regulated and when the oxygen supply is ample is harmless and can be put to a valuable use. The evidence in favor of this is derived partly from a series of 2,500 gas-oxygen and gas-oxygen-ether anesthesias given by a closed method at Professor Halsted's clinic, and partly from the recent and very important work of

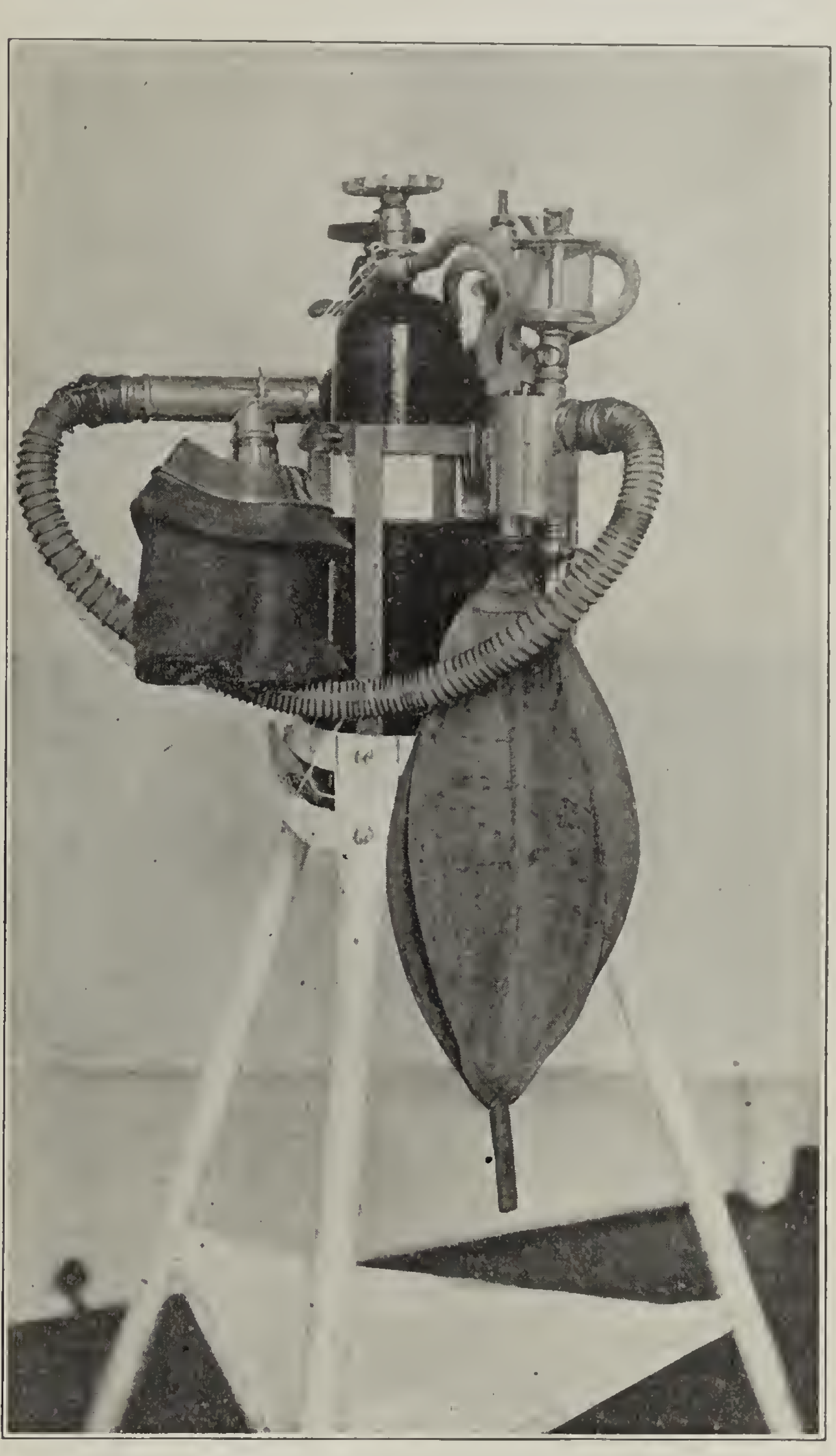


Fig. 1.—Apparatus for administration of anesthetic.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Hewitt: Anesthetics and Their Administration, Ed. 3, p. 329.

[2] Cunningham and Anderson: Methods of Administering Ether, The Journal A. M. A., Nov. 7, 1908, p. 1574.

the physiologists — Henderson,[3] Hill,[4] Haldane[5] and others — on the carbon-dioxid metabolism of the body. In a preceding paper[6] I have discussed the use of rebreathing in giving nitrous oxid with oxygen; here I wish to consider its use in administering any inhalation anesthetic, and more especially ether.

The subject can be approached most simply by considering the harmful results supposed to follow the administration of ether by the use of closed masks. I shall speak only of ether for the present, because most of the investigations bearing on the question of rebreathing have had to deal with this anesthetic. The ill effects in question may be grouped under two heads:

1. Injury to the lungs.
2. General toxic effects.

Dreser,[7] Offergeld,[8] Poppert[9] and Hölscher[10] have studied very carefully the effects of ether vapor on the respiratory passages. Dreser regards any concentration of vapor which cannot be inhaled by the patient while in the conscious state without discomfort and coughing as harmful to the lungs. Applying this test, he fixed on 6 per cent. to 7 per cent. as the highest concentration which should be used. Offergeld, experimenting on animals, found that the lungs after etherization by a closed method showed much graver injuries than after etherization by an open method. With the closed method he found extensive fatty degeneration and desquamation of the epithelium of the air-passages, also many minute hemorrhages into the alveoli; many of the animals died of bronchopneumonia. With the open method the pulmonary lesions were of a comparatively unimportant character, unless the administration was frequently repeated at short intervals. Poppert, whose experiments were similar to Offergeld's, concluded that ether vapor is more irritating to the lungs the greater its concentration. Hölscher studied the distribution of secretion in the air-passages during ether narcosis. He found that there is only a very slight secretion from the epithelium situated below the level of the larynx. By putting coloring materials into the mouths of anesthetized animals he proved that mucus and saliva may be aspirated into the deepest air-passages. His conclusion was that "affections of the air-passages occurring after ether are for the most part due to the aspiration of infectious mouth contents."

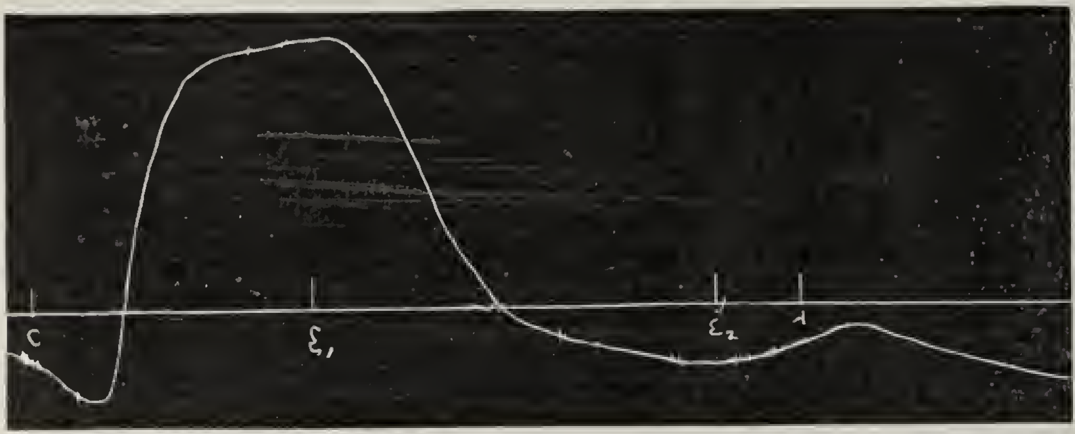

Fig. 2.—Tracing obtained from the pyloric ring of a frog suspended in a moist chamber into which ether vapor and carbon dioxid could be passed. At C, carbon dioxid was passed over the muscle, causing a sharp contraction. At E_1 very dilute ether vapor was turned on, with the carbon dioxid, causing immediate relaxation. At E_2 the ether was turned off.

We can summarize the experimental results dealing with the effects of ether vapor on the lungs as follows:

1. The irritant action of the vapor varies according to its concentration.
2. Postoperative lung complications are frequently caused by the aspiration of mouth contents.
3. The greater severity of the pulmonary lesions found after experimental etherizations by the closed method can be satisfactorily accounted for by the great concentration of ether vapor in the closed masks and the greater liability to aspirate mouth contents when these are used.

We now have to consider why the general toxic effects which follow ether anesthesia are more severe after the closed method than after the open method. Writers are almost unanimous in asserting that they are so. The work of Ladd and Osgood[11] is very important in this connection. These authors studied the frequency of postanesthetic vomiting in patients after etherization with the Blake cone and in those etherized by the "gauze ether" method. Vomiting was much more frequent and severe among the former patients than among the latter. With the Blake cone cases they found acetone in the urine after operation in 88 per cent. of the cases, while with the "gauze ether" cases they found it in only 26 per cent. The technic and advantages of the open method are discussed by Miss Magaw,[12] who reports 14,000 cases with most satisfactory results. In short, there is no doubt that this method of etherization is better than the rather crude closed methods it has replaced. Of its disadvantages and dangers I shall speak later.

To what causes are the ill effects which follow the closed method to be traced? The causes commonly held responsible are the following[2]: (1) anoxemia, (2) over-concentration of ether vapor, (3) toxic organic substances in the expired air, and (4) excess of carbon dioxid an the expired air. The first and second of these possible causes are, I believe, the real ones. The third is imaginary, since the physiologists have demonstrated beyond any reasonable doubt that there are no organic poisons in the breath.[12] Concerning the excess of carbon dioxid, it is the purpose of this paper to show that it is harmless, and can be put to a valuable use.

It is perfectly evident that anoxemia and overdosage of ether, evils almost unavoidable when this anesthetic is given in a tightly closed mask, must do harm. We know that a deficiency of oxygen will quickly cause the gravest injuries to the tissues. Dreser found that the gas within closed etherizing masks would at times put out a burning candle! He also found that the ether vapor within the closed masks sometimes reached a concentration as high as 34 per cent., while 6 to 7 per cent. is the greatest concentration which can be inhaled without irritation to the air-passages. With such an overdosage of ether as this it is true that the excess of carbon dioxid within the closed masks is injurious, for it stimulates powerfully the respiration and leads quickly to an overabsorption of ether by the blood.

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[3] Henderson: Acapnia and Shock (a series of papers), Am. Jour. Physiol., 1908, xxi, 126; 1909, xxiii, 345; 1909, xxiv, 66; 1910, xxv, 310; 1910, xxv, 385; 1910, xxvi, 260; 1910, xxvii, 152.

[4] Hill and Flack: The Effect of Excess of Carbon Dioxid and of Want of Oxygen on the Respiration and the Circulation. Jour. Physiol., June 30, 1908; The Influence of Oxygen Inhalations on Muscular Work, Jour. Physiol., July 1, 1910.

[5] Haldane and Poulton: The Effects of Want of Oxygen on Respiration, Jour. Physiol., 1908, xxxvii, 390.

[6] Gatch: Nitrous Oxid-Oxygen Anesthesia by the Method of Rebreathing, The Journal A. M. A., March 5, 1910, p. 775.

[7] Dreser: A Contribution to the Study of Anesthesia by Ether, Bull. Johns Hopkins Hosp., January, 1895.

[8] Offergeld: Lungenkomplicationen nach Aethernarkosen, Arch. f. Chir., 1907, lxxxiii, 505.

[9] Poppert: Experimentelle und klinische Beiträge zur Aethernarkose und zur Aether-Chloroform-Mischnarkose, Deutsch. Ztschr. f. Chir., lxvii, 505.

[10] Hölscher: Experimentelle Untersuchungen über die Entstehung der Erkrankungen der Luftwege nach Aethernarkose, Arch. f. klin. Chir., 1898, lvii, 175.

[11] Ladd and Osgood: Gauze Ether, Ann. Surg., September, 1907.

[12] Magaw, Alice: A Review of Over 14,000 Cases of Surgical Anesthesia, Surg., Gynec. and Obst., 1906, iii, 795.

[13] Crowder, Thomas R.: A Study of the Ventilation of Sleeping-Cars, Arch. Int. Med., Jan. 15, 1911, p. 85; Haldane and Smith: The Physiologic Effects of Air Vitiated by Respiration, Jour. Path. and Bacteriol., 1892 and 1893, pp. 1, 168, 318; Heyman, Paul, Erclents, Flügge: Report of Experiments at the Institute of Hygiene at Breslau, Ztschr. f. Hyg., 1905, xlix, pp. 363, 388, 405 and 433; Hill and Walker: The Relative Influence of the Heat and Chemical Impurity of Close Air, Jour. Physiol., Nov. 9, 1910.

If the truth of what has just been stated be admitted, it follows that if we can prevent anoxemia, overconcentration of vapor, and too great a depth of anesthesia, we can obviate most of the serious objections to the closed method of giving ether.

I have so far limited the discussion to the administration of ether, but it will apply, in part at least, to all anesthetics given by inhalation—to chloroform, ethyl chlorid and nitrous oxid. With all of these it is evident that anoxemia must be prevented. With chloroform and ethyl chlorid, on account of their great toxicity, overdosage is the most important problem in administration. With nitrous oxid, in the absence of asphyxia overdosage is impossible. Ether requires a special consideration on account of the peculiar irritant action of high percentages of its vapor on the lungs and air-passages.

I have made use of the principles laid down in the foregoing paragraphs in developing a method of anesthesia, the technic and advantages of which I now wish to describe. Nitrous oxid and, if necessary, ether are the anesthetics used. The apparatus employed[14] consists essentially of a mask connected by a piece of flexible tubing to a rubber bag. This forms a closed space into which the patient breathes. On the mask is a valve-box by means of which the patient can be made to breathe to and fro into the bag, or to inspire from the bag and expire into the air, thus emptying the latter. The bag is attached to a small box, through which the current of gas must pass back and forth from the bag to mask. Into this box nitrous oxid and oxygen are admitted, and ether, drop by drop, from a receptacle above. The ether is vaporized in the box from a series of drip plates, and any excess of ether can be drained off at once by a stopcock. The method of administration is simple. The mask is adjusted carefully to the patient's face and the bag filled with nitrous oxid containing a very small amount of oxygen. The patient is made to breathe this mixture in and out through valves, thus replacing all the air in his lungs with nitrous oxid and oxygen. The bag is next refilled with the same mixture of gases which the patient is now made to rebreathe for from five to eight minutes. At the end of this time he is allowed to empty the bag, breath by breath, into the air, after which it is refilled, and the same procedure is repeated. Oxygen is given, without any attempt to estimate its exact percentage to the nitrous oxid, in quantities just sufficient to keep the patient's color free from cyanosis. If desired, nitrous oxid can easily be given under positive pressure, by keeping the bag slightly overdistended. This is sometimes a useful procedure in managing difficult cases. Anesthesia is usually established in less than two minutes. If the anesthesia is unsatisfactory with nitrous oxid alone, ether is added. This combined nitrous oxid-ether anesthesia has many points of practical and scientific interest and calls for a special consideration.

Ether is not given till the patient's respiration has been stimulated by the accumulation of carbon dioxid which results from the rebreathing. It is then added drop by drop. The heated gases quickly evaporate it from the drip plates, and it is rapidly absorbed by the blood because of the increased pulmonary ventilation. The most difficult subjects can thus be deeply anesthetized.

I have already referred to Dreser's experiments in which he proved that from 6 to 7 per cent. of ether vapor is the greatest concentration which can be inhaled by a patient in the conscious state without irritation and coughing. Precautions must be taken to keep the concentration of ether vapor in the mixture of gases below this level if we wish to do away with any possibility of injuring the lungs. This is quite easily accomplished, as the following simple calculation will show. The gas-bag moderately distended holds about 10 liters of gas, the mask and tubing hold about 1 liter, and the entire respiratory system of the patient holds about 3 liters. When the patient is rebreathing, these all form one closed space with a total capacity of about 15 liters. Our problem is this: How much ether must be added to 15 liters of gas to make the concentration of ether vapor 7 per cent.? Professor Abel has very kindly performed this calculation for me and gives the amount of ether as 4.2 c.c. He desires me to state, however, that the conditions of the problem are so variable that the amount of ether required cannot be determined with absolute accuracy. The varying temperature in the apparatus, the loss of ether through leaks and by absorption in the lungs are factors for which no accurate data can be furnished. But absolute accuracy is not necessary, because the constant loss of ether gives us a wide margin of safety so that we can probably add ether much faster than our calculation allows without exceeding the danger limit.

With the drops of ether falling at the rate of 120 to the minute I have found that it takes two and one-quarter minutes to add the 4.2 c.c. Therefore, if we give ether at this rate and take precautions not to keep it dropping for more than two minutes at any one time, and to keep the bag constantly full of gas, we can be sure that the ether vapor will not reach a concentration greater than 7 per cent. If the anesthetist does not care to follow some such rule as this he can easily, and I think with perfect safety to his patient, estimate the strength of ether vapor by its odor as it escapes from the valve-box. In fact, ether is usually given for so short a time that even if it were administered in a somewhat concentrated form it would probably do no harm.

It has been found unnecessary to give ether constantly during the administration. When enough has been given to produce satisfactory anesthesia, this can be maintained with nitrous oxid alone, even in cases requiring a deep narcosis. This is to be explained by the fact that the rebreathing prevents the ether, once dissolved by the blood, from being thrown off as rapidly as it would otherwise be by the lungs, which are the organs by which it is practically all eliminated.[15] Suppose, for example, that a patient having a certain amount of ether dissolved in his blood is given some fresh nitrous oxid and oxygen to rebreathe. The ether will be thrown off from his lungs till the tension of its vapor in the gases being breathed will equal that in the blood. When this occurs no more ether will be eliminated until a new supply of gas is furnished.

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[14] I have already described the apparatus elsewhere in some detail (Note 6). It will be noted that the arrangement for giving ether has been changed so as to permit of a more accurate dosage. The method of administration is practically unchanged, except that I now allow rebreathing for somewhat longer intervals

[15] Hewitt: Anesthetics and Their Administration, Ed. 3, p. 50; Cushny: Pharmacology and Therapeutics, Ed. 4, p. 166; Cushny: The Exhalation of Drugs by the Lungs, Jour. Physiol., xl, 17; Nicloux: Elimination de l'éther contenu dans le sang après l'anesthésie pendant la période de retour, Cont. rend. Soc. biol., 1907, i, 8.

Not only can we prevent the elimination of ether by rebreathing, but we can also hasten the elimination by a rapid ventilation of the lungs with fresh gas. During the process of rebreathing, carbon dioxid accumulates in the body and stimulates the respiratory center so that the breathing becomes deep and rapid — often fifty or sixty respirations to the minute. When a patient, anesthetized in the way I have described and breathing at such a rate, is given a fresh supply of gas and allowed to discharge each breath into the air, he apparently rapidly rids himself of the small dose of ether he has been given. Thus it is possible to anesthetize a patient so deeply that he will not stir during a Whitehead operation, and yet have him conscious before leaving the operating room. By careful administration we can in most cases keep the patient from knowing that he has been given any ether at all, so complete and rapid is its elimination.

I would suggest that this method of removing a volatile anesthetic by rapid ventilation of the lungs be used at the close of every administration of chloroform or ether. The increased pulmonary ventilation can be easily brought about by making the patient breathe in and out, through valves, air or oxygen containing a small percentage of carbon dioxid. I have had such a mixture of oxygen and carbon dioxid prepared which contains 7 per cent. carbon dioxid, but have not had the opportunity to give it a clinical trial.

In this connection it is interesting to consider the effect which morphin has on the elimination of ether or chloroform from the body. Morphin decreases markedly the rate of pulmonary ventilation.[16] Large doses of it must therefore retard the elimination of the anesthetic and thus increase its toxic action. It is often possible to detect the odor of ether or chloroform on the patient's breath for several hours after operation. This slow excretion may be due, in part at least, to the morphin, a hypodermic of which is necessary before or after almost every anesthesia. Perhaps this effect of morphin can be prevented by means of the method I have just described for quickly eliminating the anesthetic.

In the preceding paragraphs I have discussed how ether can be safely introduced and speedily removed from the patient's system. During its stay therein we are powerless to prevent its toxic action. By giving it, however, in combination with nitrous oxid and morphin we can reduce its dose, and therefore its ill effects, to the minimum, since the major portion of the anesthesia is produced by the other two drugs. It is probable also that the effect of ether when thus administered with other narcotics is relatively much greater than when given alone, as it is well known that narcotic drugs given in combination reinforce one another's action.[17] Thus the powerful joint effect of morphin and scopolamin has been explained.

I shall devote the remainder of this paper to matters of direct clinical interest. The form of anesthesia herein described has now been in use in the surgical clinic of the Johns Hopkins Hospital for two years. Here over 2,500 patients have been anesthetized by this method. It is now our routine form of anesthesia for all operations except those on the face, upper air-passages or cranium. In these we have found it inconvenient on account of the difficulty of keeping the mask in place.

Before operation the patient is given an enema and deprived of food for several hours, but is allowed to take small quantities of water. About thirty minutes before the anesthesia is begun he is given a hypodermic of morphin and atropin, the dose for an adult being morphin one-sixth grain, atropin 0.01 grain. The anesthesia is started after the patient has been placed on the table and while the field of operation is being surrounded by sterile towels. It is established so quickly that the incision can usually be made in two minutes after the mask has been put on. Any depth of anesthesia which the condition of the patient and the nature of the operation may require can be easily obtained, because of the control of the patient's respiration which is given by the rebreathing. In abdominal operations, if the increased activity of the respiration is inconvenient, it can be prevented by giving a fresh supply of gas at frequent intervals. The bleeding during gas-oxygen or gas-ether anesthesia is about the same as during open ether anesthesia. The patient's temperature, provided he is kept dry and covered, will be found elevated from 0.5° to 2° after an hour's operation. With light narcosis under nitrous oxid and oxygen alone, the pulse may be rapid (from 140 to 160 to the minute) but this is of no significance provided it is regular and of good quality, and there is no hemorrhage. The rapid heart-rate decreases when ether is given.

This form of anesthesia is especially well suited for long operations. In fact the anesthesia does the patient so little harm that within reasonable limits the duration of the narcosis need not be considered. The surgeon can therefore operate with a deliberation and attention to detail that would otherwise be unjustifiable. The following typical cases show the truth of this contention:

Case 1.—The patient was a negro man, aged 27, in good physical condition. Operation: Excision of a sarcoma from the right popliteal space, and blood-vessel transplantation. Duration of anesthesia, five hours. The pulse-rate per minute varied from 72 to 100. The blood-pressure at the end of four hours of anesthesia was 130 mm. of mercury. The patient regained consciousness before leaving the table. He had no headache, nausea or vomiting, though he was given water at once. His urine after operation contained no albumin or acetone. He was allowed to rebreathe at two and one-half and three-minute intervals. The narcosis was deep and quiet. Ether was given with the gas for the first half hour.

Case 2.—The patient was a white woman, aged 30, in rather poor condition. Operation: Resection of the ascending and transverse colon. Duration of anesthesia two hours and five minutes. No ether was used. The narcosis was light, the patient at times moving her limbs. Recovery was immediate and unattended with headache or vomiting.

Case 3.—The patient was a colored woman, aged 30, in good condition. Operation: Excision of the right breast, pectoral muscles and axillary glands for advanced cancer of the breast, Thiersch skin grafting of the raw surface of the breast. Duration of anesthesia, three hours and fifty-five minutes; 2½ ounces of ether, 130 gallons of gas and 30 of oxygen were used. The anesthesia was quiet and satisfactory, the recovery immediate and without headache, nausea or vomiting.

I could report many more cases similar to the above, but these show sufficiently well how little the patient is injured by this form of anesthesia. A word of caution is, however, necessary. This is that during any administration, and especially during a long administration, the patient's breathing must be kept free and unobstructed, and his color good. If a patient has to work hard for every breath he soon wears himself out. The color of the blood in the wound, the hue of the patient's face, and the character of his breathing as shown by the movements of the rubber bag are the best indicators of his condition. The surgeon himself can hardly fail to notice these. If the patient's breathing cannot be kept unobstructed the use of the apparatus should be abandoned at once and some other method of anesthesia used.

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[16] Cushny: Pharmacology and Therapeutics, Ed. 4, p. 211.

[17] Führer: Pharmakologische Untersuchungen über die Mischnarkose, München. med. Wchnschr., 1911, No. 4; Bürge: Die Wirkung von Narkotikakombinationen, Deutsch. med. Wchnschr., 1910, Nos. 1 and 2, pp. 20 and 62.

We have had three fatalities, during or immediately after operation, in our series of 2,500 cases. How much the anesthesia was to blame for these may be judged from the following reports:

Fatality 1.—The patient was a colored woman, aged 44, with exophthalmic goiter of four years' standing. She had an irregular, intermittent pulse, the rate of which had been between 120 and 140. Her heart was enlarged, and she had ascites and edema of the ankles. During the last week of her life she had several severe attacks of dyspnea, associated with extreme rapidity and irregularity of the pulse. For these she was given a course of digitalis, which improved her condition so much that it was thought she could withstand a partial thyroidectomy. When the mask was placed over her face, she made a very slight struggle and took several shallow breaths. The operator then saw the superficial veins of her neck suddenly dilate. This apparently marked the time of death, and occurred within half a minute of the time the anesthetic was started.

Fatality 2.—The patient was a man with aortic and mitral insufficiency, on whom it was proposed to do a perineal prostatectomy. He was given ether with the gas and oxygen. The anesthesia went very well till the patient was placed on the perineal table with his buttocks elevated; then he became cyanotic and died. An immediate autopsy revealed the presence of a large pericardial effusion, the presence of which had not been recognized before operation.

Fatality 3.—The patient was a girl of 16, with multiple infectious arthritis; general condition poor. Operation: Injection of both knees with oil and manipulation of knees, ankles and elbows. Duration of anesthesia fifteen minutes. The anesthesia was uneventful, except for a marked increase in pulse-rate while each joint was being manipulated. At no time was the breathing obstructed. At the close the pulse-rate went up very rapidly; the color became cyanotic and could not be cleared up with oxygen. The breathing became weaker and weaker and finally ceased.

An autopsy showed a very large thymus and hypertrophy of all the lymphatic tissues. The pathologists gave status lymphaticus as the cause of death.

The first and second of these patients had circulatory disease of such gravity that the anesthesia is not to be seriously blamed for the deaths. How the third fatality was brought about I am at a loss to understand. The toxicity of nitrous oxid is certainly too low to have caused it.

Notwithstanding these fatalities I believe that this form of anesthesia properly employed is well suited for cardiac cases. Two cases of cesarean section performed by Prof. J. W. Williams on women with serious valvular lesions will show the grounds for this belief. Both women were in about the seventh month of pregnancy, and in both delivery was necessary to save the life of the patient. One of the two was *in extremis* and her death on the table was regarded by the operator as probable. Both women had such urgent dyspnea that the anesthetic had to be started with the patient sitting upright. The same method of administration was employed in both cases. Each patient was given a hypodermic of morphin large enough to quiet her. In inducing anesthesia great care was exercised to avoid the least excitement or struggling on the part of the patient. Both were allowed to rebreathe oxygen till the respiration was stimulated before any nitrous oxid was given. Enough ether was used to give a quiet anesthesia. The operations were performed with the patients' bodies elevated at an angle of 20° to 30°. The pulse of both patients was much better during anesthesia than before, and the operator was able to proceed without undue haste. Both patients made an excellent recovery.

I have hitherto spoken of the advantages of an excess of carbon dioxid in the blood — a hypercapnia — during anesthesia. Our clinical experience has certainly shown that this, to the degree we permit, is harmless. Hill and Flack[4] state that "the effects of carbon dioxid on the heart can always be quickly recovered from, even if the blood-pressure has sunk to zero." These authors found that carbon dioxid up to a percentage of 35 in the air breathed stimulates the respiration, while above 35 it depresses it; also that percentages up to 22 produce a rise in blood-pressure, while higher percentages cause a fall. Of course it is impracticable to determine exactly what percentage of carbon dioxid a patient is breathing. The anesthetizer must regulate the time of rebreathing so that the patient's respiration is moderately stimulated. The periods of rebreathing for 10 liters of gas range from three to five minutes, any leakage from the apparatus being meanwhile made good by the addition of fresh gas.[18]

Does a deficiency of carbon dioxid in the blood —acapnia — do serious harm? The work of Henderson[3] on this problem is so well known as to require no more than a reference here. He has been able to reduce animals to a state of extreme shock by overventilation of their lungs. He asserts that acapnia causes complex osmotic changes in the tissues, which result in a passage of water from the blood into the lymph and into the tissue-cells and a dilatation of the finer veins. Interference with the normal filling of the right side of the heart by this process is the essential phenomenon in surgical shock. In extreme cases of acapnia the blood-stream is so scant and the respiration so feeble that the tissues do not receive the necessary amount of oxygen. An asphyxial acidosis results which does the body-cells irreparable injury. Whether we accept Henderson's theory or not we must admit that the accumulation of carbon dioxid by the process of rebreathing is an efficient stimulus to the respiration and circulation. In fact we use it as a purely therapeutic measure in cases of morphin poisoning, in cases of so-called traumatic or toxemic shock,[19] and wherever the respiration is feeble.[20] Oxygen can be given much more effectually and cheaply by the use of rebreathing than in the ordinary way. Thus with anesthetics of low toxicity and the use of rebreathing we can sometimes actually benefit a very ill patient by an anesthesia.

On the other hand, when we give ether by the open method we take a very efficient means of producing acapnia, because ether diminishes the formation of carbon dioxid by the tissues, and by stimulating the respiration hastens its elimination as well. Symptoms of a mild grade of acapnia under open ether anesthesia are common. Thus a patient who has perhaps been difficult to anesthetize or who has been lightly under ether for some time and is breathing at a rapid rate will gradually stop breathing. After an interval of perhaps two or three minutes his respiration will start again but will not be normal for a long time. This occurrence, though alarming, is usually followed by no harmful results. Of course hundreds of patients are etherized daily by the open method without developing symptoms of shock. What prevents a serious grade of acapnia in the great majority of cases? There are a number of things which do so. In the first place many anesthesias are of too brief duration for acapnia to develop. Then again there is frequently more or less obstruction to the breathing during narcosis, and this prevents acapnia. Likewise the slowing of the respiration which results from a preliminary hypodermic of morphin may protect from the same danger.[21] Finally, the so-called "open" method is usually not "open" at all, for the mask is so covered with towels or gauze that the patient does considerable rebreathing.

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[18] After rebreathing 10 liters of oxygen for three minutes, I found it to contain 8.9 per cent. CO_2. Allowing for decreased CO_2 formation during anesthesia, it is probable that the percentage breathed by the patient is seldom above this.

[19] Patients with feeble pulse and respiration—so-called "shock" cases—should be made to rebreathe air in oxygen till their respiration is normal before breathing the anesthetic.

[20] Levi, Ettore: Studies on the Patho-Physiologic Action of CO_2 and on the Therapeutic Applications in Surgery and Medicine of Mixture of O_2 and CO_2, Estr. d. Rev. crit. di clin. med., 1910, xi, 30 and 31.

It is a pity that in a case like the following accurate determination of the amount of carbon dioxid in the blood could not be made, so that we could judge whether or not death was due to acapnia:

The patient was a well-nourished middle-aged woman, with no disease of the heart or blood-vessels, on whom a colostomy and an excision of the rectum was done for a carcinoma. The anesthesia was by the "drop ether" method and was of two hours' duration and rather light. The patient's breathing was rapid and carefully kept free from obstruction. There was practically no loss of blood and but little trauma connected with the operation. The patient never regained complete consciousness, though she could respond feebly when spoken to. Her pulse was rapid and of poor quality; her temperature subnormal, her color slightly cyanotic and her respiration very feeble. She never rallied, and died eight hours after operation. An autopsy showed no apparent reason for death, which was attributed to surgical shock.

Is it not possible in this case that an acapnia had produced fatal injuries to the tissues in the manner described by Henderson?

Apart from the prevention of acapnia the form of anesthesia I have described has several other advantages over open ether anesthesia. The chief of these are three: (1) lessened postanesthetic vomiting; (2) decrease in number of cases of abdominal distention after operation; (3) practical abolition of postanesthetic lung complications.[22]

Vomiting after operation, of course, depends on many things besides the anesthetic. About 35 per cent. of our patients vomit, but the vomiting is usually very little. In looking over the special charts of 200 patients I found only four who had had more than very transient vomiting. Of the cases one was a case of exophthalmic goiter, one a case of stone in the common bile-duct, one a case of spreading peritonitis from an appendix abscess, and one a case of intestinal resection. The nausea alone seldom prevents a patient from taking water and nourishment at once after operation.

There has been very little experimental work on the question of abdominal distention following ether anesthesia. Cannon and Murphy[23] observed a great delay in the emptying of the stomach contents into the duodenum, and a slowing of the passage of food along the intestines after etherization. Figure 2, which is a tracing obtained from Dr. D. R. Hooker,[24] demonstrates the paralyzing effect of a weak ether vapor on the pyloric ring of the frog. It also shows that carbon dioxid acts as a powerful stimulant to the muscle of the ring. Of course the conditions to which the bowel was subjected when this tracing was obtained were abnormal, still the paralysis by ether is exactly what any clinician would expect. It is well recognized that an excess of carbon dioxid in the blood promotes peristalsis, and Henderson[25] has shown that the normal intestinal movements, which cease after a laparotomy, can be restored by passing a stream of carbon dioxid over the exposed bowel. These experimental results are confirmed by our clinical experience. It will be recalled that we use the smallest possible amount of ether, and produce a hypercapnia by making the patient rebreathe. In the 200 cases referred to above there was not a case of abdominal distention except after laparotomy, and among the laparotomies, seventy-five in number, it occurred in but three cases, these being the same patients who had considerable vomiting.

In 2,500 cases of gas-oxygen or gas-oxygen-ether anesthesia we have had but one case of postanesthetic pneumonia; this was in a girl with general peritonitis, who recovered. I am perfectly aware that this absence of pneumonia has been partly accidental, since pneumonia after operation may be due to causes other than the anesthetic. The record is, however, striking, and all the more so because we have anesthetized without hesitation, in cases of pulmonary tuberculosis, bronchitis and empyema. It contrasts markedly with the record after open ether. Here in a series of 400 cases we have had one death from ether pneumonia, and two deaths, one with autopsy, from acute pulmonary tuberculosis.[26] The latter patients were both operated on for tuberculous glands of the neck. Both patients died rather late — in from two to three weeks — after operation, but they ran a high temperature from the first. It was the opinion of Dr. L. V. Hammond, who has charge of the work on tuberculosis at the Johns Hopkins Hospital, that the etherization had lighted up small apical foci of disease undetected before operation.

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[21] Crile: The Blood-Pressure in Surgery, p. 281.

[22] Homans: Post-Anesthetic Pulmonary Complications, Bull. Johns Hopkins Hosp., April, 1909.

[23] Cannon and Murphy: The Movements of the Stomach and Intestines in Some Surgical Conditions, Ann. Surg., April, 1906, xiii, 513.

[24] I wish to thank Dr. Hooker for permission to publish this tracing and for the following note:

"Dr. Gatch has asked me to add a note covering some unpublished experiments done in the physiologic laboratory of the Johns Hopkins University, which appear to have a direct bearing on his own work.

"Cross-sections of blood-vessels or intestine, to which a recording lever was attached, were hung in a moist chamber. In the use of tissue from warm-blooded animals the temperature of the chamber was maintained constant at 35 C. Through the chamber were passed alternately streams of oxygen and carbon dioxid gas. By this method the tissue studied was exposed to practically pure atmospheres of the gases. The experimental conditions, therefore, did not fall within physiologic limits, so far as the percentage of gas is concerned. Work is now in progress to investigate the effect of different percentages of oxygen and carbon dioxid. Aside from the result of this future work, however, the interesting fact has been demonstrated that the musculature of the blood-vessels responds in atmospheres of the gases, studied in an exactly opposite manner to the musculature of the intestines. Carbon dioxid causes a marked improvement in the tone of the intestines and a marked relaxation of tone in the veins and arteries. On the other hand, oxygen causes a relaxation of tone in the intestines and an improvement of tone in the veins and arteries. These results were obtained in the case of both warm-blooded and cold-blooded animals and demonstrated with graphic records.

"If it be true that Henderson reasoned by analogy from the behavior of the smooth muscle in the intestine to that in the blood-vessel (especially the veins) in developing the acapnia theory of surgical shock, it is obvious from these results that his reasoning was not entirely justifiable.

"The correlation of the difference in action of these gases in physiologic economy tempts speculation. The body seeks to rid itself of any excess of carbon dioxid. Jerusalem and Starling (Jour. Physiol., 1910, xl, 279) have shown that carbon dioxid (0.625 of an atmosphere) increases the efficiency of the isolated mammalian heart chiefly by improving its diastolic relaxation. Bayliss (Jour. Physiol., 1901, xxvi, 32) has shown that this gas relaxes vascular tone. It has long been known that in the intestine the same gas increases peristalsis and Mail (Johns Hopkins Hosp. Rep., 1896, i, 37) has suggested that rhythmic movements of the intestines may help to empty the venous plexuses in the walls and thus aid in driving the blood into the portal system. We have, therefore, a coordination of activity which greatly facilitates the circulation of blood and the consequent rapid elimination of the carbon dioxid. Oxygen in excess, on the contrary, would tend to bring about opposite effects with a resultant retardation of the circulation.

"In conclusion, it should be clear to the reader that this is a chemical regulation of the circulation entirely peripheral in its action. The action of the gases on the medullary centers is a wholly different question."

[25] Henderson: Shock After Laparotomy, Its Prevention, Production and Relief, Am. Jour. Physiol., 1909, xxi, 60.

[26] Walsh: Chloroform Rather Than Ether Anesthesia in Tuberculosis, The Journal A. M. A., Aug. 28, 1909.

In closing I do not wish to leave the impression that this form of anesthesia is free from danger. It is without danger so far as postoperative effects are concerned. During the administration, however, there are dangers, though these can always be prevented by careful and skilful administration, and arise from causes which can generally be foreseen. The method should not be used except by those who have made a special study of its problems.

SUMMARY

1. Rebreathing, when properly regulated and when the oxygen supply is ample, is harmless and can be put to a valuable use.

2. If we can prevent anoxemia, overconcentration of vapor and too great a depth of anesthesia, we can obviate most of the serious objections to the closed method of giving ether.

3. The process of rebreathing prevents the elimination of ether and chloroform by way of the lungs; and overventilation of the lungs hastens the elimination.

4. It is suggested that after any administration of ether or chloroform, overventilation of the lungs be brought about by the use of mixtures of oxygen and carbon dioxid.

5. Morphin, or any drug which depresses the respiration, retards the elimination of ether or chloroform.

6. A method of administering nitrous oxid and if necessary ether with oxygen by the method of rebreathing is described and its advantages and dangers discussed.

Its chief advantages are (1) the rapidity and pleasantness with which anesthesia is established; (2) the ease with which any depth of anesthesia can be secured; (3) the prevention, to a very large extent, of postanesthetic vomiting, pulmonary complications and abdominal distention.

Its chief dangers are (1) anoxemia due to a failure to give sufficient oxygen or to an obstructed air-way; (2) impediments to the respiration, which in a long anesthesia may exhaust the patient; (3) with cardiac cases excitement during the period of induction.

[Discussion on the Paper of Dr. Gatch Appears on Page 1611 of This Issue.]

ANESTHESIA, WITH ESPECIAL REFERENCE TO NITROUS OXID AND ITS SEQUENCES

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It is desirable to call attention to two points of considerable importance in relation to anesthesia in general. The first of these is the need of all general anesthetics being administered, as far as possible, by or under the supervision of trained anesthetists. There can be no reasonable doubt that a very large proportion of the mortality from postoperative conditions, as well as from the anesthetic *per se,* is due to the unskilled administration of these powerful drugs. In its report, the Anesthesia Commission of the American Medical Association calls particular attention to this in the following words:

> From the statements set forth you will see something of the breadth and of the intricacy of the present-day problem of anesthesia. It is a striking fact that all the newer methods demand expertness, experience, and special apparatus.

The surgeon, moreover, should be relieved from all anxiety concerning and responsibility for the anesthetic in order that he may devote his undivided attention to the work in hand.

The second point is the necessity of selecting the anesthetic or combination or sequence of anesthetics suitable for the special condition to be met. On this point Hewitt says:

> Putting aside for the present certain exceptional circumstances . . . it may be said that the practice of employing one anesthetic for all cases must now be regarded as belonging to a bygone time. To insure success in inducing and maintaining general anesthesia we must vary our anesthetic and our methods of using it, according to the exigencies of the case with which we have to deal.

The anesthetist should make a careful study of the situation, not only with regard to the patient's temperament and physical condition but also in relation to the nature of the operation. This is particularly true of procedures on the head and throat, in which cases it is incumbent on the anesthetist to so plan his work as to offer the minimum of interference to the surgeon. After a due consideration of all factors, he should choose that anesthetic and method of administering it which best fulfils the indications. He should, however, at all times be prepared to abandon his prearranged scheme and adopt another should the exigencies of the case so require. Occasionally, a case will arise that will tax to the utmost the administrator's skill, ingenuity and armamentarium. As an example, I quote the following notes on a case observed while anesthetist to the Eye and Ear and South Side Hospitals, Pittsburgh, Pa.:

Patient.—Miss B., aged 22, suffering from some obscure stomach condition, characterized for the last ten days by constant vomiting after eating. Medium build; moderately anemic. Pulse 84, fair volume and tension. Chest negative, except for slight weakness of cardiac first sound.

Operation.—Exploratory laparotomy. The attending surgeon stated that on a recent occasion it was found impossible to produce complete anesthesia with the morphin-ether sequence (open method) and that the operation had to be abandoned after incision to the peritoneum, owing to signs of circulatory shock. The pulse ran high for ten days subsequently.

Anesthesia.—This was started with pure nitrous oxid, oxygen 2 per cent. being added after a few breaths and gradually increased to 6 per cent. Anesthesia was complete in about fifty seconds. Ether was now cautiously admitted. Apnea at once occurred, followed by profuse secretion of mucus, retching and slight vomiting; pulse more rapid, abdomen rigid. On stopping ether and increasing oxygen for a moment, former quiet anesthesia was restored. Apnea occurred at each attempt to add ether. Atropin gr. 1/100 was given to control mucus and as a respiratory stimulant. Owing to insufficient nitrous oxid to continue to the end of the operation, the patient was allowed to come out slightly and chloroform was administered by the open method for a few minutes to moderately profound anesthesia. Ether was resumed with 4 per cent. oxygen and a few breaths of nitrous oxid given from time to time when respiration lagged. Anesthesia continued uneventfully for two hours, extensive pelvic work being done through a second incision. Pulse varied from 100 to 120, being 114 at the end. There was prompt recovery without postoperative vomiting.

NITROUS OXID

While ether, either alone or as the terminal member of some sequence, will be the routine anesthetic, it is desirable to consider the properties of nitrous oxid.

MORTALITY RATES

The combined statistics of Julliard of Geneva and Ormsby of Dublin, covering 407,553 ether administrations, show a mortality of one in 16,302. For chloroform it is one in 3,162. Ethyl chlorid statistics are very scarce, but McCardie believes that the death-rate is about one in 3,000. Hewitt, in an extensive review, found only seventeen deaths directly traceable to nitrous oxid, recorded from 1860 to 1900. No deaths have been reported from nitrous oxid and oxygen. Ream, of Chicago, reports 30,000 administrations without a single accident; Teter, 12,000, 1,000 of these being for major operations lasting from one-half to three hours.

Nitrous oxid is therefore by far the safest general anesthetic known.

PHYSIOLOGIC ACTION

Nitrous oxid has a slightly sweet taste and its inhalation is accompanied by no unpleasant sensations. It produces anesthesia by a direct action on the cerebral cortex (Hare), though, when given pure, the anoxemia is probably a contributory factor. Complete anesthesia occurs in from fifty to sixty seconds and lasts for from thirty to fifty seconds. With oxygen the anesthesia can be prolonged indefinitely. Claude Lyons administered nitrous oxid with 15 per cent. oxygen to a dog for three consecutive days. Recovery occurred in fifteen minutes and there were no appreciable after-effects. Clinically, recovery occurs almost as soon as the mask is removed.

The anesthesia is much lighter than that of chloroform or ether and the patients are usually not so tranquil or completely relaxed. In favorable subjects, with proper percentages of oxygen, normal sleep is closely simulated. It is rarely followed by nausea or vomiting.

Careful studies by Kemp show that there is no direct effect on the heart and vasomotor systems, but here also a rise of arterial pressure is caused by the slight intercurrent asphyxia.

As the result of recent work concerning its effect on the blood, Hamburger and Ewing conclude that nitrous oxid produces no permanent or surgically significant changes, while ether and chloroform both produce slight anemia. Chloroform causes, in addition, hemolysis.

Respiration is primarily stimulated, but unless air or oxygen be admitted, it is secondarily depressed and finally ceases from muscular spasm. These phenomena are purely asphyxial and are avoided by suitable percentages of air or oxygen. Slight cyanosis is commonly an accompaniment of its administration, but is to be disregarded.

No changes in any of the body structures have been demonstrated. It has been thought that the use of this drug produces temporary glycosuria, but recent studies render this extremely doubtful (Hare).

INDICATIONS

It should be employed in all cases in which chloroform and ether are contra-indicated. Bevan urges its employment on account of its greater safety, absence of unpleasant symptoms, the little or no resulting nausea, and its rapidity of action. He asserts that it is the anesthetic of choice for the reduction of fractures and dislocations; for the opening of felons; for breaking up adhesions in joints; for draining empyemas and lung abscesses; for exploratory laparotomies and gall-bladder work; for nephrotomy, nephrectomy and nephrolithotomy; for bladder work, such as suprapubic lithotomy and prostatectomy; for draining appendiceal abscesses; for colostomy, gastrostomy and enterostomy; for the repair of typhoid perforations and for gastric and duodenal ulcers; in hernia operations, especially for the relief of strangulated hernia; for varicocele and open operations for hydrocele; in castrations; in amputations except at the largest joints; and in removing such growths as fatty tumors.

CONTRA-INDICATIONS

On account of its asphyxial tendencies with consequent venous congestion, increased blood-pressure, and muscular spasm, pure nitrous oxid should not be employed: in cases with narrowed or obstructed air-passages, as in association with hypertrophied tonsils, goiter, etc.; in cases with extremely bad hearts from either valvular or myocardial disease; in very young children; or in advanced arteriosclerotics.

These contra-indications may all be met by the administration of suitable percentages of oxygen.

ADVANTAGES

1. Safety at time of administration and later in absence of respiratory, circulatory, or nephritic complications or acid intoxication.
2. Rapidity.
3. Comfort of patient both in induction and absence of postanesthetic vomiting.

DISADVANTAGES

1. Narrow zone of anesthesia with consequent uncertainty of muscular relaxation and freedom from reflex movements.
2. Necessity of skill in administration. (This cannot be considered a valid objection.)
3. Cost of apparatus and of gases (from $4 to $6 per hour for the latter).

ADMINISTRATION

This is conducted by means of some form of special apparatus, the exact technic depending on the one employed. Satisfactory ones have been devised by Hewitt, Gwathmey, Cunningham, Teter, etc., the principle of all of them being the same. I employ Teter's.

Air is less applicable than oxygen for employment with nitrous oxid, on account of the large percentage of inert nitrogen which it contains. The administration is usually conducted with pure nitrous oxid for the first thirty or forty seconds, oxygen being then admitted and gradually increased. Generally speaking, from 4 to 6 per cent. of oxygen is applicable for men and from 6 to 8 per cent. for women and children, though the variations may be within wide limits, the indications being to avoid cyanosis and jactitation on the one hand and restlessness and talking on the other.

SEQUENCES

For routine use, I employ the nitrous oxid and oxygen-ether sequence. The advantages are as follows:

1. Greater safety than ether alone on account of lessened amount of ether inhaled and elimination of stage of excitement, in which many of the reported fatalities have occurred.
2. Saving in time, the patient being unconscious in forty or fifty seconds, and usually in third ether stage in three or four minutes.
3. Much pleasanter for patient in induction and in lessened postanesthetic vomiting. The latter is probably due to lessened swallowing of ether-laden mucus during induction.
4. With the Teter and Cunningham apparatus there is, in addition, less liability to ether bronchitis and

pneumonia and surgical shock on account of the inhalation of warmed and thoroughly mixed ether vapor; and lessened consumption of ether, owing to the inhalations only passing through it.

The nitrous oxid and oxygen-ether-chloroform sequence may be employed to eliminate the dangerous induction period of chloroform anesthesia, when it is desirable to employ that anesthetic.

SURGICAL PATHOLOGY OF THE PROSTATE

REVIEW OF 468 CASES [*]

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AND
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ROCHESTER, MINN.

We have recently reexamined the specimens and reviewed the data from all cases of operations on the prostate in this clinic from Oct. 28, 1904, to June 1, 1911. The series, comprising as it does 468 cases, is large enough to warrant placing the observations on record for comparison with the conclusions of previous observers.

Since the publication of the studies of Young, Geraghty and Stevens in 1906, the only comprehensive memoir which has appeared is that of von Frisch, last year. Therefore, we have discussed elsewhere the subject of the prostate, some what at length, deeming it advisable to review therein the essential points in the anatomy and the physiology as well as the pathology of the gland. In thus adding to our own observations a somewhat full review of the data and discussions of others concerning the normal and the pathologic conditions of the prostate, we have hoped not alone to stimulate interest in this organ, but also to place in convenient form the more important facts and theories concerning it, as a basis for future studies. Herein we shall confine ourselves to a somewhat brief recital of the main points in our paper, referring the reader elsewhere for the more detailed discussion of them.

ANATOMY

During the third month of fetal life the mesoblastic tissue surrounding the lower ends of the Müllerian and Wolffian ducts becomes differentiated in association with a thickening of the wall of the primitive urethra. Simultaneous with this the epithelium of the sinus urogenitalis throws off three groups of buds (Pallin) on each side. These buds consist initially of solid cordons of epithelial tissue which penetrate into the annular mass of mesoblastic tissue surrounding them. The glands do not acquire a lumen until after birth.

Shape.—The prostate is, geometrically, an oblate conoid, flattened dorsoventrally, with its base upward and its apex resting on the triangular ligament. The transverse diameter is usually 1/5 to 1/4 more than the base-to-apex diameter of the gland.

Weight.—For comparative purposes, all adult prostates weighing under 16 gm. may be considered abnormally small, all weighing from 16 to 24 gm. normal in size, and all weighing 24 gm. or more as abnormally increased in size.

Subdivisions.—From the posterior aspects the prostate is a bilobular bilaterally symmetrical organ. In its posterior border is a notch, from which a palpable groove extends to the apex, marking the course of the urethra. The slightly convex lateral lobes lie to the right and left of this groove.

In our unabridged article we have discussed rather in detail and presented the illustrations of Tandler and Zuckerkandl's recent contribution on the important question of prostatic hypertrophy. In an especially adapted and extensive series of cases these investigators have demonstrated that hypertrophy of this gland always begins in the *middle lobe,* that total hypertrophy never exists, since atrophy is also present, and that the *surgical capsule* is composed of prostatic tissue. Consequently, prostatectomy is an *intraprostatic* procedure. Based on their observations, which showed that the hypertrophy always involved the portion of the prostate toward the bladder, Tandler and Zuckerkandl hold that operation through the bladder-route is the method of choice. A description of the technic from the anatomist's standpoint is also given.

The verumontanum, or colliculus seminalis, is a long elevation, about 3 mm. high, composed mostly of cavernous tissue and situated near the middle of the posterior wall of the pars prostatica urethræ. It declines at both ends, and on its anterior reclivity is a fine slit-like opening, the exit of the uterus masculinus.

The uterus masculinus is a pear-shaped, longitudinal pouch, extending upward and backward to the base of the prostate, and ending between the ejaculatory ducts. Normally it is 10 to 12 mm. in length, lined with mucous membrane and surrounded by a circular layer of muscle.

The ejaculatory ducts, which transmit the secretion of the seminal vesicles, pass obliquely through the prostate from above, opening into the pars prostatica urethræ dividing it into a proximal and distal portion.

Relations.—From a pathologic standpoint the more important relations of the prostate are the following: (a) the base is in intimate contact with the floor of the bladder; (b) the posterior surface is separated from the rectum by only sparse tense, cellular tissue, poor in fat; (c) the body of the gland embraces a considerable portion of the urethra (pars prostatica urethræ); (d) it communicates with the seminal vesicles and the ejaculatory ducts; (e) it likewise communicates through the vas deferens with the epididymis and the testicles.

Structure.—The prostate possesses a fine fibromuscular capsule of its own which is firmly adherent. It completely invests the gland, and sends a median septum inward, which surrounds the urethra and gives off a number of thinner partitions which divide the parenchyma of the gland into about forty lobules.

In addition, the organ is fixed in its position by fibrous tissue which has been designated by A. Retzins as the "ligamentum pelvio-prostaticum capsulare." This possesses partly the form of an envelope and partly the structure of band-like strips spreading into the enveloping portion and connecting the prostate with the pubis (the ligamentum puboprostaticum).

The visceral layer of the pelvic fascia, first described by Desnonvillers, is lifted up from the pelvic fascia laterally and posteriorly, appears as an application—Waldeyer—of this fascia, on the prostate. From this it passes over the bladder, enclosing the upper surfaces of the plexus pudendalis, the plexus vesicoprosfatici, the seminal vesicles, and the ampulla of the ductus deferentes. Between the rectum and the prostate the sapsule is strongest.

The muscular element of the prostate is made up of unusually fine, unstriated fibers. The second sphincter muscle (sphincter vesicæ [Henle], sphincter prostaticus

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[*] Abridged from an article read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

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[Kohlrausch]) is formed of striated as well as smooth muscle-fibers. Striped muscle-fibers also pass between the two sphincters on the anterior surface of the prostate. In the interior of the gland the muscular element is a dense fibromuscular mass surrounding the urethra. Through this mass pass the prostatic ducts. Spreading out from it in all directions are muscular bands consisting of transverse and longitudinal fibers. While these usually follow the connective tissue framework, in many places they form by themselves the interalveolar septa without admixture with any discernible fibrous tissue. Here and there they form circular or looped structures which embrace the gland lobules. Frisch holds that it is the smooth muscle of the prostate proper which forms the sphincter vesicæ internus.

The parenchyma of the prostate consists of from fifteen to thirty-two distinct glandular systems, each opening by an independent excretory duct into the urethra. Some anatomists describe these gland units as terminal and others as an alveolar type. The terminal alveoli are found scattered throughout the gland, so that a section at any level shows both alveoli and ducts.

We have never seen a tunica propria about any of the alveoli, which agrees with the observations of other recent workers. Instead, the epithelium rests directly on the smooth muscle or fibrous connective tissue.

While in the alveoli of the adult prostate a double layer of epithelium is frequently encountered, it is an open question whether such a formation is normal or not. Langerhans says: "In all alveoli a double layer of cylindrical epithelium is present."

The cylindrical epithelium lines the glands throughout except near the orifices of the ducts where transitional epithelium similar to that of the urethra is present.

Islands of lymphoid tissue are not infrequently found in the prostate. Weski, who has carefully studied these, notes their analogy to those found by Waldeyer in the dog's prostate. He mentions the possibility that the structures may be pathologic, but believes, on account of the entire absence of other evidences of inflammation in the same glands, and on account of the known presence of similar lymph follicles in other glands, that they may be considered physiologic.

The arteries arise principally from the inferior vesical artery. A few small branches also arise from the middle hemorrhoidal and internal pudendic arteries. They enter the periphery at numerous points, penetrate the gland and divide, forming a close capillary meshwork within the alveolar walls.

The veins form a rich plexus within the gland tissue and around the ducts. They emerge from the organ laterally and pass in part into the rich plexus within the capsule, and in part beneath the mucous membrane in the region of the orificium internum and the colliculus seminalis. Bordering on the anterior surface of the prostate, behind the ligamentum arcuatum pubis and under the edge of the symphysis pubis is the plexus pubicus impar, which receives not only the blood from the prostate, but also from the deep dorsal veins of the penis, communicates with trunks from the bladder, seminal vesicles and rectum and is continued as the prostatovesical plexus to the internal iliac veins.

The lymphatics form a wide-meshed network on the surface of the gland. Within the organ they are richest at the base and most sparse at the apex. Compared with the blood-vessels their course is surprisingly tortuous. The lymphatic plexuses on each side form two trunks, a superior and a lateral. The superior pass to the obturator lymph-nodes of the pelvis and the lateral to the internal iliac lymph-nodes (Sappey). The endothelial cells of the lymphatics are characterized by a very finely granular protoplasm.

The nerves of the prostate take their origin from the inferior hypogastric plexus of the sympathetic. The organ is richly supplied with nerves and contains, chiefly on its periphery, ganglion nodes, numerous isolated ganglion cells and a great number of variously constructed end-organs. As a delicate plexus they pass from the seminal vesicles. In this plexus are present fibers from the anterior roots of the third and fourth sacral nerves.

The nerve end-organs on the outer surface of the prostate have been known for a long time. In the mucous membrane of the pars prostatica, von Planner has found numerous bulbous nerve-endings which are situated in the more superficial layer of the membrane and which are sometimes plainly visible as elevations. The recent elaborate and painstaking studies of Timofeew have shown that the prostate contains a most complicated system of nerve-fibers and nerve-endings.

PHYSIOLOGY

In order to appreciate the physiology of the prostate three points must be considered: first, its function as a secreting gland; second, its muscular apparatus, particularly the sphincter formation; and third, its extraordinary wealth in nerve-fibers, ganglion cells and nerve end-organs.

As a secreting gland the prostate undoubtedly belongs to the sexual organs. The secretion of the prostate is a very essential factor of the spermatic fluid. Up to the time of puberty the gland undergoes a rapid growth and reaches its complete development only after that time. After the loss of the testicles in childhood the gland is arrested in its development; after castration of the adult it becomes atrophied.

Casper's work with dogs of the same litter showed that double-sided castration resulted in all cases in a marked diminution of the prostate and most decided changes in its glandular structure. Neusser notes that the persistence of the prostatic secretion, in many cases for a long time after castration, and the actual power of coition in the eunuch, which is lost only after years, indicate that an independent function must be attributable to the prostatic gland or to the innervating apparatus. Fürbringer has shown that the so-called "Böttcher" or "spermatic crystals" arise from the prostate. He succeeded in demonstrating the crystals by evaporation of the prostatic secretion secured from fifty-six autopsies (90 per cent.).

Besides the Böttcher crystals one finds constantly in the prostatic secretion large, colorless, moderately refractive, round granules. These produce the milky cloudiness and, judging by their reactions, consist chiefly of lecithin. The filtrate contains albumin but no mucin.

Spermatic crystals are not present in prostatic secretion secured by rectal palpation of the living. Ammonium phosphate, however, added to such expressed secretion causes the formation of the crystals. Fürbringer therefore concludes:

> For the formation of the Böttcher crystals observed in the ejaculated spermatic fluid, the secretion of the prostate affords the basic portion, whereas the phosphoric acid necessary thereto is contributed by the other components of the spermatic fluid.

In the dead body the post-mortem degeneration of the epithelium probably furnishes the necessary phosphoric acid. The characteristic spermatic odor is probably an attribute of combinations of the Schreiner base in dissolved form. Fürbringer demonstrated that the secretion of the prostate causes the normally motionless spermatozoa, as they are stored in the seminal tract, to become motile.

The descriptions found in the literature of the appearance of the prostatic secretion as clear, glossy, thready, etc., are incorrect, as Fürbringer explained. The secretion is a thin fluid of milky cloudiness, slightly acid or neutral in reaction and of a highly characteristic odor.

Percy has shown that spermatozoa quickly die in contact with uterine mucosa without the admixture of prostatic secretion, while in the presence of this secretion they remain alive three to eight days. Steinach has pointed out that simultaneous extirpation of the seminal vesicles and the prostate, while not interfering with the power of copulation, nullifies the capacity of begetting.

That the prostate possesses an internal secretion which acts on the external secretion of the testicles, vas deferens and the seminal vesicles, is strongly suggested by the work of Serralach and Parès. They found that after the removal of the prostate from dogs the secretion of all the sexual glands ceased, spermatozoa were no longer to be found and the testicles became atrophied. When injections of glycerin extract of the prostate were made after the prostatectomy, atrophy of the testicles did not occur, ejection remained, and spermatozoa were demonstrable in the ejection.

The arrangement of the smooth muscles of the prostate, longitudinally about the glandular tubules and circularly about the alveoli, is such that their contraction empties the gland of its accumulated secretion. According to Lusena, the quantitative relation of the muscles and glands of the prostate varies according to the age of the individual. In middle life the muscles and glands are present in the same amount. In old age the muscles are developed at the expense of the glands. Between 25 and 30 years of age the genital activity of the prostate reaches its highest point. Between 45 and 50 years the fibromuscular layer becomes relatively more extensive, a sign of beginning age.

The mechanism of the bladder closure and the emptying of the urine may be properly ascribed to the sphincters of the prostate, Rehfisch and Posner to the contrary notwithstanding. The closure of the bladder is cared for by the smooth sphincter internus muscle which remains in a state of tonus. This tonus must relax when there is need to pass urine and then the effect of the detrusor muscle comes into action.

Frisch calls special attention to the fact that while the unstriated muscles of the internal sphincter may be the usual mechanism for closing the bladder, yet the auxiliary muscles of the perineum can assist in producing the same effect by an energetic voluntary contraction, a fact which is important in prognosis after prostatectomy.

It is probable also that the numerous ganglia situated in the prostate and bladder hold an important function in the closure of the latter and in urinary discharge, and that these must be looked on as centers.

In regard to the nerves of the prostate all the motor and vasomotor fibers in the nervi erigentes and nervi hypogastrici, which arise from the inferior mesenteric ganglion, reach the prostate. Stimulation of the erigentes has a negative result, or, in the beginning, the excretion of a considerable amount of secretion, which is then followed by a cessation. On the contrary, stimulation of the hypogastrici produces a continuous, genuine secretion. If a cannula be introduced into the urethra in connection with a long upright tube, the level of the fluid mounts rapidly upward through stimulation of the nervi erigentes and sinks again downward as soon as the stimulation is suspended. Under similar conditions, if the hypogastrici be irritated, then the entire tube becomes filled and the fluid flows out from above. The erigentes, therefore, only press the secretion out of the gland, which secretion has been produced by the stimulation of the hypogastrici, so that these are the real secretory nerves. Stimulation of the central stump of one of the hypogastrici, with its fellow intact, produces secretion, and does this even when the inferior mesenteric ganglion has been separated from the remaining sympathetic fibers and, consequently, separated also from the central spinal cord.

PATHOLOGY

INFECTIONS OF THE PROSTATE

1. Acute Prostatitis.
    - A. Catarrhal.
    - B. Follicular.
    - C. Parenchymatous.
    - (Segond's classification; also held by Guyon).
2. Chronic Prostatitis.

Etiology.—As idiopathic primary processes they are rare and, excepting as complications of gonorrhea, infrequent.

Causes attributed by various authors are: from without, injuries due to horseback riding, bicycle riding and similar exercises; from within, unsuitable introduction of instruments, too frequent and unclean catheterization, lithotripsy, abortive injections, too severe cauterization of the pars prostatica (especially with the pencil—Guyon), unnecessary duration of the self-retaining catheter, caught stones and foreign bodies, stricture of the urethra.

Disposing causes are: congestions and irritations in the rectum (hemorrhoids, foreign bodies, fissures, fistulas, proctitis and periproctitis), chronic obstipation, dysentery and enteritis, venereal excess, masturbation, coitus reservatus, metastases in pyemia, typhus, measles, small-pox, croupous pneumonia, parotiditis, influenza, tonsillitis, carbuncle, furuncle, phlegmonous angina, gout, syphilis, cystitis, stones in the bladder, prostatic hypertrophy, and infection by way of the blood.

By far the most frequent cause is gonorrhea. Prostatitis can follow not only every acute gonorrhea of the posterior urethra, but also every stage of chronic gonorrhea. The older the latter, the more frequently will the prostate be found diseased. Whereas the infection is usually from the posterior urethra, many admit its possibility from the anterior urethra—perhaps by way of the lymph channels. Opinions as to the frequency with which prostatitis follows gonorrhea vary within wide limits. These differences are explained as probably due to errors and difficulty in diagnosis: those holding high percentages including in their statistics the mild, but more frequent cases; and those quoting low percentages limiting their diagnoses to severe parenchymatous prostatitis alone. The weight of evidence, however, appears to favor the opinion that prostatitis is a frequent complication of gonorrhea.

In our series of 468 cases, seven were tuberculous. Tuberculosis of the prostate is principally a disease of the young adult, though our meager list of cases does not show it.

With regard to its etiology it is highly improbable that heredity is a predisposing cause, though it has been suggested by a number of observers. It is also unlikely that acute local hyperemia, or acute inflammations, as in sexual excesses, acute cystitis, etc., predispose to tuberculosis. Chronic inflammations, on the other hand, may do so. There is no basis for the supposition that direct infection may come from without. Infection takes place most frequently through the blood-stream. The well-known tendency of the prostate to exhibit evidences of infection in typhoid fever, glanders, etc., is analogous to the condition which probably obtains in tuberculosis, namely, that the organ is one in which even small amounts of bacilli circulated in the blood are caught and stored up. That the prostate may be the only organ of the body secondarily affected by tuberculosis is shown by the number of cases reported as permanently cured after prostatectomy.

Secondary disease of the prostate may be developed from the epididymis or, more rarely, from the kidney or the seminal vesicles. Baumgarten and Krämer have shown that the extension of tuberculosis in the urogenital tract follows the stream of the secretions and rarely proceeds against the stream. It must be noted, however, that several portions of the urogenital system may be affected simultaneously and independently of each other through the blood-stream.

The tuberculous prostate is frequently more involved in one lateral lobe than in the other. The periphery of these lobes is the most frequent site of tuberculosis. In all of our cases the disease was confined to the lateral lobes and not in the neighborhood of the urethra.

Microscopically, the tubercle bacilli are usually demonstrable between the epithelial cells and in the borders of recent tubercles. Secondary infections are occasionally present, producing suppurative softening and abscess instead of ordinary caseation. Staphylococci and, more frequently, *B. coli communis* are usually the accessory pathogenic organisms. Halle and Motz hold that surgical interference should not be attempted in cases with acute secondary infection.

In case of infection from the intestine the micro-organisms pass directly from the intestine through the inflamed wall into the prostate. Infection by way of the blood is to be assumed when a direct transmission from the urethra, from the intestine, and by way of the lymph-channels can be excluded. This holds for primary suppurative prostatitis as well as for the chronic form.

Acute Prostatitis.—The ordinary picture in text-books is misleading. These describe the symptoms of the severe parenchymatous type, making that the typical picture of acute prostatitis, whereas both the lighter forms, namely the catarrhal and the follicular, are much more frequent.

A. Catarrhal Prostatitis: Acute gonorrheal catarrah of the prostatic gland is undoubtedly the most frequent form of acute prostatitis, and it is very likely that acute posterior urethritis cannot run its course without involving the gland. The gonococci pass quickly into the excretory ducts and produce a deep-seated process, involving prostatic glandules, utriculus, ejaculatory ducts, and even the seminal vesicles.

B. Follicular Prostatitis: This is developed as a rule from acute gonorrheal catarrh. It occurs frequently as a sequence of posterior urethritis, but can even be associated with chronic prostatitis. There is stagnation of the secretion, due to obstruction of the openings, and the process leads to the formation of abscesses. Jadassohn designates these as "pseudo-abscesses," since the suppuration exists in preformed cavities. The cut surface in the lateral lobe presents little points of thick pus.

C. Parenchymatous Prostatitis: This involves the entire gland. The lighter forms are designated as hyperemia or congestion of the prostate. The organ is doubly, even quadruply, enlarged, feels hard and tense. The blood-vessels on the surface are redundantly filled with blood. The cut surface of the prostate is more markedly reddened than in the healthy organ. On pressure there is expressed a reddish and somewhat cloudy fluid—a mixture of lymph and serum—arising from blood out of the filled capillaries, also from prostatic fluid and a small amount of pus, since one sees merely a few pus cells under the microscope.

Chronic Prostatitis. — Etiology: Guyon and Fürbringer consider chronic prostatitis a rare condition, whereas Finger, Frisch, Posner and several others hold that it is common.

Gonorrhea is the most frequent cause. Other causes mentioned are onania and other sexual excesses, stricture, cystitis—chiefly where ammoniacal urine is present—vesical and prostatic stones, catheterization and other traumata, and hypertrophy. Stern speaks of prostatic affections in diabetics and bases his opinion on the fact that, when such patients are placed on a diabetic diet the symptoms subside, to recur when the diet is again withheld.

In the case of gonorrheal prostatitis the striking changes take place almost always at the caput gallinaginis. This is either symmetrically or asymmetrically enlarged, its mucous membrane loosened and possesses here and there papillary excrescences, or is thickened like a cicatrix.

A point worthy of note is the fact that a genuine new formation of glandular tubules is to be observed on the glands in many cases, a point which, up to the present time, has been only superficially mentioned by Albarran. This glandular new formation is at times of such a kind that an adenomatous-like structure arises. However, there is always seen in the immediate vicinity inflammatory foci, often in very luxuriant growth and in direct communication with the real inflammatory center, so that there is no doubt of the causal relationship between the inflammation and the glandular development.

Hypertrophy.—Statistical Data: In our series of 468 prostatectomies, 387 cases (83 per cent.) were hypertrophy, the remainder being cases of tuberculosis or neoplasms. The ages of the patients whose prostates showed hypertrophy only were as follows by decades:

50 to 60 years of age............	65	(17 per cent.)
60 to 70 years of age............	194	(50 per cent.)
70 to 80 years of age............	116	(30 per cent.)
80 to 90 years of age............	12	(3 per cent.)

It will be seen from the above figures that all of the patients were above 50 years of age, and that 83 per cent. were above 60. Thus all the patients may fairly be assumed to have passed the most active period of sexual life. Of these patients, 78 per cent. were married, 18 per cent. were widowers and 4 per cent. were single.

Of our 387 cases, in only seventy was the parenchyma increased without apparent increase of the stroma. In but seventeen the stroma was increased without any apparent increase of the parenchyma, while in 300 cases there was increase of both stroma and parenchyma. In 205 of the cases the increase in the muscular element was sufficiently prominent to be noted. While, of course, these observations do not cover microscopically every portion of the gland removed, they have been made on sections selected in each case from a number of different areas.

In 266 cases there was present a round-cell infiltration ither diffuse or somewhat circumscribed. In these cases t was usually impossible to say whether or not the ound-cell infiltration was lymphoid or inflammatory issue.

Etiology: With regard to the etiology of prostatic ypertrophy no hypothesis has yet been advanced adeuately harmonizing the facts. Elsewhere we have disussed the various causes that have been cited by investiators, but such detail must be omitted here.

Whatever may be the initial stimulant or the broad iologic factor which lies at the base of the prostatic ypertrophy, we are inclined to think that the following teps represent the usual development of the disease.

1. There is an initial hyperplasia of the parenchyma, arked microscopically by high cylindrical epithelium ith swollen nuclei, which resemble in all respects ctively secreting epithelium in other well-studied lands. That these epithelial cells are actively secreting further shown by the presence in early stages of relaively large amounts of secretion, which is distinguished rossly from that of the normal prostate. This parenhymatous hyperplasia is frequently so great as to result n the development of marked infoldings of, and papilferous proliferation from the alveolar walls, sometimes rried to the extent of completely bridging the alveoli.

2. Apparently the second stage of hyperplastic develpment, though not a definitely limited one, is that of tention within the alveoli and tubules of the secretion. his retention may be due to beginning exfoliation of e epithelium, and it may be due in part to blocking f the excretory ducts of the individual gland-units by beginning concomitant muscular hyperplasia.

3. The third stage is parenchymatous degeneration, hich in the hypertrophied prostate is marked by rophy or exfoliation of the epithelium. The first of ese processes is shown by the flattening of the epitheal cells, the reduction in size of the nuclei, and the iffuse staining of their protoplasm. The second process, foliation, may and frequently does occur in epithelium hich is still in the high columnar, secreting phase. trophic epithelium is usually associated with swollen stic acini. Exfoliations occur in any acini, but are nsest and best-preserved in large acini. Exfoliation ay be so extensive as to present a picture of completely nuded alveoli or cyst-walls. The stripping of the ithelium from the papilliferous projections and alveor bridges leaves these as slender, fibrous projecting or idging structures.

4. Early in the development of parenchymatous hyperasia there begins a muscular overgrowth which reprents, apparently, an attempt on the part of Nature to pel from the gland the retained secretion. Our cases, wever, do not show a large percentage in which the uscular hyperplasia greatly outweighs the element of rous connective-tissue overgrowth.

5. The overgrowth of fibrous connective tissue in the pertrophied prostates in our cases is the most constant ctor, though it must be borne in mind that many cases ming to operation may fairly be assumed to have long ssed the stage of active parenchymatous and muscular perplasia. The fibrous connective tissue may well have origin not alone in acting as a supporting frame-work r the increased glandular elements, but also in metaasia of the smooth muscle-elements. In the normal ostate the muscular and fibrous connective tissue are blended that it is readily conceivable that with overowth and overfunction the unstriated muscle fiber may, by steps of gradual transition, change into fibrous connective tissue as a terminal stage in the life history of the muscle cell.

Tandler and Zuckerkandl state that the usual classification of the lobes from external form alone is incorrect. They hold that the lobes should be classified according to the zones of glandular distribution, which is supported by the embryology of the prostate. Thus considered the organ is divided into anterior lobe, middle lobe and two lateral lobes. The ducts of the anterior lobe open on the anterior urethral wall opposite the veru montanum, those of the middle lobe on the posterior wall of the urethra, proximal to the veru montanum, and the ducts of the lateral lobes are found on both sides of that elevation. The middle lobe lies between the urethra and the ejaculatory ducts, and, as recent anatomic examinations have demonstrated, is the starting point of prostatic hypertrophy.

Neoplasms.—The question that has seemed to us uppermost in the minds of physicians inquiring into the results of research on the prostate has been: "What is the percentage of malignancy?" Viewed in the light of a comparison between the statistics of recent investigators and those of the older writers, that question is decidedly pertinent.

The extremely limited recognition of malignancy in the prostate up to the time of Thompson's contribution in 1854, and the gradual increase in its recognition from that date to the present, are a stimulus to keener observation and study of the prostate with regard to neoplasms. Tanchou's statistics, compiled by Thompson, showed but five cases of prostatic cancer among 8,289 patients, who had died from cancerous disease. Among 548 cases of cancer in the Billroth clinic, von Winiwarter found only one case of prostatic cancer.

These figures sufficiently emphasize the extreme rarity of the recognition, in earlier days, of malignancy in the prostatic gland.

In 1854 Thompson contributed the first available statistics on the subject, having cited eighteen cases from the English and the French literatures. In 1866 Wyss reported twenty-eight cases, including those of Thompson. Since that time other reports have been made as follows: Socin (1875), fifty cases; Kapnste (1855), 114 cases; Engelbach (1888), 114 cases; Wolff (1899), 110 cases. Young has reported sixty-eight carcinomata among 250 enlarged prostates, which had been extirpated. Belfield has made the observation that 10 per cent. of all hypertrophies are carcinomata. In our series of 468 cases there were seventy-three (15.5 per cent.) carcinomata. Sarcoma of the prostate is relatively rare. Kaufmann cited twenty-four cases, and eleven others have since been added to that number by various investigators. Although the statistics of some writers have shown a higher percentage than the above, a more exact examination of their material has not confirmed their figures, and indicate that Kaufmann's statistics are to be considered the basis for judgment as to the frequency of sarcoma in this gland.

In this brief historical review may be noted the steady advancement during the past half-century in our knowledge of malignant growths in the prostate. Although the statistics of recent investigators vary within somewhat wide limits as to frequency of its occurrence, yet it should be a generally recognized fact that carcinoma of the prostate is a comparatively frequent disease, and that sarcoma of the prostate, though relatively infrequent, does occur.

These neoplasms may be present in the gland both primarily and secondarily. Cancerous and sarcomatous nodules—the latter by far the more infrequent form—have been observed in cases in which the primary foci were situated in various organs. The primary tumor has been found most frequently in the rectum, less often in the urinary bladder, the seminal vesicles, on the penis, in the stomach (Engelbach), the lungs (Fenwick), and the dura mater. Kaufmann held genuine metastatic growths of the prostate to be extremely rare.

Malignancy in the prostate is observed from earliest childhood to late old age. Carcinoma is more prevalent in the latter decades of life, and sarcoma in the beginning years.

Of our patients
1 was between 40 and 50 years of age.
9 (12 per cent.) were between 50 and 60 years of age.
29 (40 per cent.) were between 60 and 70 years of age.
30 (41 per cent.) were between 70 and 80 years of age.

The middle period is relatively free from malignancy in this organ. The youngest patients observed were children 6, 8 and 9 months old (Rose, Socin, Bree). Since, undoubtedly, the beginning of development is to be dated much earlier, Klebs held as not unlikely that the process may at time be referred even to the intra-uterine period of life.

Pathologic Anatomy: Of the seventy-three cases, fifty-one (69 per cent.) showed marked glandular hypertrophy, as was evidenced microscopically by papilliferous projections into the acini. In thirty cases (41 per cent.) there was definite muscular atrophy, and in sixty-one cases (83 per cent.) the fibrous stroma was increased. In ten cases (13 per cent.) there was no evidence of associated hypertrophy in the sections examined from the glands, leaving 87 per cent. in which there was evidence of hyperplasia. Whether in these cases the hypertrophy was primary and the carcinoma implanted thereon, it was impossible to determine, though in many microscopic sections the apparent transition by almost imperceptible variations from simple hyperplasia to undoubted carcinoma was observed.

Usually one can be moderately certain of the cancerous nature of the tissue on gross inspection alone. When the operator's knife, in making capsular incision, cuts through tense tissue which does not bulge, the edges of which are firm and ridged, suspicion should be at once aroused. It has been our experience that carcinoma in no tissue, with a possible exception of small tumors of the breast, removed at the surgical clinic was more apt to escape diagnosis grossly than that of the prostate, so that it is our inevitable custom to make frozen sections from various areas of the removed gland and report to the surgeon while the operation is in progress.

Etiology: The etiology of carcinoma of the prostate is completely unknown as is that of carcinoma elsewhere. Albarran and Hallé insist on a definite relationship between prostatic hypertrophy and carcinoma. Among eighty-six hypertrophied prostates they found, in twelve, changes in the epithelium, which they thought to be different grades of carcinomatous degeneration. When one considers the difficulty of accurate diagnosis, however, especially in cases of carcinoma of the prostate, all such instances as the above must be regarded with some suspicion, unless all of the tissue of the prostate was removed at the original examination and a careful microscopic investigation made thereof.

While we may consider it fairly well established that isolated epithelium, whether from inherent or external stimuli, exhibits a tendency to proliferate and infiltrate, and while the observations of many workers record series of pictures such as those described by Albarran and Hallé, yet we must be conservative in our interpretation of these apparent transitional stages of hyperplasia into carcinoma. Likewise, we must examine most critically all clinical data, such as the observations of Prédal and others, suggesting the same line of development.

Metastases: Many prostatic carcinomas show a marked tendency to seize on neighboring structures, particularly the floor of the bladder, seminal vesicles and rectum. The lymph-glands in the region of the prostate are the first to become infiltrated with cancer. After that, the retroperineal and inguinal glands become involved. Metastases to distant organs are common, and should always be as carefully as possible excluded in clinical examination before operative procedure. They are frequently present in the lungs, liver, spinal column and long bones. Von Recklinghausen, Sasse, Brown, Kolisko, Frisch and others have emphasized the importance of seeking for small carcinomata in the prostate, breast or thyroid in cases in which extensive metastases in the bones have been found at autopsy. Von Recklinghausen says:

> If, in the female, cancer of the vertebra breaks forth with unspeakable pain, as a rule, one does not err if he assumes the original focus to be in the breast. In such cases the primary focus may reach only to a very small size.

Frisch says:

> Perhaps just as frequently may the causative rôle for general carcinoma in man fall to the lot of prostatic cancer as to the lot of the breast-gland cancer in the female. We know how difficult it is to recognize prostatic cancer with the naked eye, how little it destroys the tissue, how very much more it tends to produce induration so that only the typical involvement of regional lymph-glands discovers and facilitates the diagnosis.

As prostatic sarcomata develop they involve the bladder wall and neighboring structures. The neighboring lymph-glands are usually affected, but distant lymph-glands rarely. Metastases to other distant organs—lungs, liver, etc.—are also uncommon, though instances have been reported.

With regard to the histologic type of tumor, the round cell is the most common, and after this the spindle cell Angio-, lympho-, myxo-, adeno-, enchondro-, leiomyo- and rhabdomyosarcomatous forms have also been reported.

In concluding this incomplete review of an important subject, we trust, that, at least, our aim to stimulate keener interest in the study of the prostatic gland has been successful. It is a regrettable fact that many otherwise well-informed physicians seem to be almost unaware of the existence of this organ. At least they are prone to ignore its rôle in the production of a train of symptoms which they frequently ascribe to a "weak bladder" or "kidney disease." Often patients die of the sequelæ of prostatic hypertrophy, or directly from prostatic carcinoma, without ever having had a rectal examination. Patients have been operated on for chronic appendicitis when their symptoms were really due to carcinoma of an unexamined prostate. In every case of gonorrhea in the male the possible involvement of the prostate should be remembered and the patient warned at the time, of the troubles probably in store for him in the future.

A rectal examination should be a routine procedure with all males presenting themselves for diagnosis of obscure abdominal as well as genito-urinary troubles.

A CASE OF HYPERIDROSIS UNIVERSALIS WITH CONTINUOUS FEVER *

HENRY HERBERT, M.D.
LOS ANGELES

History.—The patient, E. Gr., 22 years of age, clerk, is the only child of his parents, who are living and healthy. As a child he had measles and some lung disease, otherwise he was healthy up to the age of 12, when his present ailment of constant sweating commenced. He lived formerly in the Middle West, came four years ago to Los Angeles, worked three years as a bell-boy in a hotel and has for the last year acted as bank messenger, having sought the occupations of bell-boy and clerk as being most suitable for his condition.

He perspires continually and the perspiration stops apparently only when he is in fresh air or in a draft; during sleep it stops only when he is exposed to a draft and fully uncovered. His perspiration increases indoors, in the theater, in church or by sitting still, and by exposure to the sun; he perspires also during rain or snow; his condition is aggravated after meals, after drinking cold water or warm drinks. His appetite is and always has been good, but he drinks a great deal of water. His bowels are regular; he looks normal and healthy. A peculiarity about his sweating is that the suprascapular and occipital region of both sides remain always dry (anidrosis).

His weight has for the last two years been about 120 pounds; for four years his temperature ranged from 99 to 102 F., and the following data were recorded by me at various times:

	Temp. F.	
Feb. 6, 1909, 2 a. m.	99.4	
" " " 8 a. m.	99.2	
" " " 3 p. m.	100.0	
May 1, 1909	99.6	
June 1, 1909,	101.0	
Sept. 28, 1909	99.2	
February, 1910	99.2	
March, 1910	100.4	Pulse, 96-120
May 26, 1911	99.8	Pulse, 108
June, 1911	99.0	Pulse, 96

He complains of weakness, inertia and nervousness; on deep nspiration he has vertigo; in throwing back his shoulders he eels numbness and formication over the dorsum of the two ast fingers of both hands. Occasionally, he sees black spots ancing before his eyes, becomes dizzy, and in the past has ad attacks of amaurosis. His knee-reflexes in 1909 were ardly perceptible. They are promptly elicited in 1911.

His blood was examined May 5, 1909, by Dr. Eleanor Seymour of Los Angeles, and revealed the following interesting acts:

Hemoglobin	90	per cent.
Red blood-corpuscles	6,040,000	
White blood-corpuscles	10,280	
Neutrophils	53	per cent.
Lymphocytes	21	per cent.
Eosinophils	14.5	per cent.
Large mononuclears	10	per cent.

Quite different are the findings by Dr. D. C. Ragland, of Los ngeles, June 28, 1911:

Red cells	5.700.000	
White cells	7.600	
Polymorphonuclear leukocytes	48	per cent.
Small lymphocytes	38	per cent.
Large lymphocytes	9	per cent.
Eosinophils	3	per cent.
Mast-cells	1	per cent.

Examination.—The ophthalmic and cutaneous tuberculin sts were negative. The examination of the urine proved to e negative; chest and abdomen apparently normal. On pressure over transverse processes of the sixth or seventh vertebra f both sides, I elicited considerable pain in the patient.

Pressure on the third sympathetic ganglion, or irritation of it causes hyperidrosis; paralysis or destruction of it causes anidrosis. In our case we had hyperidrosis, probably due to pressure, and partial anidrosis, probably due to paralysis of the respective nerves.

Profuse sweating has been caused by irritation of the cervical sympathetic in animals. According to Riehl, hyperidrosis may just as well be explained by the irritation of the vasodilators as by paralysis of the vasoconstrictors.

Friedlander reports observations by others of unilateral hyperidrosis, in diabetes mellitus, in general paralysis, temporary dementia, in mental diseases, in hemiplegia, in tabes, etc.

Many cases of unilateral hyperidrosis have been reported in otherwise healthy persons. In some individuals, hyperidrosis universalis occurs often, but only for a brief period; in others it is habitual and continuous. As a morbid function of the skin it usually lasts many years and is found almost exclusively during middle life. The immediate cause of the hyperidrosis is always located in the capillaries of the integument, especially of the coil glands and papillæ.

These conditions are regulated by the vasomotor (sympathetic secretory) nerves. We may thus understand how a profuse secretion of sweat, either general or local, may appear under the influence of mental excitement, fright, confusion, or local pains, as the result of a stimulus which is either reflex or starts from the central organs. This has also been shown experimentally. On making a section of the cervical sympathetic, Claude Bernard found that the vascular paralysis was associated with profuse perspiration in the paralyzed parts.

In one case of hyperidrosis of the left side of the body, Frankel and Ebstein found stasis of blood-globules in the vessels of the corresponding cervical sympathetic. In one case, which affected the left side of the head, Riehl noted, in addition to the same findings in the vessels, interstitial cellular infiltration of the superior ganglion of the cervical sympathetic.

Disturbances in the sympathetic of the neck are still obscure, and most of the lesions described in literature are spoken of as lesions of the sympathetic of the neck. Such lesions, affecting probably the superior ganglion or the whole length of the sympathetic, must differ in their clinical manifestations from isolated or strictly localized lesions. It seems that in the present case there is no disturbance of the superior or middle ganglion as the respective ocular symptoms are wanting. On the other hand, it has been proved experimentally as well as by autopsy that lesions of the inferior ganglion may produce symptoms as present in that case. In general, we will find lesions of the inferior ganglion produced by exostoses, aneurysmal tumors pressing on ganglion, or by inflammatory conditions in and around the ganglion.

1524 Magnolia Street.

ABSTRACT OF DISCUSSION

Dr. James T. Fisher, Los Angeles: I had the pleasure of examining this gentleman in my office a year or year and a half ago. He attracted a great deal of attention and the case was brought before our county medical society. At the time I examined him his physical condition was absolutely negative with the exception of the symptom that you see here—the sweating. His pupillary reaction was normal; his knee-jerks were not normal. In view of the fact of his age, and various factors which I will not go into, to me it is fairly evident that this man is suffering from an ordinary form of hysteria, and I am not inclined to think that it is other than that. Perhaps you will say that that does not explain all of his symptoms. Even so, I cannot account for this condition except as coming under the general classification of ordinary hysteria.

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* Read in the Section on Nervous and Mental Diseases of the merican Medical Association, at the Sixty-Second Annual Session, eld at Los Angeles, June, 1911

Dr. Harold N. Moyer, Chicago: This appears to be a new find, or is at least a very rare symptom-grouping. With such exceptional findings a certain degree of modesty in suggesting a diagnosis is becoming. There are certain salient symptoms which are not explainable under any theory that I know of regarding the association of symptoms: First, the sweating; second, the presence of six million red cells; third, a marked eosinophilia; and fourth, a persistently elevated temperature. These make a symptom-grouping that I have never seen associated. The case presents a new combination of symptoms, and possibly a new disorder.

Dr. George A. Moleen, Denver: I have been very much interested in this case, but from the start it appeared to me on a functional basis. Someone has said that nothing could be present in hysteria but what could be produced by suggestion. I would like to ask if suggestion has been used in this case as a means of differential diagnosis. It has come within the experience of men who have used hypnotic suggestion that it is quite easy to produce either localized or general sweating to influence the temperature and produce other changes of equally remarkable natures. However, that would not account for the blood changes which occur in this case. The absence, however, of organic symptoms, or symptoms of tissue change, and the fact that the functional disarrangement which would produce or lead to the sweating can be reproduced by suggestion, lead me to believe that it is on a functional basis.

Dr. F. E. Murphy, Kansas City, Mo.: May I ask when this estimate of eosinophils was made?

Dr. Henry Herbert: Last year.

Dr. F. E. Murphy: Fourteen per cent. of eosinophils is certainly a symptom that necessitates some consideration. It would be interesting to know the percentage of eosinophils at this time. Possibly a year ago there was an intestinal parasite or something of that sort giving eosinophils. It would be interesting to know at this particular time how much the symptom observed a year ago is evidenced. There is one feature I observed, and that is the condition of this boy's vascular system. Several of us palpated his blood-vessels, and there are certainly marked changes in them. I am disposed to believe that there is something more than functional trouble in this instance.

Dr. Henry Herbert, Los Angeles, Cal.: The temperature was taken regularly and always by the mouth for a period of from two to five minutes. Suggestion has not been used in this case. In regard to the eosinophils, that suggestion of reexamining the blood of the patient is a very good one. I am at a loss to say what the diagnosis is. One interesting feature leads me to believe that it is a lesion of the third sympathetic ganglia: first, the intense pain on pressure; then, the accepted rule, or accepted experiment or experience, that irritation of the sympathetic ganglia, especially of the third on one side shows a unilateral sweat, whereas the paralysis of that center shows anhidrosis. Now, we have general sweating on both sides, pain on both sides on pressure over the third sympathetic ganglia. At the same time, over that ganglia in that approximate region, or the region which is supplied by the approximate nerves, there is anhidrosis—no sweating at all. That would indicate a general irritation of the sweating center and a paralysis of those nerves supplying that area—the suprascapular region. If there is any process, fibrosis or chronic inflammation, to furnish the ganglia with some pressure, that would account for that anhidrotic area, and at the same time irritation of the entire sympathetic ganglia. The symptom-grouping, as one of the speakers mentioned, with the eosinophils, speaks against the supposition of a functional disorder or hysteria. I think that symptom is based on a permanent disorder, probably a disorder of the nervous system

HOW OUR THERAPEUTICS CAN BE IMPROVED *

BOARDMAN REED, M.D.
LOS ANGELES

Tremendous advances have been made in therapeutics during the past two decades, advances which it is needless to enumerate to educated medical men. But there remains yet room for improvement. There are still failures in treatment, many of which could be avoided by a more perfect mastery of all the conditions which confront those charged with the high duty of endeavoring to heal the sick. This can be attained only by raising the standard of the doctorate to a yet higher plane, so as to assure for every practitioner a better knowledge of all that pertains properly to the science and art of healing and the auxiliary medical sciences, together with clinical experience under instruction. Such a training with industry and patience would assure an accurate diagnosis in every case in which such a diagnosis is practicable, followed by the best possible treatment.

Improvement must result from a more thorough study of (1) man and his organs and functions in both health and disease, including especially diagnosis; (2) a more intimate acquaintance with all the reliable remedies, medicinal, mechanical and psychologic from whatever source, a knowledge which shall recognize the fact that the more active ones seem to be capable of exerting either of two opposite actions according to the dose.

A very large proportion of the failures in treatment, whether made by regulars, sectarians, quacks, counter-prescribers or self-dosers, is due to a wrong diagnosis. No method of treatment is likely to prove helpful when prescribed in the wrong case; very frequently then it does harm. Innumerable patients die because the diagnosis is made too late, the medical attendant not having obtained needed counsel in time. Other failures and often much mischief result from continuing too long and in large dose a remedy which may have done good at first. Sometimes the failure is in consequence of too small a dose having been prescribed. I have seen cases of hyperchlorhydria and ulcer of the stomach or duodenum aggravated by 10- or 15-gr. doses of sodium bicarbonate and yet afterward promptly relieved and finally cured with the help of teaspoonful doses of the same drug well diluted and combined, when necessary, with 30 to 40 gr. of bismuth.

On the other hand, while drop doses of the wine of ipecac will relieve some forms of nausea, and severe vomiting often yields to drop doses of Fowler's solution, *à la* Ringer, and a threatened miscarriage is stopped by the tincture of cimicifuga every hour in the same small dose, as I frequently proved in my general-practice days, any one who would try these medicines in the usual doses in such cases would surely aggravate them.

Evidently, then, it would be a gain to our therapeutics if medical students were plainly taught that tissue-disturbing drugs are capable of producing opposite effects according to the dose. This was demonstrated to my own satisfaction twenty-three years ago by a careful study of the elaborate reports of numerous experiments conducted by eminent pharmacologists in England and Germany especially. My conclusions, though questioned, have never been refuted. They were published first in the *Practitioner* (London), and after ward in this country. In a large experience since 1888, they have been amply confirmed. The matter was summed as follows:

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session held at Los Angeles, June, 1911.

1. A relatively small dose always at first stimulates the parts (nerve-centers, nerves, glands, muscles, membranes or other tissues) which the drug specially affects.

2. A sufficiently large dose (pushed far enough) always finally paralyzes the parts which the drug specially affects.

3. A moderate or medium dose may first stimulate and afterward depress, finally paralyzing if repeated often enough.

Lander Brunton was quoted in the same paper as having stated in his "Pharmacology" that "this opposite action of large and small doses seems to be the basis of truth on which the doctrine of homeopathy was founded," following which he proceeded to criticize the fallacies of Hahnemann.

But after all, the most important point in therapeutics s to have a correct, an exact and also an early diagnosis. Thousands of persons are to-day taking hydrochloric acid and pepsin or some other exciting digestive aid for that vague entity, "stomach trouble," when the proper examination would show hyperchlorhydria or ulcer which could only be made worse by any form of acid. Nearly as many more are being dosed with alkalies when they need a contrary line of medication. Still others, suffer-ng from a ptosis of one or more of the abdominal viscera—and their name is legion, especially among the women—are receiving various lines of treatment from drugs to osteopathy and from Christian Science to a four-weeks' fast with no possible benefit, when most of hem would be relieved at once by having their displaced organs replaced and held up thereafter by either an operation, or, as I have seen in hundreds of cases, by a properly fitted abdominal supporter.

Instances could be multiplied indefinitely of failures n cases in which the diagnosis was in doubt, and yet, no consultation was had for economic or other reasons. Being no longer an aspirant for practice, I can afford to peak plainly and condemn strongly any guessing or prolonged dilly-dallying about the nature of an obscure llness whenever a consultation would probably clear up he doubt. When in such a case the patient or family efuse a consultation, the attendant would be justified n retiring from it. When, on the other hand, the amily ask for a consultation and the medical attendant objects, he could have no cause for complaint if asked o make way for a broader-minded man.

Probably in no other feature is the usual current herapeutics more open to improvement than in the reatment of constipation. No affection is more common mong civilized people and none is more generally reated ineffectively. The resort to purgative drugs for luggish bowels is well-nigh universal. Patients rarely eek medical advice for the trouble early but dose them-elves with laxatives till it has become chronic and ggravated. Even then, they will not often accept any urative treatment which involves time and expense, uch as a course of massage, electricity or mechanical ibration (especially intra-rectal), some one of which, r a combination of them, nearly always proves effective n skillful hands, with the indispensable laxative diet nd regulated exercises, often even in chronic advanced ases. Doctors should warn such patients emphatically hat neither purgatives nor the milder laxatives ever ure constipation, and that, when continued very long, hey may render it incurable by any method.

The diet in most chronic affections is a factor of the very greatest consequence. A more thorough study of dietetics would immensely improve the therapeutics of the average practitioner of whatever school or system.

The modern exact methods in the diagnosis and treatment of gastro-enteric affections should receive more attention in our medical colleges. If every practitioner were required to master them, or not having done so, would seek help from specialists in that line, not only in his frankly stubborn abdominal cases, but also in countless other obscure affections, he would very often be helped sooner to find the key which would solve the difficulty and obviate a harmful prolonged dependence on hypnotics or other inappropriate drugs.

While iron and arsenic will generally cure anemia after the cause has been removed, quinin and arsenic nearly always cure true malaria, and mercury and the iodids have rarely failed to rid the system in time of syphilis, to say nothing of salvarsan, it would be well if everybody, including practitioners of all sorts and the laity, could be impressed with the fact that many of the most powerful remedies are capable of doing harm in large or long-continued doses and that their safe and useful employment is often limited to the tiding over of emergencies or crises or the relief of intolerable pain, and that the cure can usually be accomplished only by a removal of the cause. In a very large proportion of chronic cases at least, the cause is some violation of health laws which demands a radical change in the patient's habits. Much of the present ineffective therapeutics results from attempts to cure people of maladies while they are continuing the bad habits which caused them.

No one can set bounds to the possibilities which may develop from the many new lines of treatment recently introduced, the antitoxins, the internal secretions from various glands, etc. The results already achieved with them afford great hopes for the future of therapeutics.

After all, however, our best and most permanent cures will not result from drugs or other special lines of treatment alone, but from supplementing these by hygienic measures, by inducing our patients to live regular and temperate lives, eating and drinking simply and never to excess, chewing all food thoroughly, taking sufficient exercise and sleep, spending as much time as possible out in the open air and sunshine and, through abundant ventilation night and day, breathing pure air whenever practicable.

South Granada Avenue.

CARCINOMA OF THE CLITORIS *

CHARLES D. LOCKWOOD, M.D.
PASADENA, CAL.

Tumors of the clitoris are of infrequent occurrence, and malignant tumors are rare. The histopathologic study of these tumors has been neglected, and many of the reported cases are not accompanied by a pathologic report. I wish to report a case.

Patient.—Mrs. K., aged 70, mother of two children, healthy, except for her present complaint. For six years she has suffered from painful micturition and irritation about the vulva. For the past year the pain on urination has been almost intolerable. She would refrain from micturition as long as possible, and then lie on her abdomen to urinate in her effort to assuage the pain. Treatment for vaginitis and irritating urine had only partially relieved her pain.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Because of lack of space the review of the literature is here omitted. It is given complete in the Transactions of the Section.

Examination.—Labia minora edematous and pale. At the site of the clitoris and to the right was a small, angry-looking, oblong mass, about 2 cm. long by 0.5 cm. in breadth. This mass was ulcerated at two points and necrotic, and intensely sensitive. Urethra, vagina and uterus were normal; urine normal; no palpably enlarged glands.

Operation.—Wide excision of labia minora and tumor mass in the region of the clitoris. Tissues were dissected down to the periosteum of the pubic bone. Urethra left intact. There was free hemorrhage, requiring many ligatures. Wound closed with buried catgut and kangaroo tendon, permanent catheter in bladder.

Postoperative History.—Wound healed without suppuration, and with complete relief of symptoms. Pathologic report showed epithelioma of the clitoris. Eight months later, the patient returned with enlarged inguinal lymph-nodes. These were removed, and microscopic examination showed metostatic growth of the same histologic character as the tumor of the clitoris. After a short period of freedom from pain, the deep inguinal lymph-nodes and those lying along the deep saphenous vein became involved. The entire right leg became edematous, there was rapid emaciation, and death occurred two years after first operation. No autopsy.

The appearance of epithelioma in this region is quite characteristic. Occupying the site of the clitoris is an intensely red, angry-looking, oblong tumor. There are irregularly shaped ulcers, with indurated base, elevated above the surrounding tissues, and varying in size from a ten-cent piece to a dollar. The surfaces of these ulcers are covered either by necrotic sloughing tissue, as in my case, or by fleshy granulations which bleed easily. The borders of the ulcer are hard, elevated, uneven, and covered with granulations. The edges of the ulcer are sharply cut, rose-red in color on their inner aspect, and covered with scabs at their periphery.

ETIOLOGY

Irritation plays an important rôle in the production of cancer in this region as in other parts of the body. Among predisposing causes are, psoriasis and pruritus vulvæ, pregnancy, injuries and cicatrices of labor, irritating discharges, eczema, syphilitic ulceration and inflammatory conditions in the surrounding tissues.

CLINICAL COURSE

Epithelioma in the region of the clitoris gives rise to few symptoms and signs in the early stages. At first, there is slight burning and pain on micturition, but these symptoms are in no way characteristic, and might be due to cystitis or caruncle. As the ulceration extends, pain increases, and there is often a foul discharge with the characteristic odor of cancer. Glandular involvement is late, affording a good prognosis if removal is early and complete.

In my case, there were no palpable glands, and yet recurrence took place in eight months. Future operations for malignancy in this region should follow the rules governing the surgery of epithelioma in other regions, i. e., early and complete extirpation of the tissue involved, with all glands receiving the lymphatic drainage of the area.

Sectarianism.—"Do not give yourself up rashly and blindly to any sect. Sects are implacable despots; to accept their thraldom is to take away from one's actions and thought all liberty."—Saying attributed to Nicon, father of Galen.

ISOLATION OF BACILLUS TYPHOSUS FROM A WELL

D. M. LEWIS, M.D.
NEW HAVEN, CONN.

According to Chapin, typhoid fever organisms have been identified in drinking-water by the agglutination tests but four times, as quoted from Gotschlich, and since by Wesbrook from the Mississippi River, and by Fox from the Scranton reservoir.

To these six I would add another. On June 28, 1911, I received two specimens of water for analysis from a country home from which a maid had been removed to the hospital that day as a case of typhoid fever. May 11, 1911, she had been sent there to open the house for occupancy; she began to feel ill June 19, and went to bed June 24. The supply of drinking-water was from a bored, stone-laid well of approximately 20 feet depth, subject to the surface wash of the cellar floor. From April 15 until May 15 laborers were at work on the premises, cleaning the well on the former date. The maid and one other did not leave the premises at all during the period stated, and on May 16 the family of ten arrived for the season. Stored in the cellar were several barrels of cider, which later showed evidence of having been freely tapped by the laborers. There was no record of previous typhoid on the premises, or of any association of a typhoid patient or carrier with the household. The bath-room and all taps were supplied from a large storage tank filled from a distant artesian well.

The two samples of water sent in were not labeled, and while identified by me as quart milk bottles with different dealers' stamps, were identified by the sender as one with a partial crack due to sterilizing, and one not cracked. The former showed chlorin content of 1.9 gr. per gallon, absence of nitrites, less than 0.1 gr. per gallon oxygen consumed in fifteen minutes at 212 F., and a negative presumptive test for colon bacilli in lactose-bile with 10 c.c., 1 c.c. and 0.1 c.c. at seventy-six hours. Plates, lactose-bile-agar, in duplicate, showed 1,000 odd colonies after forty-eight hours, the greater proportion microscopically resembling the colon-typhoid group; morphologically a motile Gram-negative cocco-bacillus, not producing gas in dextrose or lactose media, and tested against three serums of known typhoids, gave a reaction in all three in one-half hour, dilution 1 to 100; against the dried blood of six suspects, gave the reaction (approximately 1-to-40 dilution) in but one, as was the case with the stock typhoid culture. Since, I have used it parallel to a stock culture in upward of fifty bloods and in one case obtained a reaction from a dried blood at the seventh day, whereas the stock culture gave it only at the tenth day.

The other sample showed a chlorin content of 1.5 grains, absence of nitrites, oxygen consumed less than 0.05 and a negative presumptive colon test. Plates in duplicate showed 120 and 128 colonies, none suggestive microscopically of the colon-typhoid group.

While the first sample was identified as that from the bottle with the partial crack, and, according to the sender, as from the well, to be absolutely sure, duplicates properly labeled were sent for identification on June 30 together with a spring-water sample from a source near the lodge of the premises. The chlorin content and the oxygen consumed identified the samples, yet more surely plates revealed in duplicate the situation above stated though somewhat less typhoid organisms in the later sample. It was quite definite that the sample that showed the typhoid bacilli was from the house well, and considering the chemical partial analysis and the negative colon test, it seemed very reasonable that urine could be the only condition giving rise to the situation.

With the vaccination of the entire household and nothing further transpiring after three months, and with the above record, I consider that I am justified in assuming the contamination of the well by some of the laborers mentioned, and that the contamination was urinary in origin.

193 York Street.

REBREATHING IN ANESTHESIA

(Concluded from page 1599)

ABSTRACT OF DISCUSSION

ON PAPER OF DR. GATCH

Dr. Yandell Henderson, New Haven, Conn.: It seems to me dangerous to have a man breathe for any length of time through a long tube in that way. Too much stress is laid on various fixtures; there seems to be too much ventilation. We used to think we should give the patient plenty of oxygen; this apparatus is designed to keep carbon dioxid in. We already have a tube, the trachea. A man told me this morning of a case in which the trachea and blood-vessels were cut and as soon as he sewed up the trachea the man began to breathe normally. That shows that in order to keep a man breathing vigorously he must breathe through a tube, and Nature provides it. When a man breathes through his mouth he gets more ventilation than when he breathes through his nose. Carbon dioxid is a diffusible gas; if the skin is off and there is congestion and disturbed vascular conditions it is because of the absence of carbon dioxid; if carbon dioxid is put over the surface these changes do not occur. We do not draw fresh air into our lungs. It would be the simplest matter in the world for Nature to have devised a mammal as a long breathing animal in which the lungs collapsed every time; it would be a simple matter for the thorax to go down until the lungs collapsed completely; then when we took a respiration we would draw fresh air in. But it does not work that way; to a large extent it is an effort to prevent carbon dioxid from getting out rather than to get oxygen in.

Dr. J. F. Hultgen, Chicago: The case Dr. Henderson referred to came to me accidentally. There being no surgeon around, no one but interns, I had to sew up the man's trachea, which he had cut with suicidal intent. He was fainting from ack of blood when he came to the hospital. The man coughed and sputtered around on the table and so we anesthetized him through the tracheal opening. His breathing was very shalow, and I had an intern stand with a stethoscope to hear if the heart was beating (it had been suggested that we let the man alone, as he would die anyway). I put in two or three sutures on either side, not touching the cartilage, and as soon as I had these sutures in I had the intern tighten them, he holding them on one side and I doing the same on the other side, thus approximating the two ends of the trachea. As soon as we did this, the up and down movements of the chest became very extensive—more so than normal. It seemed to me this might be made use of in a great deal of thoracic work and lung surgery; that artificial tracheotomy of this sort might be advantageous. This was such a remarkable case that he nurses and those around were called to witness it. The author has brought up an interesting point about anesthesia. When I was an intern we used to give the anesthetic with a cone; we had the patient sleep for hours with this cone, pouring in a dram or two of ether at a time. The carbon dioxid heory of Dr. Gatch I think offers a good interpretation for his.

Dr. W. D. Gatch, Baltimore: I do not oppose the use of he old-fashioned etherizing cone. It can probably be used so s to meet the physiologic requirements more nearly than an open mask.

REJUVENATION OF CULTURES OF TISSUES *

ALEXIS CARREL, M.D.
NEW YORK

The duration of the life of cultures of tissues, up to now, has been very brief. In approximately from three to fifteen days after the preparation of the culture, the growth becomes progressively less rapid until it stops altogether. Following this, the tissues die and the cells disintegrate.

It may easily be supposed that senility and death of tissues are not a necessary phenomenon and that they result merely from accidental causes, such as accumulation of catabolic substances and exhaustion of the medium. The suppression, then, of these causes should bring about the rejuvenation of the arrested culture and thus increase considerably the duration of its life. As it would be important, for many reasons, to keep tissues alive outside of the organism for a long period of time, I attempted to develop a method for the rejuvenation of the cultures of tissues.

The rejuvenation consists in removing from the culture substances that inhibit growth and in giving to the tissue a new medium of development. It is accomplished by extirpating with a cataract knife the fragment of coagulated plasma containing the original piece of tissue and the surrounding new cells, which are washed for several minutes in normal or slightly hypotonic Ringer's solution.

Afterward, the fragment is placed in a hypotonic medium composed of three parts of normal plasma and two parts of distilled water. The time of rejuvenation is chosen before the appearance of the changes of senility or when they are just beginning to appear. The process described is repeated more or less frequently according to the rate of the growth and the condition of the cells.

The results of rejuvenation were studied on cultures of connective tissue. The original connective tissue was taken from the spleen, the skin, the pericardium, and the portal vein of sixteen- to twenty-day-old chick fetuses. The first rejuvenations were made when the cultures were still in the period of full growth or at the beginning of the declining period. A few hours after the passage into the new medium, elongated cells or chains of cells radiated through the plasma, and the growth went on rapidly. The washing and passage into new media were repeated when the rate of growth decreased or when large granulations appeared in the cytoplasm of the cells.

Many of the cultures were rejuvenated five, six, seven, eight and even nine times. It was observed that after the seventh or eighth passage, fusiform cells appeared in the new medium as rapidly as after the second or the third passage. Thus, the occurrence of senility in these cultures was prevented and the length of their life very much prolonged. A culture of portal vein after the ninth rejuvenation is still growing actively on the thirty-first day of its life outside of the body.

These results demonstrate that rejuvenation of the cultures of tissues is possible. They show also that, under the conditions and within the limits of the experiments, senility and death are not a necessary, but merely a contingent, phenomenon.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

THE INFECTIVITY OF THE SECRETIONS AND THE DESQUAMATING SCALES OF MEASLES *

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Director Hygienic Laboratory
AND
JOSEPH GOLDBERGER, M.D.
Passed Assistant Surgeon, U. S. P. H. and M.-H. S.
WASHINGTON, D. C.

I.—SECRETIONS

In a previous communication[1] we reported two experiments with nasal and buccal secretions from cases of measles. In the first experiment we inoculated three monkeys with secretions obtained from a patient about twenty-four hours after the first appearance of the eruption. None of these animals gave any recognizable evidence of a reaction. In the second experiment we inoculated monkeys serially with secretions obtained from a patient on each of three successive days, beginning with the appearance of the eruption. The results of these serial inoculations, checked by passage experiments, clearly demonstrated that the mixed buccal and nasal secretions in this case were certainly infective at the time of the beginning rash and again forty-eight hours later. After the publication of these results an opportunity to carry our experiments further and, if possible, to determine the duration of infectivity of the secretions, presenting itself, we made inoculations from five additional cases at various periods of the disease.

In each case the secretions were obtained by irrigating the nose and mouth with saline solution and the inoculation was made by injecting beneath the skin of the ventral aspect of the thigh. As a rule, an abscess would form within twenty-four hours and this we promptly evacuated by free incision. Healing, as a rule, was rapid.

The inoculations with their results may be briefly summarized as follows:

Case 9.—Secretions obtained three or four days after beginning of the rash; Rhesus 94 a and Rhesus 94 b .inoculated (this pair of animals having given no evidence of a reaction in a previous experiment with secretions, we inoculated them from this case). Result: No evidence of reaction.

Case 10.—A. Secretions obtained about twenty-four hours after the first appearance of the rash; Rhesus 129 and Rhesus 130 were inoculated. Result: Rhesus 129 gave some indications of a reaction which, however, were not characteristic; Rhesus 130 gave doubtful indications suggestive of a mild febrile reaction.

B. Secretions were a second time collected from this case, five days after the appearance of the rash; Rhesus 133 and Java 134 inoculated. Result: Rhesus 133 presented a slight rise in temperature after six days, not sustained; Java 134 presented a slight rise in temperature sustained for three days. These may have been reactions, but it is extremely doubtful and no definite interpretation is possible.

Case 11.—A. Secretions obtained not less than six hours before beginning rash; Rhesus 131 and Rhesus 132 were inoculated. Result: Neither animal presented any recognizable reaction.

B. Secretions a second time, collected four days after beginning rash; Rhesus 137 and Bonnet 138 were inoculated. Result: Monkey 138 died of a cachexia four days after inoculation; No. 137 presented no recognizable reaction.

Case 13.—Secretions obtained three days after beginning of rash; Rhesus 139 and Rhesus 140 were inoculated. Result: Neither animal presented any recognizable reaction.

Case 18.—A. Secretions obtained when eruption was beginning; inoculated Rhesus 135 and Java 136. (These animals had previously been used with negative result in an experiment with "scales," to be described later.) Result: Rhesus 135 presented a rise in temperature which was thought to mark a beginning reaction, but passage from this animal was negative, and as it was killed by the operation of bleeding, the clinical character of the reaction could not be observed; Java 136 presented a suggestive rise in temperature, of short duration, twenty-five days after inoculation. These results, though suggestive, we consider doubtful.

B. Secretions obtained again, four days after beginning of rash; Rhesus 147 and Rhesus 148 were inoculated. Result: Both animals gave indications suggestive of mild reactions, but not positively interpretable.

C. Secretions collected the third time, five days after beginning of rash; Rhesus 153 and Rhesus 154 were inoculated. Result: Rhesus 154 developed peritonitis and died; Rhesus 153 presented only doubtful indications of a reaction.

It would appear then that the nasal and buccal secretions in Cases 9, 11 and 13 were not infective for the monkey and that those from Cases 10 and 18 may have been mildly infective, but a definite interpretation is not possible.

Combining the results obtained in our first two experiments with those of the five here reported and viewing them as a whole, it would appear that the nasal and buccal secretions of uncomplicated cases of measles may be at times, but are not always, infective for the monkey.

Whether this applies to the human subject is another question; but it may be of interest to recall, in this connection, that Mayr[2] failed in one of his two human experiments to infect a child with nasal mucus from a case of measles in the eruptive stage.

We may add that the seven cases from which we obtained secretions in the foregoing experiments, while all well marked, were none of them characterized by severe catarrhal symptoms. In most of them, indeed, lacrimation and coryza were comparatively slight. This may have a significant bearing in explaining the results of our experiments.

Our experiments do not permit us to draw definite conclusions as to the duration of the infectivity of the secretions, but we think that our results tend to suggest a reduction, if not total loss, of infectivity with the approach of convalescence.

II.—SCALES

The rôle of the measles scales in the transmission of the disease has long been the subject of discussion, some observers claiming that they are infective and others that the disease is incapable of being transmitted by this means. Among the latter was Mayr[3] who, using the desquamating epithelium, failed in his attempts to inoculate children with measles by this means. On account of the important practical bearing which this question has, it seemed desirable to put it to experimental test. Accordingly, we made three attempts with epidermal scales to inoculate monkeys with measles.

Experiment 1.—The "scales" in this experiment were obtained from our Case 10, five days after the appearance of the rash, by briskly rubbing the forehead, cheeks, chin, back of neck, chest and back with a swab of absorbent cotton moistened with saline solution. The liquid pressed out of this swab

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* From the Hygienic Laboratory U. S. Public Health and Marine-Hospital Service.

[1] Goldberger, Joseph, and Anderson, John F.: An Experimental Demonstration of the Presence of the Virus of Measles in the Mixed Buccal and Nasal Secretions, The Journal A. M. A., Aug. 5, 1911, p. 476

[2] Mayr, Frantz: Beobachtungen über Masern, etc., Ztschr. d. k. k. Gesellsch. d. Aerzte zu Wien., 1852, i, 13-14.

[3] Mayr, Frantz: Masern, in Virchow's Hand. der speciel. Path. u. Ther., 1860, iii, Part 3, p. 106.

was divided between Rhesus 135 and Java 136, the injection being beneath the skin of the ventral aspect of the thigh, precisely as in our "secretion" experiments. The results of these inoculations we consider negative.

Experiment 2.—In this attempt we used "scales" from four patients, namely, Nos. 14, 15, 16 and 17. These patients were in different stages of desquamation, varying from the beginning of, up to the seventh day of, convalescence. The "scales" were scraped from the face and arms of Case 14; from the forehead, neck, back and arms of Case 15, and from the forehead and temples of Cases 16 and 17, and all were mixed. With these mixed scales we inoculated two monkeys, namely, Rhesus 143 and Rhesus 144, as follows: The scales were divided into two portions; one was rubbed up in saline solution and the other allowed to remain dry. Some of the latter was introduced into the nose of each monkey by means of a glass rod and washed back with some of the saline suspension; the remaining saline suspension of scales was equally divided and injected subcutaneously. Neither monkey developed any indications of a reaction.

Experiment 3.—The scales for this experiment were obtained by scraping the face, forehead, temples, neck, arms and back of our Case 18, four days after beginning of the rash. These scales were rubbed up in saline solution and this suspension about equally divided between Rhesus 145 and Rhesus 146, the injection being beneath the skin. Neither animal gave any indications of a reaction.

The absolutely negative results of these three experiments would indicate that the "scales" employed were not infective for the monkey. Alone these experiments would hardly justify the inference that the desquamating epidermis in measles is not infective for man; but when viewed in the light of Mayr's results in children, we believe it highly probable, if not altogether certain, that the desquamating epithelium of measles, in itself, does not carry the virus of the disease.

On account of the cessation of the epidemic of measles in the city of Washington we have been obliged to bring our work temporarily to a close. The work which we here record and that which we have previously reported[4] in brief, we hope to publish in detail in a bulletin of the Hygienic Laboratory.

We desire again to express our grateful appreciation to our many friends who have aided us with cases of measles and to our colleagues at the laboratory and at Ellis Island for valuable assistance in the experiments.

Concentration of Energy.—Sir William Ramsay, in his presidential address before the British Association, says that "the whole progress of the human race has indeed been due to individual members discovering means of concentrating energy, and of transforming one form into another. The carnivorous animals strike with their paws and crush with their teeth; the first man who aided his arm with a stick in striking a blow discovered how to concentrate his small supply of kinetic energy; the first man who used a spear found that its sharp point in motion represented a still more concentrated form; the arrow was a further advance, for the spear was then propelled by mechanical means; the bolt of the crossbow, the bullet shot forth by compressed hot gas, first derived from black powder, later, from high explosives; all these represent progress. To take another sequence: the preparation of oxygen by Priestley applied energy to oxid of mercury in the form of heat; Davy improved on this when he concentrated electrical energy into the tip of a thin wire by aid of a powerful battery and isloated potassium and sodium."

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[4] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: A Preliminary Note, Pub. Health Rep., June 9, 1911, xxvi, 847. Experimental Measles in the Monkey: A Supplemental Note, Pub. Health Rep., June 16, 1911, xxvi, 887. The Period of Infectivity of the Blood in Measles, The Journal A. M. A., July 8, 1911, p. 113. An Experimental Demonstration of the Presence of the Virus of Measles in the Mixed Buccal and Nasal Secretions, The Journal A. M. A., Aug. 5, 1911, p. 476. The Nature of the Virus of Measles, The Journal A. M. A., Sept. 16, 1911, p. 971.

PHENOL (CARBOLIC ACID) GANGRENE

EVERETT J. BROWN, M.D.
DECATUR, ILL.

Although many cases of gangrene from the use of phenol have been reported in recent years, they were mostly the result of the application of wet phenol dressings to the fingers or toes. In the case which I report here, the gangrene was due to the use of phenolized petrolatum in treating a bruised finger-end. The ring finger was affected. The mother stated that the physician had extemporaneously mixed the petrolatum and phenol; hence the strength was unknown. It did not whiten the finger, however, and the gangrene did not develop for several days. The finger was completely black and not painful except at the line of demarcation. Amputation of the whole finger was required. The boy was 5 years of age.

The cases reported by Harrington several years ago were mostly due to the use of phenol solutions in varying strengths applied as wet dressings to the fingers, but the above case emphasizes his warning of the danger of using phenol in any form as a dressing for fingers or toes.

SODIUM PERBORATE AS A DRESSING IN THE TREATMENT OF DIABETIC GANGRENE

A. HERZFELD, M.D.
NEW YORK

I have, in the past three years, extensively used sodium perborate and published a short article[1] on the treatment of epistaxis with this drug in 1909, in which the method of its use was exactly described. Further, I have used it successfully, not only in epistaxis, but also in secondary hemorrhage after adenoid operations and tonsillotomies.

I have used sodium perborate frequently in infected wounds, in acute and chronic ulcers, and in three cases of diabetic gangrene, in which the results were so marked, that I wish to report these cases.

CASE REPORTS

Case 1.—L. W., aged 48, up to two years previous enjoyed good health, had a family history of diabetes. For the previous two years he had been suffering from diabetes. In September, 1909, the patient had a phlegmon of the large toe of the left foot, which reached to the metatarsus. This was operated on. During the healing of this infection the third toe on the same foot began to become gangrenous; in a few days a line of demarcation formed; the patient refused amputation. The dead tissue was removed with the scissors, a dry sodium bicarbonate dressing had been used, but seemed to have no influence on the process. From October 15 sodium perborate was used by daily covering the whole surface with the dry powder (in the beginning twice daily). The wound rapidly developed healthy granulations, and Jan. 15, 1910, the patient was discharged completely cured. The sugar percentage varied from 1 to 3. Acetone was present. The patient died six months later of a complicating nephritis.

Case 2.—V. C., aged 42, female, colored, up to four years previously was in good health; since that time she complained of severe pains in muscles and joints, probably of rheumatic origin. Examination Oct. 5, 1909, revealed a large abdominal tumor (myoma) extending to the umbilicus, a loud systolic murmur over the mitral valve with hypertrophy (mitral regurgitation). On the inner surface of the left thigh was an ulcer of the size of a silver dollar, edges black and gangrenous, with flabby granulations. The patient stated that she had, fifteen years prior, a "sore" on the vulva. This ulcer on the thigh was treated as of luetic origin. The result was deterioration in the patient's condition and no improvement whatsoever in the ulcer. The urine was examined Nov. 2, 1909, and showed sugar but no acetone. The ulcer was now dressed with dry sodium perborate powder. It began to heal and was completely healed by Dec. 26, 1909.

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[1] The Journal A. M. A., March 13, 1909, p. 890.

Case 3.—S. H., aged 54, had a family history of diabetes; one brother died of Raynaud's disease. The patient, during a severe attack of pneumonia after an influenza, had numerous injections of camphor in oil (1 camphor to 4 sterilized olive oil) given, which injections caused six gangrenous ulcers on the thigh. Three of these coalesced and made an ulcer 3 inches in length and 1½ inches in width, and when the gangrenous material was removed was ½ inch deep. The wound was dressed twice daily for six weeks, Jan. 17 to March 3, 1911, with sodium perborate in powder form and slowly but steadily healed completely. The patient during this time had 1 per cent. of sugar but no acetone.

All of these patients were placed on appropriate diet and general treatment for diabetes.

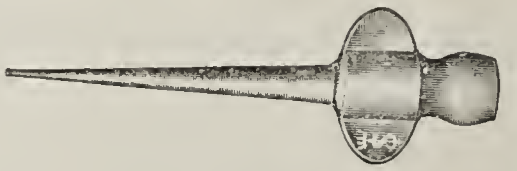
224 West Twenty-Fourth Street.

URETERAL CATHETER COUPLER

BURTON HARRIS, M.D.

BROOKLYN

Hypodermic needles, soft rubber connections and various other makeshift devices hitherto employed in coupling a syringe to a ureteral catheter, are unsatisfactory because they permit leakage. A conical needle made after my suggestions obviates this difficulty.



Ureteral catheter coupler.

The instrument here illustrated is 3.17 cm. in length, measuring 13 French at the base, and the tip is sufficiently small to be readily introduced into the lumen of a 5 French catheter. It was designed to fit the Ehrlich-Hata Record syringe, for the reason that the latter is of convenient size and has the obvious advantage of a screw connection. However, it may be attached to the Janet-Frank or other syringe by means of a section of soft rubber tubing.

475 Greene Avenue.

New and Nonofficial Remedies

The following additional article has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Its acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

BISMON.—Colloidal Bismuth Oxide.—Bismon is claimed to be a preparation of colloidal bismuth meta-hydroxide containing about 20 per cent. metallic bismuth.

It is stated that Bismon results from the action of sodium lysalbinate and sodium protalbinate on bismuth salts.

Bismon is a light brown granular substance, forming with water, a fairly stable opalescent colloidal suspension (in these suspensions colloidal bodies are in such extreme state of subdivision that they were formerly supposed to be in solution and are still commonly so considered). In aqueous suspensions, decomposition manifested by the appearance of a black deposit is said to set in after three to four weeks. The aqueous suspension is not affected by metals.

If an aqueous solution of egg albumin be added drop by drop to a 1 per cent. aqueous suspension of bismon a white precipitate forms, soluble in an excess of the albumin solution.

If hydrochloric acid be added to an aqueous suspension of bismon a white turbidity soluble in an excess of the acid appears.

If hydrogen sulphide be passed into a 1 per cent. suspension of bismon a dark brown color, but no precipitate is formed. The addition of acid to this suspension produces a brown precipitate.

Bismon, when heated, chars, with evolution of fumes of burning nitrogenous matter, yielding finally a residue, which when dissolved in nitric acid responds to tests of identity for bismuth

If 1 gm. bismon be gradually heated with fusion mixture, until all carbonaceous matter has been destroyed, the fused mass when cooled, dissolved in nitric acid, the bismuth precipitated with ammonium carbonate solution, the resulting precipitate when ignited to constant weight should yield at least 0.2198 gm. bismuth oxide (Bi_3O_3) corresponding to 19.7 per cent. bismuth.

Actions and Uses.—Bismon has the actions of other preparations of bismuth, but it is claimed that, on account of its solubility (property of forming colloidal suspension) it is more rapidly distributed over the mucous membrane of the gastro-intestinal tract.

It is said to be useful in acute and chronic intestinal derangements and in various forms of dyspepsia in infants and young children.

Dosage.—0.5 Gm. (7½ grains) in 5 to 10 per cent. solution (colloidal suspension) in water. The solution (colloidal suspension) may be added to milk or other appropriate liquid food.

Manufactured by Kalle & Co., A. G., Biebrich on the Rhine, Germany. (Kalle & Co., Inc., New York.) Trademarked in Germany. Not patented or trademarked in U. S.

Therapeutics

ANESTHESIA AND ANESTHETICS

(Continued from page 1539)

ADMINISTRATION OF ETHER

A very common method of the administration of ether has been by means of a cone made of paper and lined with a towel or napkin, with perhaps the addition of a sponge or some absorbent cotton. The ether in small amount is poured into the cone, and it is then placed over the nose and mouth of the patient. As the ether evaporates from the towel or other absorbent, fresh ether is of course added.

This method has some serious objections, the most important of which is that the strength of the ether vapor inhalations, i. e., the percentage of ether vapor contained in the air inhaled, is extremely variable. In practice it is generally attempted to counteract this variability by not holding the cone close to the face of the patient immediately after the ether has been poured into it, but even this does not allow of an accurate administration or of an administration continuously of one even strength of the vapor.

Various forms of apparatus have been devised to counteract these objections and to enable the ether to be administered continuously of a uniform strength. While these methods of administration are practicable in a large hospital where a physician is always at hand who is familiar with their use, in general practice and in the hands of men who do not frequently administer an anesthetic, and therefore are not especially skilful, it is desirable to find a simple method which will be at the same time efficient and safe.

A method of administering ether in continuous, regular quantity has been called the dosimetric method, which consists essentially of allowing the ether to fall, drop by drop, on a piece of thin fabric, such as flannel, which is supported on a wire mask like the well-known Esmarch chloroform mask. One of the originators of this method is Allis, of Philadelphia, who presented to the profession, in 1874, the so-called Allis inhaler, which consists of a large number of layers of flannel supported on a metallic frame, the whole surrounded by a cuff of rubber (in the best examples) which is open at both ends. Of the different inaccurate methods of administering ether, perhaps this is as good as any. The ether is dropped on the flannel through the top of the inhaler, and the drops should be well distributed over the flannel. This allows a considerable admixture of air, so that the patient does not suffer from lack of oxygen. At present, however, many prefer the wire mask covered with a single layer of flannel.

One great objection to these inhalers is that the rapid evaporation of the ether greatly chills the air which is taken into the lungs, and this may predispose to a postanesthetic pneumonia.

The administration of ether is often attended by more or less discomfort. Early in the inhalation there is produced considerable irritation of the respiratory passages, so that the patient has a choking sensation and feels an irresistible desire to cough. This is probably due in most instances to the ether being administered too concentrated. If the ether is given in a very small quantity at first and then gradually increased in concentration, these unpleasant sensations may generally be avoided without any particular increase in the total time required to produce complete anesthesia. It is absolutely unjustifiable to push the anesthetic so that the patient has a closure of the glottis and a sensation of suffocation. Such an administration of ether is the cause of the spasmodic contractions of the muscles and the fighting of the patient for air. It is as sensible as would be deliberate choking of the patient. If an insane patient or a young child fights an anesthetic, ether should not be used until the patient has been anesthetized by chloroform or by nitrous oxid gas.

As the patient approaches complete anesthesia considerable annoyance is often caused by the dropping back of the tongue and the consequent interference with respiration. This may generally be avoided by placing the ends of the fingers of each hand back of the angle of the jaw and lifting it forward, or by lowering the head and extending the neck, with chin high. In some cases it may be necessary to seize the tongue with a pair of forceps and draw it forcibly forward. If the head is turned to the side, the tongue is less likely to fall backward.

A very unpleasant feature of the administration of ether in many patients is the stimulation of the muciparous glands of the mouth and throat, so that the throat becomes filled with mucus, which causes gurgling, nausea, and even choking. It often requires frequent swabbing of the mouth and throat with gauze, or better with pieces of sponge, grasped in a pair of long forceps. Such a profuse secretion is sometimes avoided by the hypodermatic administration of atropin (1/150 to 1/100 of a grain), from half an hour to an hour before the administration of the anesthetic.

It has been suggested to inhibit this profuse secretion by means of epinephrin solutions. Such solutions have been sprayed into the throat, or it has been suggested that a few drops of a weak solution (perhaps 1 to 10,000) be placed in the inhaler along with the ether, once in five or ten minutes. If the epinephrin solution is sprayed into the throat directly, and probably if it is carried in with the ether vapor, contraction of the arterioles of the throat will certainly occur. The exact amount of epinephrin that will actually be absorbed in this manner is of course problematical. It should not, however, be used carelessly, as it has long been demonstrated that epinephrin is, if introduced into the blood in any considerable quantity, depressant to the respiratory center, which of course would be very undesirable in ether narcosis.

The rapid method of administering ether, termed the "ether rausch," which has been used much in some clinics in Germany, and is mentioned by Dr. William T. Coughlin (THE JOURNAL, July 1, 1911, p. 17), is perhaps occasionally useful, but seems generally hardly justifiable. The patient breathes, for a portion of a minute, pure ether undiluted with any gas or air. Anesthesia is almost immediately temporarily complete, and minor cutting can be done, the anesthesia lasting from three to five minutes. There seem to be rarely after-effects like nausea and vomiting. On the other hand, theoretically it does not seem very safe.

For method of administering ether by means of a tube passed through the nostrils, and by the rectum, see THE JOURNAL, July 30, 1910, page 402.

Ether has been given intravenously by mixing it with cold water and then heating over a water bath so that the excess of ether evaporates, leaving a 4.68 per cent. solution. From 1,000 to 3,000 c.c. of such a solution have been infused into the blood-stream without any untoward symptoms (*München. med. Wchnschr.*, July 11, 1911). This method has been used in the surgical clinics at Greifswald. It would seem that such a method of administering ether would be very rarely justifiable.

Before commencing the administration of the anesthetic, the anesthetist should give careful attention (1), to the operating-room; (2), to the emergency table; (3), to the patient.

The *operating-room* must be warm, and the operating-table as comfortable as possible for the patient. There must be plenty of blankets. The legs and arms, a low pillow for the patient's head, and a pillow for the back, should all be arranged to be as comfortable and warm as possible without, of course, interfering with the exigencies of the particular operation. It is advisable to have a strong, well-working faradic battery, an oxygen tank (it should be remembered that Professor Henderson thinks too much oxygen in ether shock is inadvisable, and even advises carbon dioxid gas), transfusion apparatus, and warm, aseptic physiologic saline solution.

The articles on the *emergency table* should comprise:

1. Chloroform.
2. Ether.
3. Petrolatum.
4. Boric acid eye-drops (1 per cent.)
5. Tongue forceps.
6. Long forceps for swabbing, and properly made gauze or cotton pledgets (no ravelings), or pieces of sponge.
7. A mouth-gag, or cork, or a piece of rubber.
8. A large needle threaded with strong silk.
9. A pus basin.
10. Towels.
11. Two hypodermic syringes.
12. Atropin sulphate tablets (each 1/200 of a grain). (The amount is small, that the dose may be repeated, if needed.)
13. Strychnin sulphate tablets (each 1/40 of a grain). (The amount is small, that the dose may be repeated, if needed.)
14. Ampoules of saturated solution of camphor in sterile olive oil.

15. Ampoules of aseptic ergot.

16. Epinephrin solution in aseptic ampoules, 1-10,000.

The Patient:

1. A twenty-four hours' specimen of urine should, if possible, have been examined; certainly a single specimen should have been examined.

2. The condition of the heart and arteries should have been examined and the best anesthetic selected.

3. The patient should have received no solid food for a number of hours before the operation. If the operation is done early in the morning, it is best, three hours before the operation, to give either a cup of hot bouillon or a cup of black coffee.

4. The bowels should have been properly moved, generally by the aid of some cathartic, and often an enema is advisable at least an hour before the operation.

5. The urine should have been passed immediately before the administration of ether is begun.

6. False teeth should be removed. The nose, throat, mouth and teeth should be cleansed with an antiseptic wash. Hairpins should be removed, if the patient is a female, and the hair should be properly bound up under a cap: it is better that this cap is not made of rubber, as the head is likely to become very moist with perspiration, if the cap is impervious.

7. The face should be anointed with petrolatum, as the vapor of ether is irritant to the skin.

8. The rate of the pulse and the feel of the radial and temporal arteries should be noted before the anesthetic is begun.

The anesthetist should be a physician who has been especially trained for this work. He should give his entire attention to the anesthesia, and his attention should not be diverted from his own work to watch the operation, or for any other purpose. He should keep himself aware of the condition of the heart by holding the index-finger of one hand over the temporal artery where it passes over the zygomatic process in front of the ear. He can be aware of the condition of the respiration either by the rise and fall of the chest, or by feeling the exhalation of the air through the mask.

Next to the pulse and respiration, the pupil is the most important index to the condition of the patient. Sudden dilatation of the pupil, especially if accompanied by hiccough, are grave symptoms, and should lead to the immediate suspension of the anesthesia and the withdrawal of the ether.

In order to determine when anesthesia is complete, many separate the eyelids and touch the conjunctiva with the tip of the finger. This is a dangerous practice, and should not be followed, as the eye may be injured or infected.

The most useful test for determining complete anesthesia is raising the arm. If this falls without any muscular contraction, the anesthesia is complete. This condition may be present shortly after the administration of the ether is commenced, the so-called primary anesthesia, which may be followed by a brief return of muscular activity. The continued administration of the ether will soon produce complete anesthesia. If the operation is an abdominal one, a little ether poured on the abdomen will soon show, by reflex action from the cold, whether the patient is thoroughly anesthetized or not. Also, manipulations of any kind at the region to be operated on will often awaken an incompletely anesthetized patient when other signs have apparently pointed to complete anesthesia.

The patient should be kept as lightly under the influence of the anesthetic as is possible. Very deep anesthesia should be avoided. The anesthesia should be as brief as possible, but this, of course, rests with the operator. As soon as an operation is completed, the ether should be withdrawn. Often this can be done before the final stitches are inserted and the dressing applied. If the patient has not been too deeply anesthetized, he should begin to regain consciousness shortly after the withdrawal of the ether.

One of the most troublesome of the sequelæ of the administration of ether is nausea and vomiting. The exact cause of this has not been determined definitely. Some have believed that it was due to the irritation of the mucous membrane of the stomach from the ether swallowed, but this is probably not so, at least in all cases. Various methods have been proposed to combat this disagreeable symptom. All are more or less successful. If morphin has been administered before the operation, nausea does not occur as soon as when it has not been administered. It is often advisable to give an injection of morphin and atropin directly after the patient comes out of the anesthesia, that he may not suffer pain and shock from such pain. Such an injection prevents the nausea, at least for a number of hours. Hot water, administered frequently in teaspoonful doses, is often a successful, simple treatment. If mucus and gas are eructated, or actually vomited, large draughts of hot water should be taken, that the stomach may be thoroughly washed out by vomiting, or by the liquid passing the irritant onward into the bowel. Some surgeons believe in washing out the stomach. This is not often advisable, but is indicated if bile is regurgitated, or if blood is extravasated into the stomach. Oxygen inhalations have been suggested (The Journal, April 27, 1907, p. 1421). Pure olive oil, in ounce doses, has also been found useful in this condition (The Journal, Dec. 18, 1909, p. 2094). Of course, the oil would soothe the stomach, and would be especially sedative, if there was increased secretion of hydrochloric acid, which secretion oil inhibits.

As soon as possible after anesthesia, a starchy food, as oatmeal, should be given to prevent a possible development of an acidosis.

A not infrequent sequence of the administration of ether is an irritable bladder and more or less kidney congestion. This is shown by a slight albuminuria and by a diminished amount of urine. Such an irritation may be caused not only by the ether itself, but also by the profuse sweating and the small amount of liquid which has been ingested, causing the urine to become very concentrated and therefore irritant. To prevent such irritation, it is often good treatment, after an operation, to inject a pint of hot water, with or without salt (a physiologic saline solution), into the colon. Such liquid is rapidly absorbed and dilutes the blood and all the secretions and increases the excretion of urine. Such frequent irritation of the kidney renders it inadvisable, unless there is positive necessity, to administer ether a second time to the same patient within so short a period as a week. In fact, it has been shown that serious kidney congestion can occur following an ether or chloroform narcosis several weeks subsequent to the anesthesia. The fact of this tendency to irritate the kidneys makes ether as an anesthetic generally contra-indicated when there is kidney disturbance, especially if there is any acute inflammation present.

Dr. P. B. Hawk (*Arch. Int. Med.*, Aug. 15, 1911, p. 177) has shown that after ether anesthesia the urine excretion function of the kidneys is diminished. This of course has been clinically long recognized, and has been attributed to the greatly diminished amount of water ingested for a number of hours and to the profuse sweating caused during anesthesia. Hawk has seemed to show that there is actual diminished activity of the kidneys, perhaps from depressed circulation. Normally, the kidneys in a few hours after the anesthesia is ended, begin to act efficiently, especially if a physiologic saline solution is placed in the colon.

To hasten the elimination of ether from the system, plenty of fresh air should be allowed in the room, provided it is sufficiently warm. The patient, under any circumstances, must be surrounded with hot-water bottles and blankets so that he may not lose too much heat, or better, may even acquire heat, during the shocked condition subsequent to anesthesia, such a condition being generally present. Such care that the patient does not lose heat is an important preventive of surgical shock.

If much blood has been lost and the patient is in a condition of collapse, besides administering physiologic saline solution by the rectum, intravenous or subcutaneous transfusions of saline solutions are often advisable. Raising the foot of the bed should also not be forgotten in this condition. It may be here parenthetically stated that when the Trendelenburg position has been long used in an operation the return of the patient to a level should be brought about gradually, lest anemia of the brain be caused.

When a patient has lost a large amount of blood, or there is a condition of shock already present, or it is feared that the patient is not going to stand the operation well and yet the operation must be done, the blood from one or both legs has been shut off by tourniquets. When the circulation entirely ceases in the extremity so treated, the blood there contained is, of course, free from the anesthetic, and may be turned in to the general circulation at such time as the anesthetist or the operator decides. The patient will of course be revived by such blood. Perhaps the extremity and its blood should not be shut off from the general circulation more than half an hour lest some trophic or nerve changes occur. Danger from clotting and therefore from emboli might well be considered, if there are diseased arteries. High blood-pressure and cerebral congestions may contra-indicate this procedure.

Another untoward effect is sometimes observed in the supervention of an attack of pneumonia. It has been proved that either ether, chloroform, or alcohol diminish the resistance of the cells to bacteria. Pneumonia is more apt to supervene when the narcosis has been deep and protracted. Many believe that it is also encouraged by the inhalation of cold air with the ether, and it also undoubtedly happens that the development of pneumonia is promoted by the exposure of the patient, while under the influence of the anesthetic, by allowing the coverings to slip off from his body and limbs, or from allowing him to lie in coverings or clothing saturated with blood or other fluids used during the operation. It is exceedingly important that a patient under an anesthetic should be kept warm and dry. Various devices have been designed for keeping the patient warm by appliances connected with the operating table. These are often useful, but caution should be exercised lest the patient, while unconscious, should be burned by such appliances.

As just stated, pulmonary congestion and postoperative pneumonia are frequent serious occurrences after prolonged anesthesia, especially after prolonged etherization. Various factors have been assigned an influence in the etiology of these pulmonary conditions. Among others, it has been alleged that probably the chilling of the respiratory organs by the evaporation of the anesthetic has an important part. It has been observed that anesthetics seemed to act better in warm climates and in warm weather. From these observations it has been deduced that if the anesthetic is warmed before it is administered, there will be less danger of pulmonary sequelæ. During the last ten or fifteen years many anesthetists have insisted on having the anesthetic itself, or the vapor, warmed before it is inhaled by the patient. This may be accomplished in various ways. For ordinary use, the warming of the can of ether or the bottle of chloroform to about the temperature of the body would seem to be most desirable. The inhalation of an anesthetic at this temperature results in less irritation in the throat at the beginning of anesthesia, the early accession of complete anesthesia, the necessity for a smaller amount of the anesthetic during the operation, and hence fewer after effects.

Many patients complain of backache after an operation. This is probably due in many cases to straining of the muscles of the back on account of the back not being properly supported while the patient is unconscious. In order to avoid this a small pillow should always be placed under the lumbar region of the patient while he is on the operating table.

The question frequently arises whether to anesthetize the patient in the operating-room and on the operating table, or in an adjoining room. With reference to this it should be urged that the less a patient is moved about after the administration of the anesthetic is commenced, the better. On the other hand, a nervous patient should generally be anesthetized in an adjoining room, and if possible, on a stretcher or rolling table, so that he may be transferred to the operating-room and then to the operating table with the least possible general disturbance.

As elsewhere stated, the ability to withstand infection is greatly reduced after an etherization. How long this susceptibility to infection persists it is difficult to determine, as it probably varies in different individuals. It seems that the opsonins of the blood and the ability of the polymorphonuclear cells to increase in number and act as phagocytes are certainly diminished. It has been shown by Graham (*Jour. Infect. Dis.*, 1910, viii, 147, and THE JOURNAL, March 26, 1910, p. 1043), that when lecithin is added to blood whose ability to fight disease is thus diminished, it rapidly brings its resistance to infection up to normal. Olive oil given by the rectum is also shown to increase the opsonic power of the blood. When it is remembered that ether and chloroform have been shown to combine with fat elements and certainly with lecithin, the administration of a lecithin preparation or the administration of rectal injections of olive oil seems scientifically good treatment after etherization.

CONTRA-INDICATIONS OF ETHER

Ether is contra-indicated if there is present disease either of the lungs or kidneys. Other contra-indications to the use of ether are chronic alcoholism, aneurysm, very high blood-pressure, and an atheromatous condition of the arteries.

(*To be continued*)

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CAN HAIR TURN WHITE IN A NIGHT?

A cherished popular belief is that of the sudden blanching of the hair from fright, worry or other severe mental strain. It plays its part in the drama and in fiction, while history records its famous instances. Who has not heard that Marie Antoinette's hair turned white during the night before her execution, or that the deeds and terrors of St. Bartholomew's night blanched the hair of Henry the Fourth? Most of us have wondered how the change could come about so rapidly as tradition relates; and yet so universal is the belief in this phenomenon that few have the hardihood to doubt it. One may accept one theory, that a sudden entrance of air or gas into the hairs makes them gray or white, or one may accept Metchnikoff's idea that it is all done by hungry, pigment-loving phagocytes, or one may take the stand of Stieda and boldly say that it isn't so at all. This refractory German first proves that such a thing couldn't possibly happen, and then, not satisfied, declares that it never did happen. With equal disregard of folk-lore, history and medical literature, he points the finger of doubt, and challenges many long-deceased historians and physicians to arise and prove their stories.[1]

In an extensive article[2] he shows that when the hair turns white under ordinary conditions it does so in one of two ways. Either the pigmented hairs fall out and are replaced by unpigmented hairs, or, less commonly, pigment-production stops in a growing hair and the colorless portion gradually replaces the darker outer segment. In neither case is there a bleaching or removal of existing pigment from the hair, leaving it colorless. Metchnikoff's theory of removal of pigment by phagocytes, and the older hypothesis of bleaching of the hair by formation of gas bubbles, are both, Stieda believes, entirely incorrect.

As this work supports the theory that hair becomes white only by replacement, and as the growing of a new crop of hair in a single night is beyond the possibilities of even the Seven Sutherland Sisters, the author must needs discredit all tales of such miraculous transformation. This he does *in extenso,* taking up the best-known instances of such supposed blanching of hair, and finding them all lacking in support sufficient to meet critical consideration, much less such control as to establish an acceptable scientific demonstration. For example, he finds that Charcot doubted the story of Marie Antoinette's sudden loss of hair pigment, stating that although the queen certainly was gray at the time of her execution, yet this was no novelty, for she was also gray nine months before, at the time the king met his sudden end at the hands of the revolutionists.

As for the rest of the reputed cases, many are nothing better than old-wives' tales, while others are examples of medical credulity substituted for healthy skepticism and careful investigation. The explanation for many is unkind, being simply that the keeper of the jail or dungeon in which the unhappy heroine or hero was confined neglected to furnish his guest's dressing-table with the hair-dye to which the latter had been accustomed at home, and that Nature asserted herself before release or execution. Verily the iconoclast respects nothing—not even the gray hairs of royalty.

MILK-BORNE TONSILLITIS

Epidemics of "septic sore throat" in England have from time to time been attributed to milk-supply, but in this country such outbreaks seem to have been less common, or, at all events, less commonly recognized. The fact that the remarkable epidemic of virulent tonsillitis occurring in Boston and vicinity last spring has been carefully investigated is therefore matter for congratulation. The Boston epidemic, including the cases in Brookline and Cambridge, affected over one thousand persons, forty-eight of whom died. There is now presented unimpeachable evidence showing that the epidemic was spread in milk from the Southboro farm of the Deerfoot Company, the infection of the milk apparently originating in an epidemic of the same character which prevailed in Southboro and neighboring towns during some six weeks preceding the Boston outbreak.

Apart from the high degree of virulence apparently possessed by the streptococcus strain concerned in the epidemic, there are other features of special interest. The milk-supply implicated has been for some years one of the most favorably regarded among the large Boston supplies. This was due not only to the facts that excellent regulations were in force to avoid contagion and that cattle and farms were carefully inspected, but also to the fact that the whole process was controlled by an experienced and well-known laboratory worker under contract with the Deerfoot Company. The recent searching inquiry has failed to reveal any instance of neglect or lack of precaution. In a word, the conditions surrounding the implicated milk-supply would be considered ideal and to-day are so considered by the best authorities on dairy sanitation. Here infection leaped the barriers of all known precautions. "Boston has suffered severe lessons along this line. In 1907 there

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1. Stieda, L.: Deutsch. med. Wchnschr., 1910, xxxvi, 1484.
2. Anatomische Hefte, 1910, xl, 285.

vere 717 cases of scarlet fever traced to one milk-supply, ind seventy-two cases of diphtheria to another. In 1908 here was a milk-borne outbreak of typhoid fever total-ng 400 cases. In 1910 there was another scarlet fever pidemic of 842 cases. Including the present outbreak, here have been over 3,000 cases of epidemic disease raced to milk in the immediate neighborhood of Boston n a period of five years."[1]

The Boston epidemic seems to cast some doubt on the alue of the method of controlling the public milk-upply by inspection rather than by pasteurization, but annot be regarded as wholly condemning efficient nspection, as inspection raises the general standard of leanliness and consequent safety of milk. Accidental ontamination under almost ideal conditions is always possibility. Our readers will be reminded of the recent pidemic of diphtheria among the students and faculty f the University of Minnesota on which we have com-nented.[2] In this case the source of infection was one f the cleanest and best-regulated dairies in the Min-ieapolis district, the contamination coming from a uman source. The Boston epidemic demonstrates again hat milk from a "model" farm may, through accidental ontamination, spread contagion widely. In this latter ase there was no evidence that diseased cattle were the ource of infection, the facts discovered in the investi-ation rather strengthening the hypothesis of a human rigin. Probably a temporary "carrier" was concerned. nspection is an expensive process and many sanitarians ave pointed out that in the nature of things it cannot fford absolute security, a statement that seems to be onfirmed by the instances mentioned. With no desire advocate or approve of the abandonment of careful ispection of dairies, notwithstanding its expensiveness, e must admit that the results of investigation of these wo epidemics tend to support the advocates of general asteurization of public milk-supplies.

UNDERNOURISHMENT AND GROWTH

The interrelation of malnutrition and growth is a pic of preeminent interest in practical pediatrics as ell as in physiology. The expression "retarded devel-pment" is ordinarily applied to a failure to gain in dy weight. There are obviously two simple clinical thods of measuring growth, namely, by body weight nd body length. But both of these factors which afford e external expression of internal developmental anges are not necessarily halted at the same time. ndeed, it has frequently been noted that poorly nour-hed atrophic infants may continue to grow in size to a nsiderable degree.[3]

At first glance it may seem somewhat anomalous that individual should exhibit growth in the absence of y increase in body weight. Quite recently several experimental contributions have thrown a new light on this question. H. Aron,[4] some of whose interesting studies on nutrition in the Philippine Medical School have already received notice in The Journal, has made careful measurements on dogs to ascertain whether or not it is possible to suppress the process of growth entirely by restriction of food, and if so, for how long. Among a number of comparable animals in each series, some received just enough food to keep their body weight constant; others, varying additional amounts, so that more or less intensive growth resulted. The striking outcome was that if a growing dog is kept at a constant weight, or even at a slightly decreasing weight, the bones continue to increase in weight and therefore to grow, although not quite so rapidly as in a normally fed control animal. If the bones have absolutely and relatively increased in weight, while the total weight of the animal has been kept constant, it is obvious that other parts of the body must have lost in weight.

The glandular organs are apparently not seriously involved in this process of consumption. The analyses indicated that the tissues which have undergone loss during the underfeeding are the muscles and fat. Of peculiar interest is the observation that the brain has nearly the same weight in a growing dog kept at constant weight as in a normally developed animal. This reminds one of the condition in so-called infantilism, in which children may exhibit a marked mental development despite the retardation of growth in its more obvious aspects. The losses in Aron's dogs, aside from the fat, involve a quantity of protein especially from the muscles, while a great proportion of the body tissue, notably in the blood, is replaced by water. The latter, with the increase in the skeleton, replaces the body materials lost.

A point of practical interest lies in the fact, here experimentally demonstrated, that during the period of growth a stationary condition in respect to body weight may actually be the expression of starvation. Only in the last stage of emaciation, when there are no body reserves to draw on, is growth entirely suppressed.

Similar observations have been made by Waters[5] on growing cattle. This author says that ungrown animals that had been previously well nourished continued to increase in height and in width of hip for a considerable length of time, even though on a starving ration. Apparently, the animal organism is capable of drawing on its reserve for the purposes of sustaining the growth process for a considerable time and to a considerable extent. His experiments indicate that after the reserve is drawn on to a certain extent to support growth, the process ceases and there is no further increase in height or in length of bone. From this point on, the animal's chief business seems to be to sustain life.

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[1] Winslow, C. E. A.: Boston Transcript, Oct. 31, 1911.

[2] The Journal A. M. A., July 1, 1911, p. 30.

[3] Fleischer: Arch. Pediat., October, 1906.

[4] Aron: Wachstum und Ernährung. Biochem. Ztschr., 1910, xxx, 207; Nutrition and Growth 1, Philippine Jour. Sci., 1911, vi (B), 1.

[5] Waters: The Influence of Nutrition on Animal Form, Bienn. Rep., Kansas State Board of Agric., 1911, xxii, 199.

Few comparable measurements have been made on undernourished children. Data published by Freund[4] point, however, to similar phenomena in human development, where some growth in length is not checked by underfeeding.

From the foregoing it appears as if "the tendency to grow in a young animal is greater than the tendency to maintain life" (Aron). The tendency to grow is possessed principally by the skeleton, which sets the pace for the other tissues to follow if possible. It is highly significant to find that the capacity to grow is not necessarily lost through early malnutrition. Re-alimentation and renewed growth follow more or less normal courses, so that, as the recent measurements by Birk[5] on children show, earlier losses may be regained.

The facts reviewed are of importance in practical pediatrics. Aron says: "A child which does not increase in weight or increases slowly is so undernourished that part of its own body substances are being consumed. We can go even further in our conclusions. If a child does not present the weight which we have a right to expect at its age, assuming that it was born with a more or less normal weight, this child's body does not have the normal composition. It will contain a higher percentage of bones, a lower content of fat and muscle tissues, and a higher content of water." To feed such children properly is fundamental.

PREVENTION AND NOT TREATMENT

An osteopathic association recently adopted a resolution favoring a national department of sanitation, but opposing a national department of medicine. This is encouraging, and this osteopathic association is to be congratulated on its broad-mindedness and perspicacity. We did not know, however, that anyone favored a department of medicine, or that there had been a suggestion that one be established. The Journal has again and again insisted that the sectarian adherents were exciting themselves unduly and needlessly. A national department of health would be charged with the work of studying the cause and methods of preventing diseases. It would have nothing to do with the treatment of individual patients or with the practice of individual physicians. Those who object to the Owen bill on such grounds are incapable of distinguishing between the scientific study of disease in the abstract and the care of the patient suffering from the disease. The first is an important public duty. The second is a matter of personal choice. The vague and awful charges of "establishing a state school of medicine," "medical tyranny," "perpetuation of a medical trust," "interference with personal liberty," etc., are made either through ignorance or through a desire to mislead the public as to the real purpose of such a measure.

Let it be repeated again: Congress has no power to pass any law interfering with the practice of medicine in the states. Neither Congress nor any state legislature has any right to compel any sane adult to take any form of treatment against his will. The Owen bill does not create a single new bureau or division. It simply collects, in a single department, certain existing bureaus and divisions having functions bearing on public health. It authorizes the establishment of laboratories and the employment of scientific experts to study disease as Koch studied tuberculosis, as Carroll and Lazear and Agramonte studied yellow fever, as Stiles and Ashford studied hookworm, as Ricketts studied mountain fever, as Flexner is studying cerebrospinal meningitis.

Have any of these men interfered with personal liberty? Has not the victory over yellow fever, as the result of the work of the Army medical officers, released the entire South from the fear of epidemics, the tyranny of the shot-gun quarantine, the periodic suspension of business and the loss of millions of dollars each year? Has not the discovery of the hookworm and the possibility of removing this infection and its results, given new hope to the South of the solution of its labor problem and of its industrial development?

Has Gorgas, in the Canal Zone, trodden on the rights of any one? Yet America is building the canal, where France failed, because applied scientific knowledge is guarding the workman from disease and keeping him alive to do his work. It is about time that the American public understood that the stock objections to advanced sanitary regulations are based on ignorance and misconception of both the law and the facts. A national department of health, like our state boards of health, would be for the study and prevention of disease and the advancement of public health and not for the treatment of individual patients, or for the regulation of the practice of medicine.

Current Comment

IRRATIONAL GOVERNMENTAL DECISIONS ON SODIUM BENZOATE

Last week we referred to the much-discussed question of the use of sodium benzoate as a food preservative. While a great deal has appeared regarding the controverted question of the harmfulness or harmlessness of this chemical, but little attention has been given to the attitude of the United States government on the subject. The fact is, the ruling of the government officials on the question of the use of sodium benzoate in foodstuffs is inconsistent to a degree. They have pronounced the chemical harmless and they permit its use in unlimited quantities in foods, but—and here lies the absurdity—they insist that those manufacturers who use it shall declare on the label both the presence and the proportion of the chemical used. Why should a catsup-maker, for instance, be forced by the government to state the presence and quantity of an ingredient of is product which the same government has officially ronounced harmless and which it permits to be used any quantity? It is altogether unjust to rule that manufacturer shall declare the presence and propor- on of one ingredient of his product—an ingredient hich the government claims to be wholesome—while ie presence of any other wholesome ingredients may emain a secret. It is highly probable that if this ruling ere brought up to the courts, it would be declared iscriminatory and illegal. The only possible explana- on for such ridiculous inconsistency is that the govern- ent officials who issued this decision knew that they id the wrong side of the controversy and that the merican public was not with them. In other words, enzoate of soda is not harmless and the concession to e manufacturers called for a compensating sop to the eople. So the officials "hedged" by injecting into their ecision a technical restriction in the use of the chemical foodstuffs.

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[4] Freund: Zur Pathologie des Längenwachstums bei Säuglingen, Jahrb. f. Kinderh., 1909, lxx, 752.

[5] Birk: Unterernährung und Längenwachstum beim neugeborenen Kinde., Berl. klin. Wchnschr., 1911, xlviii, 1227.

THE ART OF OMISSION

Robert Louis Stevenson (himself a master of the *ars issionis*) writes in one of his letters: "There is but e art—to omit! Oh, if I knew how to omit, I would k no other knowledge. A man who knew how to nit would make an Iliad of a daily newspaper." When l medical writers have learned to omit the useless, the ite, the insignificant and the irrelevant, many manu- ript editors will find their occupation gone; but ivate misfortune will pass unnoticed amid the general joicing. *Ars longa, vita brevis;* it takes a long while learn to be brief; but, on the other hand, nothing will ore effectively extend the average span of life than eneral mastery of the art of omission—in medical eratnre, at least.

GENEROUS BUT NOT JUST

The story of Dr. Grenfell's heroic and self-sacrificing ork among the Labrador fishermen has stirred the tire English-speaking world. American physicians e as proud of him as are his English confrères, since ience is international and knows no boundaries. The ct that this noble physician won an American girl as s wife has only increased the sense of pride and pro- rietorship which all America feels in him. Nor has ir enthusiasm limited itself to applause. An American siness man, Mr. George B. Cluett of New York, has nated a fine new schooner as an auxiliary to Dr. renfell's hospital ship. Two auxiliary yawls have been esented by American college students. Many Amer- an dollars have gone to help Dr. Grenfell in his noble rk. This is right, and it is to be hoped that means r this purpose may never be lacking. Yet the amazing ct has recently become known that while America has en helping generously to provide hospital ships and rgeons for the fishermen of Newfoundland and Labra- r, our own American fishermen, from Cape Ann and loucester and Marblehead, have been dependent for aid time of need on the charity of a French hospital ship. is not gratifying to our sense of pride and indepen- nce to know that at the very time we were giving with lavish hand to our heroic neighbor on the north, our own sailors were forced to accept from a foreign vessel the aid our own country had withheld. Such neglect of our own can be due only to ignorance and surely, now that the facts are known, there will be no lack of money and men to supply this shameful lack. If Congress does not make provision for a United States hospital ship for our fishermen, private philanthropy should see to it that we no longer suffer under the charge of being unjust and neglectful of our own, at the same time that we are generous with our neighbors.

PROBABLE TAPEWORM INFECTION OF NORTHERN MICHIGAN WATERS

From information received from the State Board of Health of Michigan, which will be embodied in the next publication of that board, we learn that the attention of Dr. Warthin of the Department of Pathology of the University of Michigan has been specially called to the occurrence of the broad tapeworm (*Bothriocephalus latus*) in the mining population of northern Michigan. The large number of Finns and Swedes living in the mining towns might be expected to include cases of this infection, which is said to be very prevalent in Finland and Russia as well as other Baltic states. It also occurs in other European countries and in Japan, but up to recent years has been rarely reported in this country. Prior to 1888 but one case had been reported (by Leidy), though undoubtedly others had occurred; and a large tapeworm was certainly not unknown in Alaska in the sixties among the Russian and creole residents, which by them was attributed to the eating of salmon. Up to 1907 only thirty cases had been reported in the United States, according to Stiles in Osler's "Modern Medicine." Stiles pointed out, however, that it might very likely become more frequent in the fish in some of our lake regions, through infection from the Finnish and Swedish immigrants, and it appears from Dr. Warthin's report that this has already taken place. He finds that children who have been brought to this country as nursing infants have become infected after the age of puberty and it is improbable that they could have brought the disease with them at that tender age to develop at so late a period. One case at least is reported of a child 5 years old who had never been out of the country but who had eaten uncooked fish from Portage Lake. This is itself a sort of arm or inlet of Lake Superior which is probably also contaminated. The *Bothriocephalus* is the most formidable of the tapeworms—one of the largest, if not the largest, and most rapid in its growth—and is capable of causing serious symptoms. The danger, of course, lies in the eating of fish uncooked, but there is a large market for smoked lake whitefish and herring, which are probably often eaten without cooking, or without cooking enough to destroy the parasites. This is especially likely to occur when a new purchaser is informed that cooking is unnecessary. The report to the Michigan Board of Health concludes with a statement of the belief that the infection of the northern waters has already occurred, all the necessary conditions being present, though the larvæ have not yet been actually demonstrated in the fish or its organs. It is recommended that a thorough investigation be made, that measures be taken to prevent the contamination of the waters by the passage of feces of infected persons through sewage, and that warning be given against eating fish — unless thoroughly cooked—which has been caught in localities where the parasite has been found. Only thorough cooking will destroy the larvæ and prevent infection. Smoking, salting and drying are insufficient. The matter is one which has more than a simple local interest, as the Lake Superior fisheries furnish a large proportion of the choicest fresh water fish used in the northern states. A general infection of Lake Superior fish could hardly be kept from spreading to the other lakes and thus greatly increasing the evil.

PATENT-MEDICINE EX-CONGRESSMAN IN THE MESHES OF THE LAW

Our readers were probably not greatly surprised at the announcement in the daily press a few days ago that ex-congressman H. M. Coudrey of Missouri had been arrested on a charge of using the mails to defraud. The alleged misuse of the mails was in connection with the business of the Continental Life Assurance Company and the International Fire Assurance Company. Coudrey's activities in the "patent-medicine" business were discussed in The Journal, March 30, 1907, p. 1121. At that time, in addition to being an insurance agent and a member of Congress, he was president of the Labordine Pharmacal Company. This company was engaged in the exploitation of about as brazen a fraud as has been perpetrated on the public and the medical profession; it claimed to have a "purely vegetable antipyretic" which was also "a purely vegetable cardiac stimulant." As the analyses made for the Council on Pharmacy and Chemistry showed, this product—Labordine—consisted largely of acetanilid. Coudrey attracted a certain amount of attention in Congress as the author, or introducer, of a number of freak bills including one relating to the Pharmacopeia which was quite generally pronounced "unintelligible," but which probably had a very definite meaning to some people. The point of immediate interest now, however, is whether there are men in the present Congress who have affiliations with such concerns as the Labordine Pharmacal Company; the debates at the coming session of Congress on the proposed, and much-needed, amendment to the Food and Drugs Act and the department of health bills will be followed with much interest from this standpoint.

CHAMLEE GOES TO CALIFORNIA ?

We recently called attention to the fact that S. R. Chamlee, who, until the government interfered, conducted a cancer cure fraud in St. Louis, had opened an office in Chicago. We also noted that Chamlee was advertising for a registered physician so that he might carry on his nefarious work under the protection of the law. We learn from the secretary of the Illinois State Board of Health that as soon as the board's attention was called to the fact that Chamlee was in Chicago, inspectors were sent to investigate the concern. The quack had not yet succeeded in getting his legalized stool-pigeons—in the form of registered physicians—and offered to treat these inspectors, who, he thought, were patients, and accepted a fee therefor. The State Board of Health immediately commenced suit against him and on November 1, Chamlee was fined $100 and costs. He paid the fine and announced his intention of going to California to spend the winter. In the Chicago *Examiner,* November 5, however, we find an advertisement of Chamlee's in which the names of "Drs. Hurford and McKeon" appear. Evidently this faker has been able to find two physicians who are willing to barter their birthright of professional decency for a consideration. It now remains to be seen whether the Illinois law will permit such men to practice. Chamlee's alleged intention of going to California arouses the suspicion that possibly that state is a better haven for quacks than Illinois. It will be remembered that at the time Chamlee was convicted of fraud by the United States Government he had offices both in Los Angeles and St. Louis. We understand he is still running the Los Angeles office. It might be well for the authorities in that state to take a page out of the note-books of Illinois and Missouri. One of the most crying needs of to-day is more aggressive action on the part of state officials. The tendency has been and to a large degree still is, to allow the federal government to shoulder the responsibility for the prosecution of such vultures as Chamlee.

Medical News

DISTRICT OF COLUMBIA

Building for Physicians.—The Professional Building is the latest innovation in the way of structures in Washington. The four-story house, formerly the home of Justice Peckham of the U. S. Supreme Court, has been remodeled and will be utilized as an office building exclusively for physicians.

ILLINOIS

New Hospital In Cairo.—Dr. Alpheus A. Bondurant has completed arrangements for the erection of a new hospital on Seventh Street, to cost about $50,000. The building will be fire-proof, with the latest ideas as to sanitation, ventilation, etc., and will contain about forty private rooms, besides four wards. It is expected to be ready to receive patients next summer.

County Antituberculosis Society Formed.—At a meeting held in Urbana, October 24, the Champaign County Association for the Prevention of Tuberculosis was organized. Hon. J. O. Cunningham, Urbana, was elected as temporary chairman, and Prof. W. W. Earnest, Champaign, temporary secretary. A committee on organization was appointed, to report in two weeks.

Deaths of the First Half-Year.—According to the reports of the State Board of Health, pneumonia was the chief cause of deaths during the six months ended July 1. The percentages of the chief death causes were as follows: pneumonia, 14.06; tuberculosis, 6.28; influenza, 2.04; typhoid fever, 1.38; measles, 1.17; diphtheria, 1.1; whooping-cough, .9, and scarlet fever, .7.

Personal.—Dr. Faith E. Spangler has been appointed junior physician at the Cook County Hospital for the Insane, Dunning.——Dr. O. W. Michael, Muncie, is reported to be seriously ill.——Dr. Watson W. Gailey, Bloomington, who was operated on for appendicitis at the Brokaw Hospital, October 26, is reported to be doing well.——Dr. Albert E. Campbell, Clinton, has been appointed sanitary inspector of the Illinois Central System. The duties of this position includes the maintenance of healthful surroundings for employees and patrons of the railroad.——Whiteside Medical Society held a special meeting at Fulton, November 9, in honor of Dr. Charles A. Griswold, Fulton, the oldest physician in the county.

Hospital Dedication.—Elaborate exercises marked the dedi- ition of the Granite City Sisters' Hospital, October 12. The stitution, which was formerly known as the City Hospital, as dedicated to the Franciscan Sisters and formal possession as taken. Patients applying for treatment in the hospital ill be permitted to choose their own attendants and the insti- ition will have no medical staff. Accommodation is provided r forty-eight patients.

State Tuberculosis Association Meeting.—The annual meet- ig of the Illinois State Association for the Prevention of uberculosis was held in Chicago, October 31, and the follow- g officers were elected: president, Dr. William A. Evans, hicago; vice-presidents, Drs. Tully O. Hardesty, Jackson- lle, and George Thomas Palmer, Springfield; secretary, Mr. mes Minnick, Chicago, and treasurer, Mr. David R. Forgan, hicago. The association plans to secure the cooperation of e women's clubs of the state in a survey of the tuberculosis tuation, and will be asked to obtain the number of deaths used by tuberculosis during 1910; the number of cases of ving tuberculosis; the number of cases needing material ssistance, and the number of patients cared for at poor- ouses, asylums, jails, reform schools, hospitals and sana- riums. Dr. St. Elmo M. Sala, Rock Island, was elected a ember of the Central Council.

Chicago

Statue to Dr. Senn.—At a meeting of the Senn Club, tober 31, plans were extended for a bronze statue to the emory of Dr. Senn, to be placed in Lincoln Park. The atue is to cost $25,000, and the funds for this purpose are be sought by subscriptions from physicians.

Additional Appropriation for Health Department Needed.— ealth Commissioner Young has asked an increase in the propriation of $180,000 for payroll and expansion purposes. e board intends to create a board of control to take charge the city hospitals and lodging-houses, and the proper licens- g and inspection of hospitals.

IOWA

New Medical Association.—A medical association has been ganized in Decorah, which includes the physicians of the unties of Allamakee, Winneshiek, Howard, Chickasaw, Fay- te and Clayton, and the following officers have been elected: esident, Dr. Philo M. Jewell, Decorah; vice-president, Dr. W. Johnston, Alta Vista, and secretary-treasurer, Dr. Will- m C. Hess, Cresco.

Personal.—Dr. Harry E. Kirschner, for four years superin- ndent of the State Sanatorium for the treatment of tuber- losis, Oakdale, has resigned, and will remove to California. —Dr. Edward Hornibrook, Cherokee, was the guest of nor at a banquet in Cherokee, October 30, on the occasion the fiftieth anniversary of his entrance into practice. A stimonial, engrossed on parchment, and setting forth that . Hornibrook had well and faithfully performed his duties the sick and afflicted for fifty years, and signed by all the embers of the Cherokee County Medical Society, was pre- nted to Dr. Hornibrook.——Drs. Thomas F. Duhigg, Arche- us G. Field, Lewis Schooler and James W. Osborn, all of s Moines, have been appointed a committee to write the story of the Polk County Medical Society.——Dr. Wilton . McCarthy, Des Moines, was obliged to undergo enuclea- on of an eye, as the result of a burn from a cinder two eeks previously.

KENTUCKY

Out-Door School to be Established.—The Board of Education Louisville is planning to establish an out-door school for emic and debilitated children, and Dr. James W. Guest has ered a site on which a building for this purpose may be ected.

State Society Officers.—The list of officers of the Kentucky ate Medical Association, which appeared in The Journal last week, was incomplete as regards the president and pres- nt-elect. It should have read: president, Dr. James Givens rpenter, Stanford; president-elect, Dr. David O. Hancock, nderson.

Tuberculosis Tax.—A contract has been made between the y of Louisville, by its general council, and the board of ustees of the Tuberculosis Hospital, whereby the board rees to care for all the tuberculosis patients of the city. e city is to raise money for defraying the necessary ex- nses by a tax not to exceed 2 cents on each $100. Here- fore the city has made an appropriation each year and has red for the patients at the City Hospital, but a law was ssed by the last legislature authorizing the city to raise ney by taxation for this purpose

Health Exhibit Car.—The free traveling health exhibit car of the Kentucky Association for the Study and Prevention of Tuberculosis left November 4 for a trip through the extreme eastern portion of the state. The trip will occupy twenty-one days and the car will visit twenty cities and fourteen counties. In each city visited lectures on tuberculosis will be given and a Christmas seal committee organized, to take charge of the holiday work of the association.

MARYLAND

Baltimore

Personal.—Drs. William H. Pannebaker and J. George Schmetzer, who have been ill with typhoid fever, have recovered.——Dr. and Mrs. Henry O. Reik and Dr. A. J. Neilson have returned from Europe.

Hospital Association Organized.—A hospital association has been organized by the citizens of Highlandtown and Canton for the purpose of establishing a hospital for these suburbs. The capital stock is $30,000.

Medical Inspection of Public Schools.—The health department announces that the medical inspection of the public schools will commence next week. The inspection of the parochial schools, which commenced October 1, is almost finished.

MASSACHUSETTS

Surgical Instructors Resign.—It is announced in the daily press that Dr. David D. Scannell, chief surgeon at the Boston City Hospital has resigned as professor of surgery in Tufts College of Medicine, Boston, and that every instructor in the surgical department of the school has also resigned, as a protest against what they term a gross slight inflicted on Dr. Scannell.

Septic Sore Throat.—At the meeting of the Suffolk District Medical Society, October 28, Prof. C. E. A. Winslow of New York who has made a most careful study of the epidemic which was so serious in Boston, Brookline and Cambridge last May, asserted that it was a disease new in this part of the world. It is of frequent occurrence in England and is named by him "septic sore throat." This epidemic apparently started in Hudson, Marlboro and Southboro and was almost certainly conveyed to Boston by the milk-supply. The experts who spoke at the meeting were agreed that the only safeguard against other outbreaks is in the pasteurization of the milk. The mortality of the epidemic studied reached more than fifty, largely among old people.

MICHIGAN

Medallion Presented.—At the meeting of the Wayne County Medical Society, October 21, Frank Buttrick presented to the society a medallion of the late Dr. David Osborne Farrand, a member of the society, who died in 1883.

Physicians Adopt Auto-Shield.—A shield with a background of bright red and the cross of St. George deeply outlined in black in the center, was the device adopted by the Wayne County Medical Society, October 30, as a distinguishing mark for physicians' automobiles. In the center of the cross appears the registered number of the physician.

Personal.—D. E. McClure, Muskegon, has been appointed deputy superintendent of the State Board of Health, vice Dr. E. L. Ward, resigned.——Physicians of Grand Rapids gave a banquet, October 26, in honor of Dr. Joseph Bascom Griswold, who has been a practitioner of Grand Rapids for forty years. Dr. Eugene Boise presided as toastmaster.——Drs. Frank W. Garber and George L. Le Fevre, Muskegon, have returned from Europe.——Dr. Victor C. Vaughan, Ann Arbor, has returned after a summer spent in Germany.——Drs. William A. Lemire, Michael P. Fenelon and Arthur S. Kitchen, all of Escanaba, have been elected official physicians of the Delta County Hospital and county physicians.——Dr. Abraham Goodfellow, Clio, suffered a cerebral hemorrhage, October 8.

MINNESOTA

Personal.—Dr. Robert Retzer has been appointed assistant professor of anatomy in the University of Chicago.——Dr. William Frisbie Lewis, Mankato, celebrated his eighty-second birthday anniversary at his home in Palo Alto, Cal.

Appropriations for Sanatorium.—The commissioners of Otter Tail County have appointed a committee to ascertain the cost, prepare plans and select a site for a county tuberculosis sanatorium, for which from $6,000 to $10,000 is to be appropriated.

Physicians' Building.—The Lowry Building, Minneapolis, a thirteen-story structure, providing for twenty-four office sections on each floor, is practically completed and tenants are already beginning to move in. The building is designed entirely for the use of physicians and dentists.

Society Meeting.—At the annual meeting of the Mower County Medical Association held in Austin, October 11, Dr. Ernest V. Smith, Adams, was elected president; Dr. G. M. Frank Rogers, Austin, vice-president; Dr. Peter T. Torkelson, Lyle, secretary; Dr. George J. Schottler, Dexter, treasurer, and Dr. Ralph S. Mitchell, Grand Meadow, delegate to the state association.

NEBRASKA

Typhoid Epidemic in Lincoln.—On account of the prevalence of typhoid fever in Lincoln, the local health authorities have requested aid from Washington and Passed Assistant Surgeon Leslie L. Lumsden, U. S. P. H. and M.-H. Service, who was detailed to go to Lincoln and make investigation into the epidemic and its causation, is now there conducting the investigation.

Personal.—Dr. Abraham T. Hubbell, Wood River, who has been seriously ill with erysipelas, is convalescent.——Dr. John B. Lichtenwallner, Dunbar, was given a farewell banquet, October 27, on the occasion of his leaving to settle in Omaha.

Republican Valley Physicians Meet.—The annual meeting of the Republican Valley Medical Association was held at Alma, October 26. The society decided to hold its next meeting in Holdrege in May, 1912, elected Dr. Robert S. Mitchell, Red Cloud, president, and Dr. Henry Farrell, Axtell, vice-president, and reelected Dr. Joseph N. Campbell, Stamford, secretary, and Dr. William D. Shields, Holdrege, treasurer.

NEW YORK

Hospital to be Sold.—Hempstead Hospital, Mineola, L. I., is to be sold at auction in order to satisfy claims against the institution.

Approves Tuberculosis Hospital.—The state authorities have approved the application of the Civic League of Ossining to establish a tuberculosis hospital.

Personal.—Dr. James J. Grady, Elmhurst, has resigned to take charge of a hospital for a copper mining company in Peru, South America.——Dr. Thomas Ordway, Albany, was given an impromptu dinner by the faculty of the Albany Medical college and other friends, October 17. Dr. Ordway has been connected with the Bender Laboratory for about twenty years, but is soon to become director of the cancer research laboratory of Harvard University.——Dr. Edward F. Hurd has been elected president of the Freeport Board of Health.

New York City

Lowest City Death-Rate.—The lowest death-rate since the formation of the Greater New York in 1898 was reported for the week ended October 28, the rate for this week being 12.12 per 1,000 population, while the rate for the corresponding week of 1910 was 13.53.

New Laboratory Building.—Roosevelt Hospital has had a laboratory under an endowment given by Mrs. E. H. Harriman for the past two years. Recently Dr. Lewis R. Morris offered to erect a suitable building for laboratory work and such a building will be erected in the center of the Roosevelt Hospital premises. Dr. William Gordon Lyle is to have charge of the new institution.

New York Academy of Medicine Committee on Hospital and Municipal Budget.—This committee was formed by the two committees created by act of council and appointment by the president. The work of this reorganized committee has been the investigation in this city of hospital conditions. It is to keep the profession informed in regard to hospital needs, organization and progress, and cooperate with the library in securing hospital literature; it is also to investigate the conditions and needs of those departments of the city which control the public hospitals, viz., the health department, the charities department and the Bellevue and Allied Hospitals, so that the committee can, with proper data, appear before the city authorities and aid in securing needed or opposing unwise appropriations, increasing the efficiency of the city's hospitals. All this is to be done on condition that such investigation and help were desired. The committee reported that if its paid executive committee were continued, it could and ought to assume the work of a council on hygiene, or a committee on public health, and asked for an enlargement of its activities. The council voted to grant the committee the enlarged powers which it asked. Dr. Charles L. Dana is chairman of the committee and Dr. James Alexander Miller, secretary.

OHIO

Loving Library Given to Academy.—By the will of the late Dr. Starling Loving, Columbus, his medical library is bequeathed to the Columbus Academy of Medicine.

Physicians' Buildings.—Plans have been drawn for two buildings in Columbus, to be used entirely for physicians' offices. The one will contain accommodation for twenty-four and the other for twelve physicians.

Conference of Health Officers.—At the thirty-first conference of the State Board of Health with representatives of the local boards of health, in the southern district of Ohio, held in Cincinnati, October 19 and 20, questions of quarantine, disinfection, prevention of tuberculosis, sexual hygiene, and other subjects of vital interest to sanitarians were discussed.

The Fight Against Tuberculosis.—The Cleveland School Board, the Antituberculosis League, the Federation of Women's Clubs, Fresh Air Camp Association, and the Board of Health, held a conference, October 26, and agreed to combine in the movement to stamp out tuberculosis from the schools and to conduct and extend the work now being done in open-air schools.

Physicians Ill or Injured.—Dr. Rufus D. Jacobs, Vinton, fell from a Hocking Valley train near that place, October 28, and had both legs cut off.——Dr. Thomas A. Weaver, Orrville, is reported to be ill with typhoid fever.——Dr. Robert D. Gibson, Youngstown, who was injured in an automobile accident near Canton, in September, was brought to Youngstown, October 25. He is reported to be improving.——Dr. Charles A. Dunn, Stovertown, suffered a cerebral hemorrhage, October 7.——Dr. Henry H. Havens, Tippecanoe City, was seriously injured in an automobile accident, October 8.——Dr. Edward H. Porter, Tiffin, was operated on for appendicitis, October 11.

Personal.—Dr. Allen A. Taylor, Toledo, has gone to Florida, where he expects to make his home.——Dr. John D. O'Brien, Massillon, has resigned as head of the Strongsville Sanatorium, and will practice in Canton.——Dr. Corydon O. Beardsley, Ottawa, has been appointed surgeon to the local pension examining board, vice Dr. Alva L. Paul, deceased.——Dr. George H. Wilson, Painesville, has been appointed chief surgeon in the Consolidated Coal Company, Cumberland, Md. ——Dr. Edson C. Brown has resigned as chief of the medical staff of the Massillon State Hospital and will practice in Mansfield.——Dr. Herbert M. Platter and family, Columbus, have returned from Europe.

Cincinnati

Academy of Medicine Entertains Druggists.—The Cincinnati Academy of Medicine at its meeting, October 30, entertained the Ohio Valley Druggists' Association and the Hamilton County Medical Society. The questions discussed at the joint meeting were such as would advance the cause of legitimate pharmacy.

Open-Air Schools Ready.—The two open-air schools—one for anemic and the other for tuberculous children—were opened October 30. The school for anemics is located at the First Intermediate school and has an initial attendance of about sixty; the school for tuberculous children is located at the Branch Hospital and commenced with twenty children in attendance.

Personal.—Dr. and Mrs. Christian R. Holmes have returned from Europe.——Drs. William Gillespie and Otto V. Huffman have been appointed members of the junior staff of the Cincinnati City Hospital on the gynecological and obstetrical service, vice Dr. Robert Thomas, resigned.——Dr. Charles A. Stammel has been appointed resident physician at the Industrial School for Boys, Lancaster, vice Dr. Julius G. Stammel, resigned.——Dr. Samuel S. Tomlinson, on his own request, is said to have been committed to the Longview State Hospital, October 19.

PENNSYLVANIA

Progress on State Sanatorium.—The dining hall of the largest of the buildings of the sanatorium at the Summit, Cresson, will be ready for occupancy, November 15. The east ward will be finished a few days later and the remainder of the buildings will, it is said, be completed by January 1.

Personal.—Dr. and Mrs. Carlisle E. McKee, Braddock, sailed for Europe, October 23.——Dr. John C. Hoye, Newcastle was attacked by robbers in New York City, November 2, and sustained a severe fracture of the skull.——Dr. Samuel H. Gilliland, Harrisburg, has been appointed director of the state department of health laboratories.——Dr. Maurice E. Heck has resigned as intern in the Harrisburg Hospital and will ocate in Florida.——Dr. William C. Le Compte has succeeded Dr. William Martin as local surgeon of the Pennsylvania System at Bristol.

Tuberculosis Exhibit at Pittsburgh.—The Tuberculosis League of Pittsburgh had an exhibit at the recent Industrial Exposition in that city illustrating preventive measures in human and bovine tuberculosis and infant mortality. During the seven weeks that the exposition was open, the booth was visited by 70.000 people.

Censorial District Meeting.—The eighth annual meeting of he Seventeenth Censorial District of the Medical Society of he State of Pennsylvania, including Montour, Snyder, Northumberland and Columbia counties, was held at Selins Grove, September 8. Danville was chosen as the next place of meeting and Dr. John B. Cressinger, of Sunbury, was elected president, and Dr. Luther B. Kline, of Catawissa, secretary. Reslutions were adopted heartily endorsing and supporting Dr. Harvey W. Wiley in his honest and heroic efforts impartially o enforce the Pure Food and Drugs Act.

Philadelphia

Weir Mitchell Lectures.—The fourth of the Weir Mitchell Lectures of the College of Physicians was delivered November , by Dr. William T. Porter of the Harvard Medical School n "Shock."

Alumni Dinner.—The Philadelphia Alumni of the medical epartment of the University of Pennsylvania will hold their nnual banquet, November 18. Among the guests will be he new members of the medical staff of the university.

Solarium for Hospital.—Through the executors of the estate f Mrs. Catharine C. Middleton, $10,000 has been given to the efferson Medical College Hospital for the erection of a olarium for children in memory of Samuel W. Middleton.

Gift of Hospital.—At the golden jubilee celebration of the ohn Wanamaker Store, held in the store, October 28, the te of John Wanamaker's birthplace in the southern part of he city, which the 6,050 employees had purchased, was presented to him. Mr. Wanamaker announced that he would lace this property, together with ground in the neighborhood which he would purchase, in trust with three trustees from ifferent departments of the store, and would thereon erect great hospital for suffering children, to be called the Robert . Ogden Hospital, after a former partner.

Personal.—Dr. Herman A. Brav announces that he has given p the practice of general medicine and will henceforth confine is work to the treatment of diseases of the rectum.——Dr. . W. Cadbury, dean and professor of medicine and pathology n the University Medical School, Canton, China, was the uest of honor at a banquet, held in Houston Hall, October .——Dr. Joseph S. Neff has resigned as president of the hiladelphia Housing Commission and has been succeeded by r. George W. Norris.——Dr. Charles E. Treibley has been ppointed physician at the Carlisle Indian School.——Dr. Ellison J. Morris fractured his left arm in an automobile accident, ear Egg Harbor, October 8.——Dr. Richard H. Harte has turned from Europe.

Larger Force Needed for Health Department.—The departent of Public Health and Charities has been greatly handipped by inadequate staffs and Dr. Joseph S. Neff, the director of the department, has asked city councils for additional ssistance. Dr. Neff plans the reorganization of the nuisance spection division, divorcing it entirely from the tenement ouse division. B. J. Newman, secretary of the Philadelphia ousing Commission, in endorsing Dr. Neff's request for addional sanitary and nuisance inspection, said that not a single tual inspection of conditions in houses already built and cupied has been made this year, owing to the necessity of utting inspectors and fumigators at clerical work in the fices of the department. Dr. Neff hopes that the staff of siting nurses will be increased to forty. Eight are on the aff now, but their work is confined to a restricted territory.

VIRGINIA

Meeting of State Society.—The forty-second annual meetg of the Medical Society of Virginia was held in Richmond, October 24-27, under the presidency of Dr. Otho C. Wright, Jarratt. The society took official cognizance of the rrington-Mann question by adopting a resolution "That it the sense of the Medical Society of Virginia that the state st a most valuable and capable officer when Dr. Charles V. rrington, Richmond, was not reelected surgeon of the state nitentiary." The following officers were elected: president, r. Hugh M. Taylor, Richmond; vice-presidents, Drs. Samuel Lile, Lynchburg; Joseph Grice, Portsmouth, and Samuel B. Moore, Alexandria; secretary, Dr. Paulus A. Irving, Richmond (reelected); treasurer, Dr. Greer Baughman, Richmond (reelected); councilors, Drs. Alfred L. Gray and Charles V. Carrington, both of Richmond; and delegates to the American Medical Association, Drs. William E. Anderson, Farmville, and John Staige Davis, Charlottesville. Norfolk was selected as the next place of meeting.

Control of Communicable Diseases.—A committee from the Norfolk Medical Society, composed of Drs. Lomax Gwathmey, Lawrence T. Royster, Herbert Old, William L. Harris, Charles R. Grandy and Beverly R. Kennon, have recommended concerning the extension and enforcement of health ordinances: that a medical inspector be employed by the health department, and that a hospital for contagious diseases, aside from smallpox, be at once provided.

Public Health Officers Meet.—The Virginia Public Health Association, at its meeting in Richmond, October 26, elected the following officers: president, Dr. Ernest C. Levy, Richmond; vice-presidents, Drs. Powhatan S. Schenck, Norfolk, and Jesse M. Shackelford, Martinsville; secretary-treasurer, Dr. Lucien Lofton, Emporia; and delegates to the Public Health Association, Drs. Ernest C. Levy, Richmond, Powhatan S. Schenck, Norfolk, and Allen W. Freeman, Richmond.

WASHINGTON

Personal.—The Spokane Medical Association has appointed the following staff for the new tuberculosis sanatorium: Drs. Frank Hinman, Henry Power, Arthur E. Johnson, Alexander R. Lundgren, Herman P. Marshall and A. P. Tilmont. Drs. Ronald A. Greene and William S. Frost were also appointed consultants in complications of the eye, ear and throat.——Dr. James E. Crichton has been appointed a member of the commission to investigate and report on tuberculosis in Seattle.——Dr. Xenophon L. Anthony, Spokane, who was operated on in the Sacred Heart Hospital, October 21, for appendicitis, is reported convalescent.——Dr. A. E. Stuht, Colfax, has resigned as city health officer.——Dr. Fred R. Hedges, Everett, who was operated on for appendicitis at the New Providence Hospital, Seattle, is reported convalescent.——Dr. Elmer E. Heg, Seattle, state health commissioner and secretary of the State Board of Health, has resigned on account of the ill health of his wife.

WEST VIRGINIA

State Association Meeting.—At the annual meeting of the West Virginia State Medical Association held in White Sulphur Springs, the following officers were elected: president, Dr. Charles O. Henry, Fairmont; vice-presidents, Drs. Richard E. Venning, Charlestown; Charles O'Grady, Charleston, and W. Hoddis Daniels, Elkins; secretary, Dr. Arthur P. Butt, Davis (reelected); treasurer, Dr. Hugh G. Nicholson, Charleston; councilors, first district, Dr. Henry R. Johnson, Fairmont; second district, Dr. Richard H. Edmundson, Morgantown; third district, Dr. Benjamin B. Wheeler, McKendric; fourth district, Dr. George D. Jeffers, Parkersburg; fifth district, Dr. Joseph E. Rader, Huntington; delegates to the American Medical Association, Drs. Peter A. Haley, Charleston, and Frank L. Hupp, Wheeling; and alternates, Drs. Vincent T. Churchman, Charleston, and Charles A. Wingerter, Wheeling. Webster Springs was selected as the next place of meeting.

WISCONSIN

Antitoxin Distributed.—During the two years since free distribution of diphtheria antitoxin to the poor of the state has been made, 4,297 packages of antitoxin have been distributed.

Ill and Injured.—Dr. Charles E. Hildreth, Lena, Ill., who has been ill in Milwaukee for several weeks, has recovered and resumed practice.——Dr. William T. Rinehart, Ashland, is reported to be in critical condition following an abdominal section.

Waukesha Wants Hospital.—A formal appeal has been made to the city council by the physicians of Waukesha to take up and aid the project for a city hospital, for which a fund of $5,000 was subscribed several months ago through the efforts of the local medical society.

Personal.—Dr. E. Baumgartner has been appointed instructor in anatomy in the University of Wisconsin.——The board of trustees of the Milwaukee County poor have reelected the following officers: Dr. Albert F. Young, county physician, and Dr. Louis F. Klemm in charge of the west side; Dr. William F. Lochemes, south side; Dr. Charles A. Fidler, Cudahy; Dr. John H. Rohr, North Milwaukee, and Dr. T. P.

Grogan, West Allis.——Dr. and Mrs. Andres G. Hovde, Superior, sailed for Europe, October 28.——Dr. Richard E. Davies has succeeded Dr. W. B. Strong as health commissioner of Waukesha.——Dr. David Lloyd Williams, Milwaukee, has been appointed assistant surgeon at the National Volunteer Soldiers' Home, Danville, Ill.——Dr. Max Staehle has been elected president of the State Agricultural Society.——Dr. Sara I. Morris has been appointed medical adviser of women at the University of Wisconsin, vice Dr. J. Helen Dobson, resigned.——Dr. Thomas Fitzgibbons, Milwaukee, has returned from abroad.——Dr. Maurice D. Bird, Marinette, has succeeded Dr. William R. Bell as physician of Marinette County.

GENERAL

Railway Surgeons to Meet.—The twenty-first annual meeting of the New York and New England Association of Railway Surgeons will be held at Hotel Astor, New York City, November 16 and 17, under the presidency of Dr. Frederick A. Goodwin, Binghamton, N. Y.

Militia Men Must Pay for Typhoid Vaccination.—So many applications have been received by the War Department from national guard organizations for the supply of antityphoid serum, that it has been found necessary to abandon its free issue. A circular has been issued informing the guardsmen that hereafter they can obtain the serum at its cash value, approximately 12½ cents for each inoculation, the amount to be charged against the federal allotment of the state for the support of the militia.

Ultraviolet Rays to Purify Water.—Army surgeons in the Philippine Islands report that they have been making successful experiments with a plant consisting of a small dynamo and gasoline engine, carried in the ordinary escort wagon with troops, which has shown itself capable, by the generation of ultraviolet rays, of completely purifying foul water so as to serve daily a quart of sweet drinking water to every man in the regiment. The ultraviolet rays are said to destroy, not only the animal parasites in the water, but also bacteria.

Personal.—Lieutenant-Colonel Jefferson R. Kean, M.C., U. S. Army, has been detailed as a delegate to the International conference to be opened in Paris, November 7, and also to the meeting of the American Public Health Association in Havana, December 4-9.——Surgeon Rupert Blue and Assistant Surgeon George W. McCoy, U. S. P. H. and M.-H. Service, sailed from San Francisco, November 4, for Honolulu, Hawaii, Dr. Blue to preside over the quarantine station, and Dr. McCoy to assume command of the leprosy investigation station on the Island of Molokai.——Dr. Aristides Agramonte, Havana, sailed from New York for Holland, October 31.

Plague and Yellow Fever.—The *Canal Record*, October 25, reports a death at Ancon Hospital, October 17, from bubonic plague. The victim was a mechanic who left Ecuador, October 7, arriving in Panama four days later and was taken to the Ancon Hospital two days after his arrival. There is no probability of the disease spreading from this case.——Out of 75,000 rats killed and examined by the Seattle Health Department during the last fifteen months, only one was found to be infected with bubonic plague.——A case of yellow fever is reported from Honolulu. The patient was a Hawaiian and believed to have become infected from a Japanese steamer, which recently arrived in Honolulu from Central America.

Cooperation in the Administration of the Food and Drugs Act.—At the last meeting of the Association of State and National Food and Drug Departments at Duluth, Minn., the president, Lucius P. Brown, Nashville, Tenn., was instructed to appoint a committee to perfect plans for cooperation among state officials and national governments in the administration of the Food and Drugs Act. A committee was accordingly appointed, consisting of Dr. Samuel J. Crumbine, Topeka, Kan., for a five-year term; R. M. Allen, Kentucky, for a four-year term; R. V. Fitzrandolph, New Jersey, for a three-year term; L. Davies, Washington, for a two-year term, and Dr. A. N. Cook, South Dakota, for a one-year term. In accordance with the resolutions adopted at this convention that a committee be appointed to study the subject of cold storage and draft a measure incorporating in its provisions just and reasonable regulations for the operation of cold storage warehouses and the storage of foodstuffs therein, the president appointed a committee consisting of H. E. Barnard, Indianapolis; R. B. Fitzrandolph, Trenton, N. J.; Miss Mary E. Pennington, of the Department of Agriculture, Washington; M. E. Jaffa, Berkeley, Cal., and Hon. W. B. Barney, Des Moines, Ia. The officers have announced their desire to make the organization's influence felt as a factor in the enforcement of food laws and that they stand with Dr. Wiley for this platform.

LONDON LETTER

(From Our Regular Correspondent)

London, Oct. 28, 1911.

The Effects of the Great Railway Strike on the Public Health

The great railway strike which paralyzed traffic for some days on most of the lines in this country has been mentioned in a previous letter. Its detrimental effect on the public health of one of our greatest cities can now be estimated. Before the strike Liverpool, with an estimated population of 747,000, showed in recent years, in consequence of improved sanitation, great improvement in the death-rate from summer diarrhea in infants. During the past summer the rate has been extraordinarily low. During the five years, 1906-10, the average temperature in July was 58.9 F.; the average deaths from diarrhea in the four weeks of the month, 4, 6, 9 and 11, and the general death-rate for each week was 15 per thousand of the population. For the four weeks in August the average temperature was 59.5 F. and the deaths from diarrhea were 23, 34, 52 and 63, and the general death-rate 19. In the present year the average temperature was 64.1 F. and the average deaths from diarrhea 20, 23, 38 and 46, and the general death-rate ranged from 15 to 18. In August the average temperature was 68.8 F. and hardly any rain fell. This probably accounts for the fact that there were eighty-one deaths from diarrhea during the first week and that the general death-rate rose to 20. On August 5, strike troubles began and they reached their acme on the 17th. The sanitary service was interrupted, garbage accumulated, and the food-supply was seriously diminished. The consequences are shown by the statistics. For the second week in August there were 132 deaths from diarrhea and the general death-rate rose to 24 per thousand of the population. During the third week there were 159 deaths from diarrhea and the general death-rate was 27. With the restoration of the sanitary service the figures fell but remained high during September, when the deaths from diarrhea in the four weeks were 148, 130, 109 and 112. During the strike 300 butchers' shops were closed because they could not obtain meat and the interruption of the milk-supply had an immediate effect on infants. Even the hospitals suffered, although the strike committee endeavored to secure for them delivery of supplies.

The National Insurance Bill

The contest between the profession and the friendly societies on the national insurance bill continues. Mr. Lloyd-George, the chancellor of the exchequer, who has always shown great skill in assuaging quarrels and harmonizing conflicting interests, arranged a conference between six representatives of the British Medical Association and representatives of the friendly societies, at which he presided. The proceedings lasted two and one-half hours and an understanding was arrived at that they were to be kept private but the following has transpired: The societies objected to the fixing of the income limit by the health committee (described in a previous letter to The Journal). They asked for the right to form local medical associations, such as already exist in certain towns, and asked for an assurance that the medical profession would not endeavor to ostracize the doctors engaged by such associations. They also asked that insured persons should be entitled to have the personal attendance of the doctor desired and not be forced to accept the services of his assistant. The representatives of the British Medical Association stated that they had no authority to enter into an arrangement of any kind and that they could hold out no hopes of departure from the six cardinal points of policy declared (described previously in The Journal). Many members of the profession disapprove of taking part in the conference.

The Medical Equipment of Merchant Ships

A committee appointed by the board of trade, at the request of the General Shipowners' Society of London to consider the medical scales for merchant ships, has recommended four revised scales in place of those now in use. For ships which will carry a medical officer, including emigrant ships, two scales are recommended—one for the North Atlantic, where voyages are short and the numbers of passengers and crew large; the other for ships with fewer passengers which go on longer voyages. For each of these classes a list of the necessary instruments, including a sterilizer large enough to take a long midwifery forceps, is given. A microscope and bacteriologic outfit, such as are required in the larger vessels of some foreign countries, have not been recommended. The instrument and appliances for clinical work have been modernized. The appointment of a second medical officer to ships carrying a crew and passengers amounting to 1,500 is recommended, as well as a dispenser. The other two scales are for vessels which do not carry a medical officer and for fishing boats. One scale applies to ships whose voyages ordinarily last more than five days; the other, named an emergency scale, is for vessels never more than five days away from harbor, and applies to all sea-going ships; but coasting craft, whose voyages last no more than twenty-four hours, may conform to the emergency scale or carry the ambulance hamper of the St. John Ambulance Association. Antidiphtheritic serum, sealed and dated, is to be carried by all emigrant ships. The need for separate and reserved accommodation in cargo vessels for men who may become ill or injured is pointed out.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 20,1911.

Dedication of a Monument to Michael Servetus

A monument, the third in France, was dedicated on October 15, to the memory of Michael Servetus at Vienne, department of l'Isère. Servetus is shown at the stake in the midst of flames, chained to a stone, his book bound to his side. In this book entitled, *Christianismi restitutio*, Servetus described for the first time the lesser circulation of the blood. Dr. Charles Richet, professor of physiology at the Faculté de médecine de Paris, who represented the University of Paris at the ceremony, said that the divination of the pulmonary circulation by Servetus, who, unlike Harvey, had done no vivisection, and who, unlike Vesalius, had done no dissection, was unparalleled —almost a miracle. The contemporaries of Servetus did not understand him and his discovery remained unknown. Seventy-five years had to pass before Harvey gave it a rigorous demonstration and forced recognition.

The Catastrophe of the "Liberté" and Microbes

The causes of the terrible catastrophe which destroyed the "Liberté," one of the finest vessels of our navy, are not yet established. Among the opinions of various specialists it is interesting to mention one, according to which the gun-cotton, technically known as powder B, should be considered, not only from the chemical but from the microbiologic point of view. For the chemist, the nitrification of cotton consists in making it an explosive; for the microbiologist, it is sterilizing it. If the nitrification of the cotton is incomplete, this is unimportant from the chemist's point of view, for the explosive still exists, while the microbiologist sees in the parts not nitrified a developing culture of microbes. In fact, powder B does not preserve its qualities indefinitely; it grows old; its homogenous and translucent aspect is darkened by spots which become concave and finally give forth oily exudations. These are the manifestations of the activity of certain anaerobic microbes which produce a series of gaseous bodies whose presence in air-tight receptacles may finally cause the explosion of the powder.

Sterilization of Water by Ultraviolet Rays

Drinking-water for Paris is ordinarily supplied from four derivations of spring-water, which are supplemented, when necessary, by filtered river-water. Lately the filtered waters have been treated sometimes by ozone, sometimes by ultraviolet rays. These experiments permit a comparison of the two procedures. The bactericidal action of ultraviolet rays is very powerful. To separate the ultraviolet rays from the red, green and yellow ones, the mercury-vapor lamp in transparent quartz, intended for illumination, was employed. The system devised by MM. Victor Henri, Max de Recklinghausen and André Helbronner is remarkably simple, requiring no complicated machinery. A slight electric current accomplishes the work, which is hygienically thorough. If the electric current is accidentally interrupted, an automatic sluice opens the conduit and empties the water which has not undergone sterilizing action. The operation of this apparatus is economical, as was shown in the results of a competition held last year by the city of Marseilles.

Death of M. Alfred Binet

Psychologic science has just experienced a great loss in the person of M. Alfred Binet, *docteur ès sciences*, director of the laboratories of physiologic psychology at the Hautes Etudes à la Sorbonne, who has died, aged 54. He was the author of numerous works on psychology, including "Alterations of the Personality," "The Soul and the Body," "The Revelations of Handwriting," etc. Binet gave this science a direction altogether personal and original with himself. He founded the *Année psychologique*. He took especial interest in pedagogical questions and recently published a book entitled, "Modern Ideas in Regard to Children." He was the president of the Société pour l'étude psychologique de l'enfant.

The Assassin of Dr. Guinard

Herrero, the assassin of Dr. Guinard, committed suicide recently in prison. He had previously made two unsuccessful attempts at suicide.

Death of Prof. Antoine Blatin

Dr. Antoine Blatin, former professor of physiology at the Ecole de médecine de Clermont, has just died, aged 72.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 19, 1911.

Personal

The Breslau anatomist, Professor Hasse, celebrated his 70th birthday, October 17. He has been regular professor in Breslau since 1873.

Professor M. Hahn of Munich has received a call to Königsberg as director of the hygienic institute.

Professor Kehrer of Bern, the son of the well-known gynecologist of Heidelberg, has been called to the directorship of the gynecologic clinic at Dresden, as successor of Professor Leopold. As Kehrer's successor there have been proposed Professor Baisch of Munich and Professor H. W. Freund of Strasburg.

Foundation for the German Society for the Advancement of Science

The Gesellschaft deutscher Naturforscher und Aerzte has just received an endowment, the Adelaide Bleichroeder fund of $25,000 (100,000 marks). The foundation is for the assistance of scientific work in the field of medicine, including the ancillary sciences. As the entire fund is to be distributed in thirty years, an annual sum of about $1,500 (6,000 marks) will be available. Among the competitors, those who have no official posts or are not connected with well endowed institutions shall be preferred.

German Institute for Foreigners

Following the suggestion of the deceased Althoff, a German institution for foreigners, like the institution in Göttingen which I have previously told you about, has been founded in Berlin, with means provided by privy councilor Böttinger. The purpose of the institution is to furnish educated foreigners who are residing temporarily in Berlin an intellectual headquarters for their studies and an introduction to the study of German civilization. In addition courses in speaking German and introductory lectures on German literature and art have been provided. Visits to the art treasures of Berlin and excursions to other seats of culture in Germany will be made. The bureau is located at 8 University Street, Berlin, and is open to foreigners daily from 2 to 4 p. m.

Collective Investigation of Round Ulcer of the Stomach

A number of Bavarian university teachers and physicians have instituted a collective investigation of the etiology and clinical course of ulcer of the stomach. The request is made that material from operations and necropsies be sent to the pathologic institute in Erlangen with a filled out question blank giving the clinical data of the operated cases of those controlled by section. The anatomic material is to be examined by Professors Hauser and Merckel, the clinical by v. Angerer, v. Bauer, Borst, Crämer, Enderlen, Graser, v. Leube, F. V. Müller and Penzoldt. Question blanks and further information can be obtained from Prof. Hauser of Erlangen, Prof. N. Merckel of Erlangen and court councilor (Hofrat) Cramer of Munich.

Spitting in Railroad Cars

While spitting is forbidden in the street cars of Berlin and other places and in foreign railway cars, such a prohibition has not yet been made on the German railroads. At the request of the management of the railroads, the scientific deputation for medical affairs made an expert report regarding the necessity of such a prohibition. The results of the investigation undertaken by the former hygienist of Graz, Professor Prausnitz, and Petri, a member of the imperial health office, on the railway cars which run between Berlin and Meran and are patronized by many consumptives, showed that there is no regular or even frequent presence of tubercle bacilli, capable of causing infection, in the dust of railway cars. Furthermore the investigations of Flügge have shown that the danger from the inhalation of dried sputum is not very great, and is far less important than the danger from the so-called droplet infection. Still the scientific deputation holds that spitting on the floor and the possibility of soiling it in this way with tubercle bacilli should by all means be prevented. The instruction of the public by warning notices is thoroughly justified as the evil produced by spitting in a confined space is very great. It should also be required that the employees of the company enforce the regulations against travelers who transgress them. In this respect the measures in force in many localities, especially on foreign roads, leave much to be desired. For instance in the Italian railway cars the floor is soiled with spitting since expectoration has been prohibited as much as before the regulations against this were adopted.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Oct. 24, 1911.

Opening of the Radium Institute of Joachimsthal

At Joachimsthal, a Bohemian mining place, the government has erected an institute which is to be devoted entirely to the use of radio-active substances for medical purposes. It is well known that the startling discoveries of Becquerel and Curie in Paris were made on uranium obtained from material found in the mines of Joachimsthal. Soon afterward exhaustive researches in the mother substance in Joachimsthal showed the water found in the mines to be the most radio-active natural water in the world. A private syndicate was soon organized for the purpose of exploiting this natural resource; but public opinion forced the government to assume control of the affair and to erect a *Curanstalt*, a therapeutic institution, accessible to all classes of the population. From the material obtained in these government mines—in old days they yielded a fair amount of silver, too—a large quantity of radium bromid could be manufactured, and in the institute all kinds of treatment by radio-active substances will be given. The building was recently opened; it contains radio-active baths, a large quantity of the radium salts, and will be open all the year round. By pipes the water is drawn into the baths directly from the bottom of the mines, and filtered in such a way that it does not lose anything of its activity. The institution is in charge of an expert medical radiologist from the Vienna University.

Turbulent Demonstrations Against Inadequate Institutes

The Anatomical Institute of Vienna was erected some twenty-five years ago in a street which at that time was in the suburbs; the building itself was estimated to accommodate some 200 students. During the last twenty-five years, however, the number of medical students has increased in such a degree, and the popularity of the professors of the institution has been so marked, that the lectures are exceptionally crowded, and the building is insufficient for the accommodation of the large number of students eager to gain the fundamental knowledge of our art. In the dissecting-room only 200 chairs are available, while more than 500 students are at work at the same time and not all of these can find place at the dissecting tables. Even the facilities for washing the hands are on a scale which would hardly have been accepted a quarter of a century ago. Ventilation is very bad, for, owing to the rapid development of the suburb, the building is now surrounded by other buildings, and the windows cannot be opened whenever it would be required. Therefore the indignation of the students and the teaching staff of the university was strong when, a few years ago, a demand for improvement of the conditions was frustrated by the government for lack of means. This year, at the opening of the winter term, the students at once started a turbulent demonstration and, assuring the professor, Dr. Tandler, that the riot was not directed against him, began to disturb the lectures to cause a "strike." The professor sympathized with the students, went with them to the rector of the university, and a deputation was sent to the minister of education in order to demand the funds necessary for the removal of the worst grievances. They were granted money for a sufficient number of chairs, tables, washing apparatus and wardrobes for the cloak-rooms. The chief source of discontent, however, is the site of the institution itself and this cannot be changed at present.

Marriages

CLARA O. DEDRICK, M.D., De Tour, Mich., and Mr. W. W. Dunham of Drummond, Mich., at Sault Ste. Marie, Mich., October 18.

HARRY V. THOMAS, M.D., Chillicothe, Ill., to Miss Jane Neff of Oklahoma City, Okla., at Kansas City, Mo., October 15.

CARLISLE E. MCKEE, M.D., Braddock, Pa., to Miss Ethel Eleanor Sutmeyer of Wilkinsburg, Pa., October 19.

HENRY CLARKE THACHER, M.D., New York City, to Miss Ethel Anderson of Washington, D. C., October 21.

ANDREW S. REISOR, JR., M.D., Shreveport, La., to Mrs. Blanche Locke of DeQueen City, Ark., October 18.

ARTHUR H. ESTABROOK, M.D., Leicester, Mass., to Miss Jessie McCubbin, at Mt. Washington, Md., October 25.

JOHN DOUGLAS, M.D., New York City, to Mrs. Elizabeth Thayer Hoag of Washington, D. C., October 24.

MILLER M. HARSHBARGER, M.D., St. Anthony, Ida., to Miss Grace Campbell of Valier, Mont., October 18.

EMIL C. ROBITSHEK, M.D., Minneapolis, Minn., to Miss Leonora Millhauser of Chicago, November 1.

SPARRELL S. GALE, M.D., Roanoke, Va., to Miss Gretchen Harding of Canon City, Colo., October 17.

HOWARD H. SHEPLER, M.D., Philadelphia, to Miss Ethel F. Heyser of Hagerstown, Md., October 24.

ALEXANDER B. KALBAUGH, M.D., to Miss Rosalie Morrison, both of Westernport, Md., October 12.

JOSEPH W. PREISINGER, M.D., Renville, Minn., to Miss Ella Wigdahl of Crooks, Minn., October 8.

WOODSON J. MOSS, M.D., to Mrs. Luella Wilcox St. Clair, both of Columbia, Mo., October 22.

W. L. BREYFOGLE, M.D., to Mrs. Ella Naomi Pierce, both of Lake George, N. Y., October 14.

OSCAR PAUL CHESTER, M.D., to Miss Florence Cathryn Griffin, both of Chicago, October 18.

WILLIAM B. KUNZE, M.D., to Miss Eugenia Eimer, both of Belleville, Ill., October 18.

ROY F. BELLAIRE, M.D., Le Mars, Ia., to Miss Mary Ramsay, of St. Louis, recently.

Deaths

Agrippa Nelson Bell, M.D. Jefferson Medical College, 1842; founder of *The Sanitarian* in 1873 and its editor until 1904; a member of the American Public Health Association and American Climatological Association; president of the American Congress on Tuberculosis, 1901-2, and honorary president of the International Congress of Tuberculosis in 1904; passed assistant surgeon U. S. Navy from 1847 to 1855 with service during the Mexican War; a medical officer of the navy during the Civil War; superintendent of the Floating Hospital for Yellow Fever Patients, New York City, 1861; from 1870 to 1875 inspector for quarantines for the National Board of Health; a member of the National Quarantine Convention from 1857 to 1860; commissioner of quarantine of New York from 1870 to 1873; for twenty-one years visiting physician to the Brooklyn Hospital; died at his home in Brooklyn, October 15, from senile debility, aged 91.

George Frederick Jelly, M.D. Harvard Medical School, 1868; a member of the American Medical Association and American Medico-Psychological Association; a member of the Massachusetts State Board of Insanity and for many years chief examiner of the insane for the city of Boston; from 1869 to 1871 assistant city physician at the McLean Hospital, Waverly, and from 1871 to 1879 superintendent of that institution; first chairman of the Massachusetts State Board of Insanity; whose services were extensively sought as a consultant and medical expert in nervous and mental diseases; consulting physician to the New England Hospital for Women and Children; died at his home in Wakefield, October 24, from nervous breakdown, aged 69.

John W. Warner, M.D. Albany (N. Y.) Medical College, 1847; a member of the Medical Society of the State of New York; for more than fifty years a practitioner of New York City, but since 1898 a resident of Saratoga Springs; died at his home in that place, October 23, aged 88.

Wooten Moore Wilkerson, M.D. University of Virginia, Charlottesville, 1879; New York University, New York City, 1880; a member of the American Medical Association; once president of the Medical Association of the State of Alabama, and at the time of his death chairman of the committee of health for Montgomery County; visiting physician to St. Margaret's Hospital, Montgomery; a trustee of the Bryce Insane Hospital and president of the Montgomery County Board of Health; died at his home in Montgomery, October 22, from heart disease, aged 53.

Harvey E. Williamson, M.D. Keokuk (Ia.) Medical College, 1894; a member of the Kansas Medical Society; local surgeon of the Frisco System and Missouri, Kansas and Texas Railway, at Olathe; surgeon to the deaf and dumb institution of Kansas, Olathe; who five years ago had the misfortune to be thrown from, and run over by a street car in Kansas City, the injury necessitating the amputating of both feet; died at the home of his parents in Clarinda, Ia., October 23, aged 42.

John Reese Uhler, M.D. University of Maryland, Baltimore, 1861; one of the founders of Baltimore Medical College and for several years professor of chemistry and surgery in that institution; surgeon of the Fifth Maryland Volunteer Infantry during the Civil War; one of the founders and once president of the Baltimore Medical Association and one of the founders of the Clinical Society of Baltimore; died at his home in Baltimore, October 9, from nephritis, aged 72.

Samuel Alexander Helfer, M.D. New York University, New York City, 1875; a member of the Medical Society of New Jersey; in 1895 city physician and a member of the board of health of Hoboken; for many years physician to the steamship companies whose docks are in Hoboken; senior member of the board of trustees of the Hoboken Board of Trade; died at his home, October 24, from diabetes, aged 67

Mathias William Dvorak, M.D. College of Physicians and Surgeons, Chicago, 1903; a member of the State Medical Society of Wisconsin and secretary for two terms and up to the time of his death of the La Crosse County Medical Society; a beloved and highly respected young physician of La Crosse; died in St. Francis Hospital in that city, October 19, from typhoid fever, aged 31.

W. R. Hurst, M.D. Western Reserve University, Cleveland, 1862; a member of the Ohio State Medical Association and for nearly fifty years a practitioner of Piketon; died in the Protestant Hospital, Columbus, October 24, two days after a surgical operation, aged 74.

Nelson E. Bradley, M.D. Medical College of Ohio, Cincinnati, 1882; for many years a practitioner of Felicity; formerly a member of the local U. S. pension examining board; died at his home near Batavia, O., October 22, from heart disease, aged 53.

James H. Gaston, M.D. Miami Medical College, Cincinnati, 1872; a veteran of the Civil War; from 1888 to 1890 treasurer of Monroe County, Ind.; died at his home in Axtell, Kan., October 11, from heart disease, aged 67.

William A. H. Jenner, M.D. University of Munich, Germany, 1872; a member of the Washington State Medical Association, and a pioneer practitioner of Seattle; died recently and was buried October 15, aged 67.

Willard B. Croft, M.D. Cleveland University of Medicine and Surgery, 1882; a specialist on diseases of the eye, ear, nose and throat, of Medina, O.; died at his home, August 26, from leptomeningitis, aged 55.

Charles A. Butner, M.D. University of Louisville (Ky.), 1885; a member of the Medical Association of Georgia; died suddenly at his home in Jackson, October 16, from acute gastritis, aged 52.

William Curry, M.D. Jefferson Medical College, 1895; a member of the Butler County (Pa.) Medical Society; died in Butler, Pa., October 11, after an operation for right pyonephrosis, aged 40.

William Graham Armstrong, M.D. Medical College of Ohio, Cincinnati, 1882; formerly of Flemingsburg, Ky.; died at his home in Lantana, Fla., March 4, from pulmonary tuberculosis, aged 50.

Forrest B. Seymour, M.D. Medical College of Ohio, Cincinnati, 1889; a member of the State Medical Association of Texas; died at his home in Beeville, October 7, from nephritis, aged 45.

Peter Fehr, M.D. Cleveland College of Physicians and Surgeons, 1896; a member of the Ohio State Medical Association; died at his home in Akron, October 21, from tuberculosis, aged 44.

George Joshua Atkins (license, North Carolina, 1894); of Newell; a member of the Medical Society of the State of North Carolina; died in Charlotte, N. C., July 18, from uremia, aged 57.

John Jessiah Bilheimer, M.D. Jefferson Medical College, 1891; formerly a member of the American Medical Association; died suddenly at his home in Priceburg, Pa., October 19, aged 42.

Henry George, M.D. Detroit College of Medicine, 1887; physician of Wayne County in 1896 and 1897; died at his home in Detroit, October 15, from cerebral hemorrhage, aged 51.

Charles Christian Fredigke, M.D. College of Physicians and Surgeons, Chicago, 1887; of Chicago; died at the Alexian Brothers' Hospital in that city, October 21, aged 72.

Winfield Taylor Browning, M.D. Bellevue Hospital Medical College, 1873; for several terms burgess of Orbisonia, Pa.; died at his home, October 16, from diabetes, aged 63.

Theodore Lavilvarasse, M.D. St. Louis College of Physicians and Surgeons, 1896; of Boston; died in the Boston City Hospital, Oct. 25, 1910, from pulmonary tuberculosis.

Luther Leonidas White (license, Randolph County, Ala., 1879); of Roanoke, Ala.; died in Springfield, Ala., April 22, 1910, from angina pectoris, aged 58.

Harman Yerkes Longacre, M.D. University of Michigan, Ann Arbor, 1876; died at his home in St. Charles, Ill., October 18, from hemorrhage, aged 56.

I. M. Hightower, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1889; died at his home in Cartersville, Ga., October 11, aged 47.

Everett F. Harrington, M.D. Lincoln (Neb.) Medical College, 1902; died at his home in Watertown, S. Dak., October 6, from heart disease, aged 50.

William L. Gibson (license, Arkansas, 1903); a practitioner of Craighead, Ark., since 1882; died at his home in Greenboro, October 13, aged 55.

Robert Lee Caldwell, M.D. Washington University, St. Louis, 1899; died at his home in Grove, Okla., February 21, from septicemia, aged 44.

Joseph Werthner, M.D. Miami Medical College, Cincinnati, 1882; of Burdick, Kan., formerly of Dayton, O.; died in Elmo, Kan., October 20.

William G. Johnson, M.D. University of Pennsylvania, Philadelphia, 1870; died at his home in Farmington, N. C., October 14, aged 67.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

OZONIZED TESTIMONIALS

Obtaining Clinical Reports on "Oxyoline Therapy"

A few weeks ago we called attention to the method adopted by the proprietor of a medical journal in obtaining testimonials favorable to products advertised in his publication. As will be remembered, the method consisted in sending out letters to his subscribers telling them how highly he, the proprietor, valued the products and asking physicians if they would not "cooperate" by writing their opinion of the same products. A crude modification of this method of obtaining testimony favorable to products advertised in medical journals has recently been called to our attention.

The *American Journal of Physiologic Therapeutics* is the somewhat imposing title of a publication that is said to be "a practical journal of progress in non-medicinal therapy." Incidentally, the advertising pages of this non-medicinal publication are devoted largely to medicinal products! The proprietor of this journal is also the proprietor of another journal which is said to be "a journal of commercial medicine." Both of these journals carry advertisements—large ones—of a device known as the "Oxyoline Apparatus," which is supposed to depend for its action mainly on its ability to produce ozone. Moreover, the proprietor of these journals is understood to be the advertising agent for the concern that exploits this "apparatus!" What the Oxyoline machine will not do in the way of abolishing or preventing disease is negligible—if the claims of the promoters are to be believed, which they are not. So much by way of explanation.

Three weeks ago,[1] in commenting on "The Alleged Hygienic Value of Ozone," we seem to have hurt "business"—advertising and other. At any rate, the following letter from the publisher and editor of the *American Journal of Physiologic Therapeutics* has been received by physicians:

> October 27, 1911.
>
> *My dear Doctor:*—I have just read a most remarkable editorial in The Journal A. M. A., Oct. 21, 1911, page 1370, entitled "The Alleged Hygienic Value of Ozone."
>
> Does your clinical experience prove this or not? I am tempted to make a "big stir" regarding this wholly unwarranted attack on Ozone, and I am very anxious to produce an interesting symposium on Ozone in the next issue of *Physiologic Therapeutics*. Will you not send me four or five hundred words for publication, giving your personal opinion regarding this matter as based on your own clinical experience?
>
> If, in your reading, you have found any articles on this subject or any clippings relating to Ozone or Oxyoline therapy, and you can send them along, I will be very grateful indeed, and in remuneration for your cooperation will be pleased to give you a one year's subscription to *Physiologic Therapeutics* or a five years' subscription to *Successful Medicine*.
>
> I await your prompt reply, and, to facilitate this, a self-addressed, stamped envelope is enclosed.
>
> Very cordially yours,
> Physiologic Therapeutics
> *Henry R. Harrower*,
> Managing Editor.

The *quid pro quo* is perfectly evident. Stated a little more baldly this letter seems to mean: "Send us a testimonial on the 'Oxyoline Apparatus' and we will give you a year's subsubscription to our journal." The arrangement must be an eminently satisfactory one. The advertiser is "boosted"; the advertising agent—the editor and publisher in this instance—gets more business; the original article department of the journal is cheaply and easily filled; the subscription list is boomed with what the postal authorities we presume will consider *bona fide* subscribers, and altogether it is a very admirable arrangement—for everyone except the public and the medical profession.

Those physicians who read Mr. Irwin's admirable series of articles on "The American Newspaper" doubtless had their indignation aroused when they learned that certain large metropolitan dailies would have their dramatic critics write fulsome puffs of current theatrical attractions on the tacit understanding that the theatrical company would purchase large advertising space. And yet this exhibition of venality only affected the public's pocketbook; it in no way jeopardized its health. Of course, such dramatic criticism is a farce; but what about "scientific criticism" of therapeutic agents that is purchased at the price of a subscription to a medical journal by those who are financially interested in the exploitation of such agents?

CINERARIA MARITIMA

Report of the Council on Pharmacy and Chemistry

Occasional inquiries in regard to the therapeutic value of *Cineraria maritima* caused the Council to consider the drug with reference to its fitness for inclusion in N. N. R. among non-official, non-proprietary remedies. The following report, having been submitted to the Council by a subcommittee, was adopted and its publication authorized.

W. A. Puckner, Secretary.

To the Council:—The juice of a plant referred to as *Cineraria maritima* was at one time supposed to be of value in the treatment of cataract and certain other affections of the eye. No scientific evidence is available to show that the drug is therapeutically active, and its value is no doubt correctly estimated by Dr. Casey Wood, who ("Ophthalmic Therapeutics," p. 446; Cleveland Press, Chicago, 1909) says:

> "Still, a few respectable names have been associated with its [*Cineraria maritima*] employment in that capacity and it only remains to be said that the instillation into the conjunctival sac of a preparation of this or any other member of the *Senecio* family has about as much effect on the resolution or dispersal of opacities due to organic changes in the lens as pouring the same down the back of the patient's neck!"

The plant from which *Cineraria maritima* juice is claimed to be prepared is commonly referred to in literature as *Cineraria maritima*, but is more correctly described as *Senecio cineraria*, D. C.

It may be considered a matter of indifference whether a remedy like this be advertised for the treatment of such disease as cataract, providing its application could do no harm, but it must be remembered that it is recommended also for other diseases of the eye in which its use, by postponing efficient treatment, would be the means of serious damage or even loss of vision.

Since there is no evidence to show that this drug is of any therapeutic value, it is recommended that it be not admitted to the list of non-official, non-proprietary remedies in N. N. R., and that the Council formally express its opinion that the drug, as judged by the evidence which is available, is without value in the treatment of cataract or similar diseases of the eye.

Editorial Comment: *Cineraria maritima* would long since have been relegated to the limbo of discarded and discredited drugs had it not been given a semiproprietary character by a St. Louis nostrum house—the Walker Pharmacal Company—which, like the Manola Chemical Company, is, we understand, practically a subsidiary concern of the Luyties Homeopathic Pharmacy Company. The Walker concern exploits this drug under the name Succus Cineraria Maritima (Walker). Its method of exploitation consists in publishing testimonials, which it dignifies with the name "clinical reports," from men whom it designates as "representative physicians." As indicative of what constitutes representative physicians, we find that of the seven testimonials given in their pamphlet the names of three of the signers are not to be found in any medical directory.

The exploitation of Succus Cineraria Maritima (Walker) is the oft-repeated story of the resurrection of discarded and worthless drugs for the purpose of creating proprietorship in a nostrum. *Cineraria maritima* is worthless; its therapeutic value is *nil*. By the prodigal use of printers' ink, the medical profession—and through it the public—has been humbugged into believing that it possesses curative value.

Correspondence

Leishmaniosis in China

To the Editor:—The Journal, August 12, contained an editorial on "Infantile Splenic Anemia and Kala-Azar" which is of considerable interest to me as I live in a district where leishmaniosis is common, though the positive diagnosis made by finding the parasite is comparatively recent. I am writing you because your suggestion that cases may possibly occur in America among immigrants is entirely reasonable, and our experiences may be of some use to men who are on the lookout for it.

The microscopic diagnosis is much more troublesome than that of malaria because the parasite is not always found in the circulating blood or, if it should be present, it is in such scanty numbers that the search is exceedingly tedious and it is practically useless to depend on it as a means of diagnosis. It is much more easily found in the smears made from splenic puncture, but the spleen is so friable that a number of fatal hemorrhages are reported even when great care was used, and some of the best authorities discourage the use of the method because of this danger. Puncture of the liver is less dangerous but it is also a less certain source of the parasite and long search may be necessary to find it. Even splenic punctures sometimes require a considerable time before the search is successful. The organism is said to be found in the fluid of fly-blisters and croton-oil vesicles, but not regularly, and we have failed to demonstrate *Leishmania* in the two or three cases in which this method has been tried.

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[1] The Journal A. M. A., Oct. 21, 1911, p. 1370.

During the last few months I have used successfully a plan which I have not seen described elsewhere. One of the superficial lymph-nodes, either the postcervical or inguinal, is excised under local anesthesia of quinin and urea hydrochlorid, and smears are made from its cut surface. In seven successive cases the parasite was found readily, six of the seven showing it in less than five minutes' search, the other requiring twenty minutes. From this brief experience it would seem probable that the method is quicker, more certain and less dangerous than those previously practiced.

The smears are best stained by Wright's, Leishman's or Giemsa's methods. They stain less readily than do malaria organisms in our experience, requiring longer staining; we have had good results with Leishman's stain by using the pure staining fluid for five minutes, adding the distilled water for ten or fifteen minutes and then clearing by distilled water alone for two minutes. The methyl alcohol evaporates quickly during the first step, causing precipitates and a dirty slide; this may be avoided by covering the slide with a Petri dish.

The parasites are harder to recognize than malarial organisms, as they are smaller and contain no pigment, and it is sometimes not easy to decide whether a given body is the parasite or merely detritus staining in a similar manner. Those not familiar with them would do well to compare their slides with the beautiful plate in the frontispiece of Manson's "Tropical Diseases," fourth edition.

The evidence in favor of the bedbug as a possible intermediate host not only consists in the fact that the parasite multiplies and shows the same developmental forms in the bug as are found in cultures, but also in the success that Rogers has had in preventing the disease by prophylactic measure directed against bedbugs (Rogers: "Fevers of the Tropics," p. 93.)

The two diseases to which you refer in the title of your editorial, if not absolutely identical, would seem at least very closely related. The practical identity of the symptoms and the pathology, and of the morphology of the parasite, furnishes a strong presumption in favor of the identity of the diseases. The failure which you report to culture the parasite of kala-azar continuously and the failure to inoculate dogs may be due to some slight difference in technic. Although there is a difference in the age of the individuals attacked, this is less than would appear, for Rogers (in "Fevers of the Tropics," p. 50) reports that in Assam 50 per cent. of the patients are under 20 years, and in Sylhet 70 per cent. are under 20. There seems to be a gradual gradation in the average age of the patients in different places. Our patients are almost all children, but older than those reported by Nicolle from Tunis, being midway between them and Rogers' Indian patients. Furthermore, it is apparently true that adults may be attacked by the Mediterranean type of leishmaniosis, for two cases, one patient 18 years old and the other 30, are reported from Athens (The Journal, May 13, 1911, p. 1428).

Samuel Cochran, Hope Hospital,
Hwaiyuan Anhwei, China.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BREEDING AND CARE OF GUINEA-PIGS AND RABBITS

To the Editor:—Have you any information relative to the care of laboratory animals, such as guinea-pigs and rabbits, their food, habits of life, diseases? I am interested more especially in the last, as our animals are not doing well. Can you give me a reference list where I can obtain this information? The ordinary books on zoology do not contain much on the care of sick guinea-pigs.

W. J. Doyle, St. Louis.

Answer.—The above letter was referred to the director of the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service, who replies:

"At the Hygienic Laboratory we raise between 4,000 and 6,000 guinea-pigs every year and our success has been unusually satisfactory.

"First of all, a warm, sunny building should be provided, one that may be heated during cold weather. It has been our experience that if the temperature remains below 65 F. for any length of time the breeding is very much lessened and, moreover, many of the animals die. We keep four female breeders and one male in each cage. The male is allowed to remain in the cage all the time. The young are not removed from the cage until about four weeks old, when they are removed, each sex being placed in separate runs. It is important that the cages be cleaned out at least three times a week.

"The guinea-pigs are fed each day with a mixture of about equal parts of bran and oats and some green food—in the winter this is usually cabbage or carrots, during the summer alfalfa, green corn-stalks or clover. Each cage is provided with water and a small lump of rock salt. For bedding we use a small amount of cut hay; in addition to its use as bedding, the animals are fond of it. It is important that healthy stock be used for breeding purposes and that inbreeding be prevented as much as possible.

"The only diseases to which we have found our guinea-pigs liable are a streptococcic adenitis, which has given us some trouble at times; and a few years ago we lost a considerable number from a streptococcic pneumonia. A few female guinea-pigs die of postpartum infection with an organism of the hog-cholera group. Other than the above they suffer with practically no diseases. When given proper attention, their breeding is a simple and profitable proposition.

"We have raised but few rabbits at the laboratory, as we have found it cheaper to buy them on account of the cost and difficulty of raising them. They are subject to many more diseases, especially the young rabbits, than are guinea-pigs, the most important of these being coccidiosis of the intestine and liver, and pneumonia.

"The food for rabbits is the same as that given above for guinea-pigs. Both species of animals do better when kept in a warm building. We do not allow any of our animals to run outdoors. A cement floor is inadvisable."

MORTON'S FLUID

To the Editor:—Please give me the formula for Morton's fluid and state its use.

Z. Slavinski, M.D., Warsaw, Poland, Russia.

Answer.—Morton's fluid has the following formula:

℞	Gm. or c.c.		
Iodin	0	6	gr. 10
Potassium iodid	2		gr. 30
Glycerin	30		℥ 1

It was formerly employed by injection for the cure of spinal meningocele. The sac being cleaned, the child was placed on its side and a little chloroform was given. A fine trocar was plunged obliquely in at the side through sound skin, little or no fluid being drawn off, and 1 dram of Morton's fluid injected. The trocar was withdrawn and the puncture sealed with a bit of gauze and iodoform collodion.

SANITARIUM SYNONYMOUS WITH SANATORIUM

To the Editor:—Please give the proper use of the words "sanitarium" and "sanatorium" as in naming an institution for the care of the sick.

F. J. W.

Answer.—Use "sanatorium." Some make a distinction in the meaning of these two words, defining "sanitarium" as a resort for the preservation of health, and "sanatorium" as an institution for the treatment of chronic diseases, such as tuberculosis and nervous disorders. The two words are properly synonymous. The "Century" and "Murray" (the Oxford dictionary which is the court of last appeal among scholars and philologists) give "sanatorium" as the correct form; both, however, include "sanitarium" but refer to "sanatorium" for definition. "Sanatorium" is the neuter of the late Latin word *sanatorius*, meaning health-giving.

IRON SOLUTION GIVEN IN CAPSULES TO PROTECT TEETH

To the Editor:—I have noted lately in some of the medical journals discussions as to the best way to protect the teeth when giving iron. For some time now I have ordered a dropper and empty capsules to accompany the tincture, with directions to put the prescribed number of drops of the tincture in the capsule, to put on the cap and take, followed by water. In this way the teeth are not affected.

J. Lloyd Woodruff, Salt Lake City.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Nov. 4, 1911.

Lake, G. B., lieut., ordered to Jefferson Barracks, Mo., during the absence of Capt. R. W. Bryan. Arrived Oct. 28, 1911.

Siler, J. F., captain, granted leave of absence for one month and twelve days.

Webber, H. A., major, granted leave of absence for one month on relief from Fort Niagara.

Napier, E. L., lieut., granted leave of absence for one month, about December 1.

Smith, A. M., lieut.-col., granted leave of absence for one month, about November 5, with permission to apply for one month.

Mason, G. L., dental surgeon, October 30, left Fort Omaha, Neb., for Fort Crook, Neb.

Kean, J. R., lieut.-col., ordered to Havana, Cuba, to represent the Medical Department of the Army at the meeting of the American Public Health Association, Dec. 4 to 9, 1911.

The following named officers are detailed to represent the Medical Department of the Army at the Clinical Congress of Surgeons of North America, to be held at Philadelphia, Nov. 6 to 17, 1911: Reynolds, F. P., major; Persons, E. E., major; Reynolds, G. R., major; Williams, A. W., captain.

Borden, W. B., lieut., granted leave of absence for two months.

Fish, O. C., lieut., sick leave of absence extended one month.

Buchsbaum, Maurice, M.R.C., November 1, relieved from treatment at army general hospital, San Francisco, and ordered to his home; granted two months and three days leave of absence.

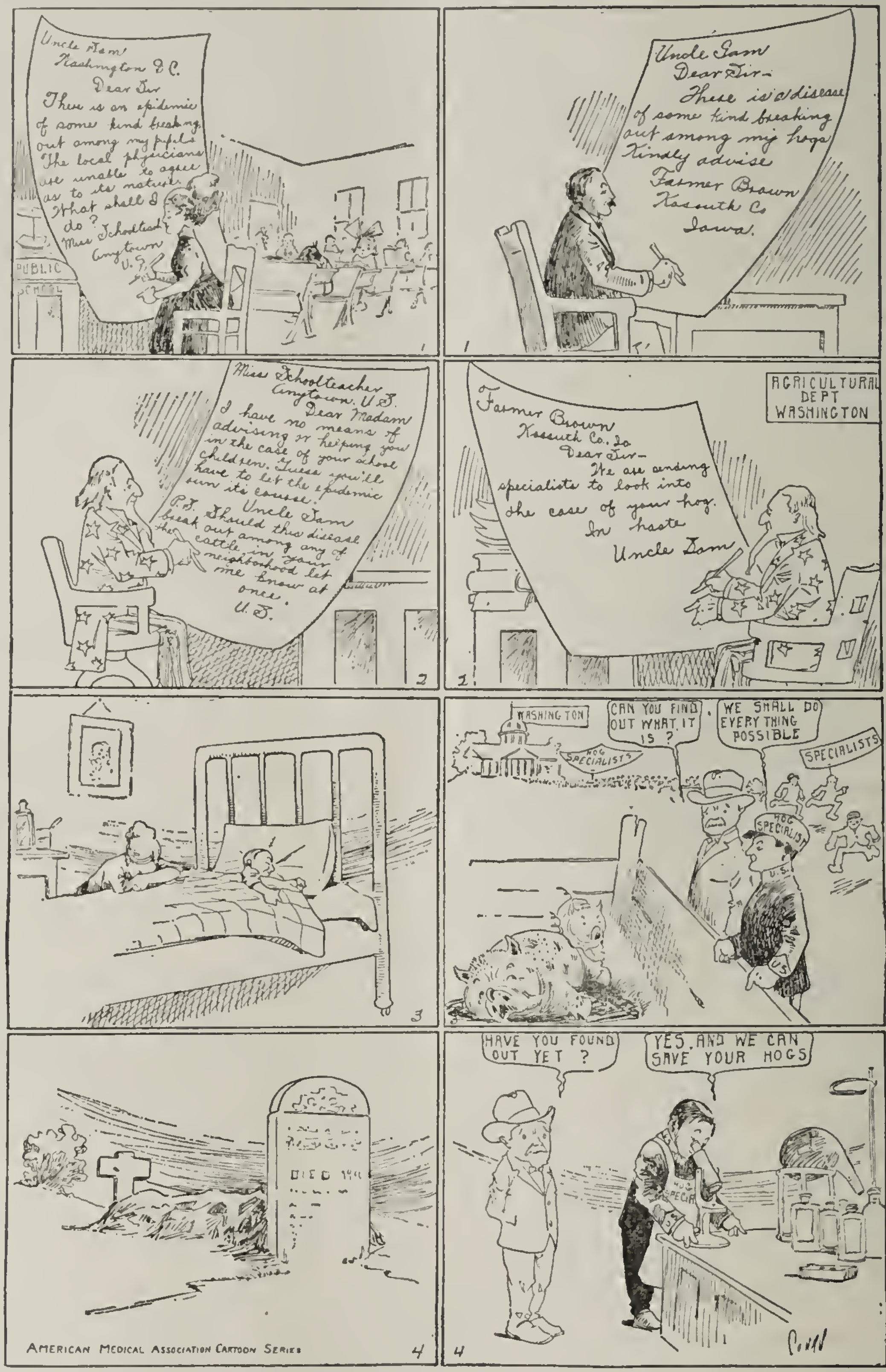
Patterson, R. U., major, November 1, ordered to proceed to Hartford and New Haven, Conn., to give instructions to the Field Hospital and Ambulance Company, Organized Militia of Connecticut.

Bloombergh, H. D., major, November 1, granted leave of absence for two months.

Whitney, W. W., M.R.C., October 30, left Fort McPherson, Ga., en route to Fort Moultrie, S. C., on detached duty.

Clark, John A., capt., November 1, relieved from duty at Plattsburg Barracks and ordered to Fort Wadsworth, N. Y.

Humphreys, Harry G., captain, November 1, relieved from duty at Fort Wadsworth and ordered to Plattsburg Barracks, N. Y.


Uncle Sam
Washington D.C.
Dear Sir
There is an epidemic of some kind breaking out among my pupils The local physicians are unable to agree as to its nature What shall I do?
Miss Schoolteacher Anytown U.S.
PUBLIC SCHOOL
1
Uncle Sam
Dear Sir—
There is a disease of some kind breaking out among my hogs Kindly advise
Farmer Brown Kossuth Co Iowa.
1
Miss Schoolteacher Anytown. U.S.
Dear Madam
I have no means of advising or helping you in the case of your school children. Guess you'll have to let the epidemic run its course.
Uncle Sam
P.S. Should this disease break out among any of the cattle in your neighborhood let me know at once.
U.S.
2
AGRICULTURAL DEPT WASHINGTON
Farmer Brown Kossuth Co. Io
Dear Sir—
We are sending specialists to look into the case of your hog.
In haste
Uncle Sam
2
3
WASHINGTON
HOG SPECIALISTS
CAN YOU FIND OUT WHAT IT IS?
WE SHALL DO EVERY THING POSSIBLE
SPECIALISTS
HOG SPECIALIST
U.S.
3
DIED 19
AMERICAN MEDICAL ASSOCIATION CARTOON SERIES
4
HAVE YOU FOUND OUT YET?
YES, AND WE CAN SAVE YOUR HOGS
4

Medical Corps, U. S. Navy

Changes during the week ended Oct. 28, 1911:

Brooks, F. H., P. A. surgeon, detached from the *Birmingham* and ordered to the *Marietta*.

Hough, F. P. W., P. A. surgeon, ordered to the *Franklin*.

Blackwood, N. J., surgeon, detached from the naval hospital, New York, and ordered to command the naval hospital, Canacao, P. I.

Changes during the week ended Nov. 4, 1911.

Giltner, H. A., P. A. surgeon, commissioned passed assistant surgeon from Sept. 10, 1911.

McLean, N. T., P. A. surgeon, ordered to duty at the naval hospital, New York.

Mackenzie, E. G., P. A. surgeon, detached from the naval hospital, New York, and granted sick leave for six months.

Jones, E. L., P. A. surgeon, ordered to duty at the naval hospital, Canacao, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Oct. 25, 1911:

Carter, H. R., surgeon, granted two months' leave of absence from Sept. 14, 1911, on account of sickness.

White J. H., surgeon, granted one month's leave of absence from Oct. 12, 1911, on account of sickness.

Gwyn, M. K., P. A. surgeon, relieved from duty at Baltimore, and directed to proceed to Ellis Island, N. Y., and report to Chief Medical Officer for duty.

Robertson, H. McG., P. A. surgeon, on being relieved by Assistant Surgeon R. H. Lyon, directed to proceed to Baltimore and report to medical officer in command for duty and assignment to quarters.

Lyons, R. H., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to the Tampa Bay Quarantine Station and assume command of the Service.

Kearney, R. A., asst. surgeon, relieved from duty on revenue cutter *Manning* and directed to rejoin station at San Francisco.

Schwartz, Louis, asst. surgeon, relieved from duty on revenue cutter *Tahoma* and directed to report to the medical officer in charge at Seattle for temporary duty.

Board of medical officers convened to meet at Baltimore, Oct. 25, 1911, for the examination of an officer of the Revenue-Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon John McMullen, recorder.

Changes for the seven days ended Nov. 1, 1911.

Stimpson, W. G., surgeon, detailed to represent the Service at the second annual meeting of the Clinical Congress of Surgeons of North America, to be held at Philadelphia, Nov. 7 to 16, 1911.

Blue, Rupert, surgeon, directed to proceed to Honolulu, T. H., and report to the Governor of Hawaii for special duty.

Lavinder, C. H., P. A. surgeon, detailed to represent the Service at a conference on pellagra to be held in Columbia, S. C., Nov. 2, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to New York on special temporary duty.

Currie, Donald H., P. A. surgeon, on being relieved by Passed Assistant Surgeon George W. McCoy, directed to proceed to San Francisco and assume charge of the plague laboratory.

Goldberger, J., P. A. surgeon, directed to proceed to Mexico City on special temporary duty.

Schereschewsky, J. W., P. A. surgeon, directed to attend a meeting of the executive committee of the International Congress on Hygiene and Demography to be held in New York, Nov. 4, 1911.

Francis, Edward, P. A. surgeon, directed to proceed to Baltimore on special temporary duty.

McCoy, George W., P. A. surgeon, relieved from duty in San Francisco and directed to proceed to Honolulu, T. H., and assume command of the leprosy investigation station.

Rucker, W. C., P. A. Surgeon, directed to proceed to San Francisco and report to Surgeon Rupert Blue for temporary duty.

Medicine and Nature.—Fernel, the great medical teacher, says: "Medicine, the eye always fixed on Nature, and, as it were, made in her image and resemblance, takes her law for guide, studying and bending every effort to imitate her, in order to preserve man's health constant and exempt from maladies, to restore and reestablish it when it totters and becomes deranged, finally to prolong life itself sound and safe as long as it is possible."

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Third Month—Second Weekly Meeting

Acute Articular Rheumatism[1]

Pathology: Changes in synovial membranes, periarticular structures, cartilages, effusion, tendon sheaths. Changes in endocardium, pericardium, myocardium. Blood changes.

Clinical History: Prodromata, fever, angina, etc. Invasion, fever, chills, synovitis, pain, swelling, perspiration. Duration, defervescence.

Complications: Hyperpyrexia—Time of onset, cerebral symptoms, prostration.

Cardiac Affections—Endocarditis, frequency, time of onset, termination, diagnosis. Pericarditis, occurrence, forms, symptoms, physical signs. Myocarditis, association with other lesions, dilatation.

Pulmonary Affections—Pneumonia, pleurisy, accompanying cardiac lesions.

Nervous complications—Delirium, coma, convulsions, chorea, meningitis.

Skin Lesions—Sudamina, erythema, urticaria, purpura. Subcutaneous nodules, distribution, pathology.

Treatment

Prophylaxis: Exposure to cold, occupation, local predisposition, tonsilitis.

Internal Medication—Salicylate acid, its compounds. Physiologic action. Therapeutic action. Untoward effects. Antipyrin and acetanilid. Alkaline treatment.

Local Applications—Counter-Irritants. Cold and Heat. External applications.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, November 14. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, November 14. Sec., Dr. P. C. Williams, Texarkana.

Connecticut: Regular, City Hall, New Haven, November 14. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, November 14. Sec., Dr. Edwin C. M. Hall, New Haven; Eclectic, Hotel Garde, New Haven, November 14. Sec., Dr. Thomas S. Hodge, 19 Main Street, Torrington.

Louisiana: Homeopathic, New Orleans, November 13. Sec., Dr. J. T. Crebbin, 1207 Maison Blanche Building.

Maine: City Council Rooms, Portland, November 14-15. Sec., Dr. F. W. Searle, 776 Congress Street.

Massachusetts: State House, Boston, November 14-16. Sec., Dr. Edwin B. Harvey.

Texas: Fort Worth, November 14-16 (change of date from previous notification). Sec., Dr. J. D. Mitchell.

West Virginia: Hotel Waldo, Clarksburg, November 13-15. Sec., Dr. H. A. Barbee, Point Pleasant.

Missouri June Report

Dr. Frank B. Hiller, secretary of the Missouri State Board of Health, reports the written and oral examination held at St. Louis, June 12-14, 1911. The number of subjects examined in was 14; total number of questions asked, 105; percentage required to pass, 75. The total number of candidates examined was 181, of whom 146 passed and 32 failed. Three candidates did not complete the examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1910)	75
Rush Medical College	(1902) 79; (1909)	84
College of Physicians and Surgeons, Chicago	(1910)	84
Bennett Medical College	(1911)	78
Keokuk Medical College, College of Phys. and Surg.	(1905)	75
University of Kansas	(1911)	81, 91
University of Louisville	(1910) 75; (1911)	77, 81
Johns Hopkins University	(1911)	85
Harvard Medical School	(1901) 85; (1911)	89
Tufts College Medical School	(1908)	85
University of Michigan, Dept. of Med. and Surg.	(1911)	80
University Medical College, Kansas City	(1896) 75; (1910) 75; (1911)	75, 75, 75, 76, 76, 76, 77, 79, 80, 80, 82, 83.
Washington University	(1907) 76; (1911)	75, 75, 75, 75, 75, 76, 77, 77, 77, 77, 78, 79, 79, 79, 80, 81, 81, 81, 82, 83, 83, 83, 84, 84, 84, 85, 85, 86, 87, 88.
St. Louis University	(1910) 80; (1911)	75, 75, 75, 75, 75, 77, 79, 79, 79, 81, 81, 81, 82, 82, 82, 83, 83, 83, 83, 84, 84, 84, 84, 85, 85, 85, 86, 87, 87, 88, 88, 88, 89.
American Medical College, St. Louis	(1905) 75; (1911)	75, 75, 75, 75, 78, 82.
Barnes Medical College	(1909) 79; (1911)	75, 75, 76, 76, 76, 76, 77, 77, 78, 78, 78, 78, 79, 80, 81, 83, 84, 84.
St. Louis College of Physicians and Surgeons	(1909) 75, 75, 75; (1910) 75, 75, 76; (1911)	75, 75, 75, 80, 84.
Ensworth Medical College	(1911)	83
Homeopathic Med. College of Missouri	(1891) 75; (1909)	75
Long Island College Hospital	(1905)	75
Leonard School of Medicine	(1905)	81
Eclectic Medical College, Cincinnati	(1911)	81
Meharry Medical College	(1910) 75, 75; (1911)	76, 77, 78, 78.
University of Nashville	(1907) 77; (1911)	82

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1909) 68; (1910) 67; (1911)	57
Barnes Medical College	(1907) 51; (1909) 67; (1910) 69; (1911)	64, 65, 65.8, 67, 69.
University Medical College, Kansas City	(1910) 66; (1911)	50, 59, 67.
St. Louis College of Physicians and Surgeons	(1906) 62; (1910) 66; (1911)	59, 61, 64, 69.
Ensworth Medical College	(1909) 53; (1910)	60
Kansas City Hahnemann Medical College	(1911)	69, 70
Washington University, St. Louis	(1911)	69
American Medical College, St. Louis	(1910) 63; (1911)	66, 69
St. Louis University	(1907)	68
Meharry Medical College	(1910) 68; (1911)	70

Georgia Homeopathic October Report

Dr. R. E. Hinman, secretary of the Homeopathic Board of Medical Examiners of the State of Georgia, reports that at the meeting held October 10, 1911, 2 candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chicago Homeopathic Medical College	(1897)	Illinois
Detroit Homeopathic Medical College	(1901)	Michigan

Rhode Island October Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at the State House, Providence, Oct. 5-6, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 14, of whom 13 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale Medical School	(1908) 84.5; (1911)	86.8
Rush Medical College	(1905)	83.1
University of Maryland	(1911)	83.5
College of Physicians and Surgeons, Baltimore	(1911)	84
Tufts College Medical School	(1911)	81.5
Harvard Medical School	(1901)	86.7
Dartmouth Medical School	(1908)	88.1
University of Pennsylvania	(1909) 91; (1911)	85.1
Laval University, Quebec	(1911)	82.2
McGill University, Quebec	(1909)	84.8
Queen's University, Ontario	(1908)	89.8

FAILED

College	Year Grad.	Per Cent.
University of Vermont	(1910)	76

Wyoming October Report

Dr. A. B. Tonkin, secretary of the Wyoming State Board of Medical Examiners, reports the written and oral examination held at Riverton, Oct. 9-11, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.
Marion-Sims College of Medicine	(1897)
Creighton Medical College	(1910)
Columbus Medical College	(1881)
Jefferson Medical College	(1910)

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1910)	Illinois
Rush Medical College	(1910)	Illinois
Lincoln Medical College	(1906)	Kansas

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[1] McCrea: The Journal A. M. A., 1903, xl, 211. Phillips: Cleveland Med. Jour., 1906, v, 436

Society Proceedings

COMING MEETINGS

Am. Assn. for Prevention of Infant Mortality, Chicago, Nov. 16-18.
American Physiological Society, Baltimore, Dec. 27-30.
American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Medical Association, Hattiesburg, Miss., Nov. 14-16.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-Sixth Annual Meeting, held at Paducah, Oct. 24-26, 1911

The President, DR. J. E. WELLS, Cynthiana, in the Chair

Officers Elected

A list of the newly elected officers was published November 4, p. 1545.

Axis Traction Forceps

DR. DELIA CALDWELL, Paducah: This instrument is not used as often as it should be. Practitioners should make use of it in all suitable cases.

What the Physician Can Do for the Diseases of Women in His Office and at the Bedside

DR. GEORGE J. HERMAN, Newport: More than 90 per cent. of gynecologic patients consult the general practitioner for one of two things, either pain or irregular menstruation. Again, the general practitioner sees for the first time the great majority of women who suffer from malignant disease of the breast and uterus. What can he do for those patients? He must make an early diagnosis, and advise early and radical treatment. I want to emphasize the value of absolute rest in inflammatory conditions of the female pelvis.

DISCUSSION ON PAPERS BY DRS. CALDWELL AND HERMAN.

DR. T. A. FRAZER, Marion: Dr. Herman struck the keynote when he says we should put these patients to bed and have them rest. When a woman is suffering from an inflammation of the pelvic viscera, it is just as necessary that she be confined to bed and kept there for a while as is a case of typhoid. There is nothing so important for these cases as absolute rest.

DR. D. O. HANCOCK, Henderson: We do not use forceps enough. If we did, much pain would be obviated and exhaustion guarded against. With a reasonable amount of skill, the damage which may be done by the forceps does not compare with the damage that is done by the head by prolonged pressure and waiting. I can more certainly protect the perineum by having forceps on than I can by taking them off.

DR. J. S. LOCK, Barboursville: Among country practitioners there is a good deal of prejudice against the use of forceps, either on account of lack of skill in using them or to gain the favor of the public. I make it a practice to use forceps if I have a tedious case and can get the parts in proper condition. I think it is just as much our duty to relieve suffering mothers with the use of forceps as it is with anything else that comes in our line of work. The general practitioner is responsible for the infrequent use of forceps, to a great extent. If the practitioner does not know how to use this instrument, he ought to learn how. We ought to begin to educate the people about the use of forceps and about the advantages that come to them from such use.

DR. C. J. SLAYTON, Greenville: I have been engaged in the practice of medicine for forty years. I have used forceps oftentimes, but only when I think it is absolutely necessary. I depend largely on the *vis medicatrix naturæ*. He who practices obstetrics and has patience and waits is the safest man. I did not see a rupture of the perineum for fifteen or twenty years after I began to practice.

DR. J. T. REDDICK, Paducah: I have had a pair of axis-traction forceps for the past six or eight years. No physician who pretends to do very much obstetric practice should be without this instrument because of its value in selected cases. In high forceps cases and in other cases that are difficult, the axis-traction forceps affords speedy relief and its manipulation is easy. I have saved the lives of many infants by the timely use of forceps.

DR. J. B. MURPHY, Chicago: Every obstetrical case is a surgical case. Fortunately, Providence has so ordained that the tissues, lacerated and injured in every surgical case, shall take care of a large quantity of material, unless the dose is very large and of the most virulent type, by the infiltration edema that occurs preceding parturition. It is entirely different when we come to abortion and premature labor. There is where we get out fatal infections. There is where women are killed by interference and manipulation and handling without taking aseptic or antiseptic precautions. We see these cases of infection in their worst forms after they have passed out of the hands of general practitioners, and they come to us in the superlative degree of infection, and we, therefore, as surgeons are very much more afraid of infections than the average practitioner.

Medical Ideals for the Every-Day Doctor

DR. W. W. ANDERSON, Newport: Every great movement for human welfare in promoting health and vigor has been instigated, advocated and carried to success chiefly by the medical profession to its own great loss, and often in the face of bitter opposition from the people who were to be benefited. No other calling or profession has such a record of constant and unselfish devotion to humanity. The every-day practice of medicine is eminently fitted to make the most of any man if he but give himself devotedly to the work for its own sake. The great men of medicine were just hard, earnest and capable workers. They grew great by growing into the greatness of their task. The every-day doctor must do some specializing. Consultations ought to be more frequent. The greatest opportunities in the healing art to-day are waiting at the hand of the general practitioner. When the every-day doctor has learned to excel himself and others in something, he will begin to experience the pleasure of leadership, the distinction of success, the joy inherent in work well done.

Indications for Prostatectomy

DR. FRANK BOYD, Paducah: The indications for the removal of the prostate are that whenever it interferes by enlargement sufficient to prevent the free and complete emptying of the bladder, from whatever cause, it should be removed.

DISCUSSION

DR. JAMES G. CARPENTER, Frankfort: Early diagnosis of enlarged prostate is everything. If the gland is large and situated high up, it is easily reached by the suprapubic route. If it is a comparatively small fibrous prostate, it can be removed by the perineal route.

DR. CARL WHEELER, Lexington: Residual urine does not always mean enlarged prostate. We may overlook contracture at the vesical neck or hypertrophy of the prostatic fibers at the vesical neck, which is to be differentiated from prostatic hypertrophy by the increased length of the urethra. In hypertrophy of the prostate the patient has an increase in the length of the urethra. Preparation of the patient for prostatectomy has not been touched on. In many instances the renal function is deranged, and the administration of an anesthetic may mean almost certain death. If you introduce a drainage catheter and anchor it, you will see the specific gravity of the urine increase from 1006 to 1020. The albumin in the urine will greatly disappear, but not entirely. The appetite of the patient will improve. The patient will take on flesh. The kidney function will almost be reestablished, and the surgical risk is greatly minimized, and prostatectomy is never indicated until all these things are found out.

DR. JOHN R. WATHEN, Louisville: I have contended that it is far better to operate suprapubically where the prostate is soft, large, of the adenomatous type, rising high up in the bladder. It enables one to make a better diagnosis of other lesions which may be present. The perineal method is indicated in 90 per cent. of the cases.

DR. L. W. BREMERMAN, Chicago: The functional activity of the kidneys should be estimated in every case, not only when prostatectomy is indicated, but when any other operative procedure is contemplated on the genito-urinary tract.

Early Diagnosis in Malignant Disease

Dr. William H. Wathen, Louisville: We are able to make a reasonably early diagnosis of cancer in certain parts of the body, while in cancer situated in other parts we make a very late diagnosis—too late in many instances to do any good by surgical operation. I have operated in numerous cases of cancer of the uterus in the last thirty years, and in many others I have not operated at all. In from 80 to 90 per cent. of the cases it was too late to offer any hope of a permanent cure by operative procedure. We can only offer temporary relief and the prolongation of life of from six months to one year. It is a sad commentary on the intelligence of womanhood and on the medical profession that when we recognize most of the cases of mammary cancer they have progressed too far for any hope of permanent relief.

Early Diagnosis in Ano-Rectal Diseases

Dr. J. G. Carpenter, Frankfort: Early diagnosis in ano-rectal diseases is everything. Too often the physician has accepted what the patient has said with reference to his condition. If a patient will not submit to a proper objective examination, he has no right to be treated. I have seen young children with summer diarrhea in whom there were fissures, hemorrhoids, aphthous ulcerations, proctitis. When the patients were treated by divulsion of the rectum and the use of antiseptics, the summer diarrhea has subsided and these patients have recovered.

Early Diagnosis of Head Injuries

Dr. A. D. Willmoth, Louisville: In the brain, of all structures, do we have to make an early diagnosis, if we expect to get the best results. This may not mean a surgical result. Many times it means doing nothing. If we would make an early diagnosis, we have to do away with the old classification of concussion and compression of the brain. There is one condition in brain injuries that brings about the entire trouble, and that is increased intracranial pressure. If it be an injury, you may merely have an extravasation of blood as in any other part of the body or tissue, and it causes great disturbance. A good history of these cases will guide one in the subsequent treatment.

Ectopic Pregnancy

Dr. Hugh E. Prather, Hickman: Abdominal section is the only reliable method for the relief of this condition. Without surgical treatment about two-thirds of the patients die. When rupture occurs the patient may suddenly collapse and fall to the floor, or present symptoms which simulate salpingitis, appendicitis or uterine abortion. Surgical treatment should be instituted as soon as the diagnosis is tentatively established, except when the patients are *in extremis*.

DISCUSSION

Dr. W. W. Anderson, Newport: Surgery is so safe and swift and sure that we ought to consult the surgeon for diagnosis a great deal oftener than we do.

Dr. J. G. Carpenter, Frankfort: In ectopic pregnancy we should be able to make a diagnosis before rupture. The patient may feel in unusually good health, but suddenly falls over when in the act of doing something and faints, or she is seized with a violent pain in the lower part of the abdomen and says, "I am dying." These, with other symptoms should enable the practitioner to make a diagnosis. With a diagnosis of ectopic pregnancy the patient should be kept in the best possible condition, and when the attachments of the afterbirth are maturing and ready to undergo degeneration, operation should be performed.

Dr. J. T. Reddick, Paducah: When there is a rupture in the early stage of pregnancy, it is small, and the hemorrhage is so slight that one may not be able to make a diagnosis for several hours. I recall one such case in which it was impossible to say whether or not it was a case of ruptured ectopic pregnancy or appendicitis or acute intestinal obstruction.

(To be continued)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION

Annual Meeting, held at Nashville, Oct. 17-19, 1911

(Concluded from page 1558)

Medical Tendencies

Dr. Robert H. Babcock, Chicago: So indispensable have laboratory methods become to-day that one wonders how clinicians of fifty years ago succeeded as well as they did in the diagnosis of any but the commonest affections. Is there not a tendency, along with devotion to laboratory research and animal experimentation, to make the study of pathology outweigh too greatly the application of remedies to the alleviation of disease? In how many schools of to-day do the students receive the instruction in materia medica and therapeutics they did thirty years ago? There is reason for this therapeutic skepticism, but it is a tendency which should not be permitted to grow too rank lest the art of healing be lost in the science of investigation of disease processes. Medical colleges must enlarge their clinical facilities or it may be well to return to the good old custom of each student having a practical training with an experienced preceptor. No one can contemplate present therapeutic methods and contrast them with those of three or four decades ago without recognizing that a momentous evolution is at work.

A national department of public health in all probability is only a question of time. It certainly is in accord with popular education on matters of health and hygiene and the movement springs from the humanitarian desire for the physical betterment of the masses.

Doctors and the People

Dr. J. C. Wilson, Philadelphia: The organization of the medical profession but lightly touches the people and the discipline reaches them not at all. There are many people who are wholly indifferent to the medical profession; some who are actively hostile to it. Modern medicine is preventive medicine. To attain its objects, which are the protection of health and life, no effort is too arduous, no problem too difficult. Wherever disease prevails, wherever the death-rate is high, it wants to know the cause in order that the remedy may be applied. It busies itself with water, milk, foods of every kind, even the air we breathe. It goes to the school, the mine, the factory, the shop, even to the very homes of the people to correct the faults that menace health and life through ignorance and neglect. It invokes the law that people may be protected from themselves and from each other. It is in the highest sense educational. It invites reasonable criticism of its methods and results. It should have the interested cooperation of those who reap the benefit of its work.

The Indebtedness of Posterity to the Pioneer Surgeon of the Mississippi Valley

Dr. Joseph C. Bryant, New York, in the address in surgery, paid a glowing tribute to Dr. Ephraim McDowell, the first surgeon to perform ovariotomy.

General and Dietetic Treatment of Typhoid

Dr. George Dock, St. Louis: The efficient preventive treatment now available should be used in camps and in institutions or wherever bodies of people are gathered together under conditions that might make typhoid infection possible. The preliminary use of calomel can be carried out without danger of setting up dangerous diarrheas. It is important to keep up the patient's nutrition to the highest possible point in order to favor recovery of the anatomic lesions. The fuller diet recommended by many recent authorities does not involve any greater danger to the intestinal wall than the administration of milk. A comparatively varied diet can be given without exciting the patient in any way, and the morale of the patient is nearly always distinctly improved by realizing that he is not on the painfully limited diet traditionally given to seriously sick people.

DISCUSSION

Dr. Charles L. Minor, Asheville, N. C.: We ought to use all the various means of giving water to our patients, of pushing water on them, having the nurses insist that they get so much water at a time and as regularly as medicine. I have for the last two years in a number of severe cases, infused my patients, and I have been surprised to see the wonderful effect of a twice-daily saline infusion.

Dr. Fenton B. Turck, Chicago: It is a mistake to inject a large quantity of water into the bowel of a typhoid patient, for the reason that it overstretches the colon, increases the cramps and does not produce a true peristalsis.

Dr. John A. Witherspoon, Nashville: In my typhoid experience, sweet milk, if given at any stage of fever, and especially after the beginning of the second week, will invariably increase fermentation to the extent that there will be a great deal more gas in the abdomen, and a great deal more flatulency. Then in the stool large masses of curdled milk will be found passing through. Any diet that increases flatulency and fermentation, and that is capable of passing through the intestinal tract in a coagulated form, is not the best diet. I believe in nutrition, but sweet milk, in my judgment, has no place in the treatment and dietetics of typhoid fever. If one gives the patients buttermilk, or broths, or meat juices, or extracts, one will get much better results, and maintain the vitality of the patient better.

Dr. L. H. Montgomery, Chicago: I am an advocate of soups and beef-extracts, properly prepared, but I use milk and buttermilk. I give custards and poached eggs, recommend sunshine and plenty of clean sheets and bedding, and general hygienic rules.

Dr. Robert B. Preble, Chicago: The keynote of this discussion is individualization; there are patients who can be fed successfully on sweet milk without disturbance; some can be fed nothing but water and not feel any disturbance, and there are others to whom we may give a liquid diet. But each patient must be handled as an individual, and any man who attempts to treat every patient with a fixed diet that applies to all patients will have a lot of trouble.

Hemorrhage in Typhoid Fever

Dr. Walter F. Boggess, Louisville: For the past fifteen years it has been my habit to give every typhoid patient 5 grains salol, 10 grains hexamethylenamin, 20 grains each of subnitrate and subgallate of bismuth, in suspension, every four to eight hours. This is given with a dose of castor oil every three or four days, and normal saline enemata each day, whether or not diarrhea is present. In 223 cases of typhoid fever thus handled not a single one showed any hemorrhage. Three severe hemorrhages occurred in ambulatory patients, and my first visit was during the hemorrhage. I feel sure that this treatment is prophylactic and curative.

As to the treatment of the hemorrhage itself, at first glance, the indications are threefold: first, to put the bowel at rest by lessening peristalsis; second, increase the coagulability of the blood, either local or systemic or both, and, third, to sustain the patient and the after-treatment, which is a matter of some importance. Prophylaxis is a matter of great importance, as obtained by the proper handling and treatment of the patient.

Dr. George Dock, St. Louis: The first thing to do in such cases is to give the patient enough morphin to quiet him. I have hardly seen one who did not need quieting. When to move the bowels is an important point, and I have come to solve this in a rather empirical way. As long as the patient is comfortable, I often wait three or four days, but if he shows the slightest discomfort in the lower bowel, I do not hesitate to give him an enema, either saline solution, or even soap-suds enema containing castor oil. I think this better, even if a little hemorrhage is started.

Hygienic and Dietetic Treatment of Arterial Hypertension

Dr. Arthur R. Elliott, Chicago: We must not lose sight of the fact that high blood-pressure is a symptom, not a disease. In the present state of our knowledge hypertension appears to be due to toxemia, certain secondary organic changes, arterial fibrosis and cardiac hypertrophy, following from over functioning of the cardiovascular apparatus produced by the circulatory toxins. The existence of arterial hypertension is not necessarily an indication for treatment. It is difficult often to decide whether we should attempt to lower blood-pressure at all in any given case. A blood-pressure of 200 mm. or higher may be essential to the maintenance of circulatory efficiency. This is true of most cases of chronic nephritis. Again, the symptoms ordinarily attributed to high blood-pressure may be more dependent on disturbance of heart function than on elevated blood-pressure *per se*. Even in matters of diet and hygiene we may by overstrictness impair the patient's strength and reduce his circulatory efficiency. This symptom is encountered alike among the rich and the poor, the thin and the fat. Owing to variation in type and circumstances, it is difficult to lay down any absolute rules to govern diet and hygiene that will be appropriate for any major group of cases.

Preliminary treatment should be directed toward putting the patient in as good general condition as possible, and especially to eliminate toxic factors. Tobacco should be interdicted in severe cases and cases with bad hearts, and strictly controlled in all. Exercise and activities should be regulated on the physiologic level. Such rest should be enforced and periodical "bed weeks" advised in cases of weak hearts. The diet should be individualized according to age, activity, and the state of the heart. Hypertension waves or crises should be combated by rest, starvation or a low diet, of milk and cereals, or bread and fruit with limitation of fluids. Fluids should be restricted in ratio to the amount of urine secreted. Salt restriction is advisable in all cases, and salt withdrawal in every case showing edema, however slight. As these patients are very nervous and impressionable, they should be habitually encouraged and should not be informed of the fluctuations in their blood-pressure.

DISCUSSION

Dr. Alfred C. Croftan, Chicago: An important point in Dr. Elliott's paper is that not every case of hyperarterial tension necessarily calls for suspicion or regulation. This is simply a broad rule which applies to almost every morbid phenomenon. It may call for regulation, it may call for suspicion, or it may call for encouragement. A symptom of that kind may be one of the means of defense against disease. As to diet, I have been inclined to the mechanical rather than the chemical side. I try to give these patients a diet which does not distend the stomach and colon unduly with salads, liquids or gas. The diastolic action of the heart is always difficult in these cases, and anything that presses upward on the diaphragm is not good. Hydrotherapy is of the greatest importance.

Dr. Robert B. Preble, Chicago: The successful handling of these cases requires, first, that our knowledge must be more complete than it is now, so that we may be able to direct our patients intelligently. Second, our patients must be sufficiently intelligent to carry out the directions which we give them. Third, the very practical difficulty which we frequently encounter is a question of dollars and cents. These conditions are extremely common among the poor, and it is useless to talk to the average poor patient about these things you would like to have him do that would be for his good.

Dr. Albert E. Sterne, Indianapolis: In some instances these cases will react to simple mechanical treatment, but in those in which there are manifest cardiovascular changes and commensurately strong central action, systematic venesection is one of the best remedies. It is true that after a comparatively shorter or longer lapse of time the rise in peripheral tension recurs, but systematically carried out I have found venesection in selected cases a valuable therapeutic agent.

The Treatment of Movable Kidney

Dr. William Billington, Birmingham, England: I have operated for mobility of one or both kidneys on 345 patients and have performed more than 500 fixation operations. In many instances, I have tried the effect of mechanical support prior to nephropexy. Amelioration of symptoms, when the kidney is efficiently supported, is a strong argument in favor of nephropexy, should the belt fail to give complete relief or be too irksome for permanent employment. Congenital cases of general visceroptosis are unsuitable for operation. Open operation alone insures permanent and complete cure of renal mobil ity. Nephropexy can now be carried out with safety, precision, and permanent success, and there are no surgical reasons why it should not be done in suitable cases. The operation is analogous in all respects to the radical cure of hernia, the same general rules applying to each procedure. Given a patient whose symptoms demand treatment for mobile kidney, the choice between belts and trusses or operation will be determined by the type of displacement, the nature of the symptoms, and the age, occupation, and general condition of the patient.

With regard to my results, I have to record three deaths among 345 patients, a mortality of less than 1 per cent. In 166 of the 345 patients, one kidney only was operated on, while n 179 both kidneys were fixed at the same sitting. The total number of nephropexies is 524. Of the single operations, 130 were on the right kidney and thirty-six on the left. Thirty-three of the patients were males and 312 females. Of the atter, 148 were married and 164 single. My youngest patient was a boy of 14, and my oldest a woman of 70 who suffered rom agonizing pains in the right side on the least exertion, he cause of the pain being torsion of the right renal pedicle. Most of my patients were between 35 and 45, but my experience has been that no period of life as altogether immune from he more serious troubles associated with nephroptosis.

Nephroptosis: Its Effect on the Nervous System, with Special Reference to Insanity

Dr. C. W. Suckling, Birmingham, England: My views are based on twenty years' work and on the observation of over 00 nephropexies performed on 303 patients. I was astounded t the frequency with which I found dropped kidney. I could ot help associating the dropped condition of the kidneys with he nervous trouble of which the people complained. I tried arious kidney belts, but found they did not keep the kidneys p. I have now had at least 300 cases of operation. I have een the kidneys, and have observed the changes that take place ith age. I have seen the normal kidney, the suprarenal capsules occasionally, but very rarely descending with the kidney, he colon dragged out with the movable kidney, also the duodenum. I have also seen ptosis of the spleen with nephroptosis. have visited these patients after nephropexy, and have observed the wonderful change in their appearance after a few ays. Forty-three of my insane patients treated by nephropexy re cured; five cases are failures, of which two are so owing o bad nephropexy.

Treatment of General Peritonitis, Based on Personal Experience

Dr. Daniel N. Eisendrath, Chicago: I have had thirty-two cases in seven years with three deaths; twenty-two in the ast three years with two deaths. The causes of death were cute dilatation of the stomach, general sepsis and uremia in ne case, phlegmon of abdominal wall in another, and initial eneral sepsis in the third. One additional patient, who died f pneumonia one month after operation, had been well and up r nearly two weeks. There were ten patients operated on the rst day, with no deaths; twelve on the second day with one eath; seven on the third day, with one death. In the majority of cases there were no previous attacks due to the organ volved.

The most valuable symptoms are increase in pulse-rate, preading rigidity and tenderness, persistent nausea and vomiting; uncertain signs or the presence of fluid and absence of ver dulness. The distention comes on too late, as a rule, to of much value. Fever also is not reliable. The white blood-unt was increased in all cases, except the most severe one. rinary findings are of importance in regard to prognosis.

The peritoneal changes were typical in all cases. In twenty pendicitis cases there was a visible perforation. In eight ere was none. Peritonitis was general so far as I could see. apid operation is a necessity. The right rectus incision was ade in all cases. This is sutured, except a small drain is serted at the lower angle down to the peritoneum. As soon the appendix has been removed, or the perforation has been osed, an incision is made just above the pubes and a drain inserted into the cul-de-sac. A split rubber-tube, well protected, is the best drain. The maximum amount of drainage is tained in the first twenty-four hours. The high elevation of the patient after operation is essential. No irrigation is resorted to during the operation. Salt solution, 6 ounces, is given every four hours after operation, and this has been found to be plenty and is better tolerated by the majority of cases. The surgeon should watch for complications, especially acute dilatation of the stomach. Abscesses between the coils of intestine will usually take care of themselves or can be opened later if the fever should persist.

Approval of Dr. Wiley's Work and of a National Department of Health

The association put itself on record as expressing its appreciation of the valuable work which has been done and is being done by Dr. Harvey W. Wiley in the enforcement of the Food and Drugs Act. The association also, following the recommendation of the president, Dr. Babcock, in his address, appointed a committee which drafted resolutions urging the importance of establishing a national department of health

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COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Oct. 4, 1911

The President, Dr. George E. deSchweinitz, in the Chair

Hydrophobia

Dr. Leonard D. Frescoln: History shows that knowledge of the disease dates back to the time of Celsus. Early ideas of the disease were very crude. Virchow showed the fallacy of its spontaneous origin, and Samuel Johnson called it "a substance, nobody knows what." It is found most commonly in the spring. One writer said it could occur as long as twenty-eight years after the bite. The incubation period is between ten days and one year—generally about six weeks. In Egypt the disease is unknown; in Missouri and Ohio it is common; also in Hamburg and in Saxony. The gross pathology is for the most part similar to that of uremia, or septicemia, or delirium tremens. One case had a ruptured pleura from the convulsions; glycosuria may be found in dogs with the disease. In 1903, Negri noticed degeneration of cortical nerve cells in rabies cases. Among the most striking symptoms now found to be indicative of the disease, are irritability, sensitiveness of the ears to sound, spasm of the pharyngeal muscles, especially when trying to swallow, painful consciousness and later paralysis. It is yet a long road to the complete satisfaction of particularly the laity in the diagnosis and treatment of rabies. Dr. Hunter stated that not one case had been helped in 2,000 years. Ward, in 1809, advised the external use of opium; entrails of insects were used in India to cure the malady, and many superstitious modes of treatment were in vogue. Now we cauterize the wound at once with fuming nitric acid, administer chloral and give the Pasteur preventive treatment as early as possible.

In 1895, eleven persons were given this treatment, and in 1907, 165 in Massachusetts alone. In 1886, there were 2,671 patients treated in Paris, and twenty-five of these died, probably because treatment was delayed; in 1910, there were 401 persons treated and not one died. In 1899, in the District of Columbia, twenty-one persons were bitten, Pasteur treatment instituted, and not one died. There is no case of the fully developed disease in which the patient has ever recovered.

Rabies has been eradicated from Denmark, Norway, Sweden, England (1897) and Switzerland. In Australia there is a six months' quarantine for newly arrived dogs. Pseudolyssa or hysteria resembling rabies, may closely simulate the disease. During the last few years about sixteen persons under our observation were treated, either for the disease or on account of suspicious bite from animals shown to be rabid and having Negri bodies; in one or two cases, Negri bodies were found at autopsy. All persons receiving our treatment escaped the disease. Treatment was given before convulsions developed. The cases seen in the disease terminated fatally. There should be a proper selection of cases and careful institution at once of the best known treatment. About twenty-five treatments of the Pasteur method or required, one a day, as shipped, e. g., from the New York Board of Health; this costs $25. Each bottle should be kept on ice till injected that day.

DISCUSSION

Dr. D. J. McCarthy: An important point in diagnosis is the period of incubation, which is usually about six weeks. In almost all the spurious cases of rabies I have seen the incubation period was much too early or very much too late. In examining a case of suspected rabies I feel that it is important to work out carefully the question of exposure, history of dog-bite, and to estimate the period of incubation. One condition mistaken for rabies and in which the similarity of symptomatology is marked is enlarged thymus.

Dr. Hobart A. Hare: To anyone wishing to investigate the subject of rabies, an instance of interest is the occurrence of an epidemic of the disease in the royal herd of deer near London in 1888. A number were at the Brown Institution, where I saw them with Sir Victor Horsley and Dr. Beavor. The viciousness of the animals, which ordinarily are so gentle, was very marked.

Dr. A. P. C. Ashhurst: It is worthy of notice, I think, that in these cases only those patients recovered whose wounds had been treated properly; and that patients whose wounds had not received proper treatment had died in spite of the use of the Pasteur treatment. Dr. Rambaud, head of the Pasteur Institute in New York, asserted that cauterization was useless unless the actual cautery was employed, and he considered bichlorid of mercury (1 to 1,000) the best antiseptic. It has been suggested that lemon juice might be employed in an emergency, as this has been found of value in experimental work. If it was certain that the bite had been inflicted by an animal which was really rabid, a cupping glass should be applied to the wound, or this should be sucked, so as to extract the virus; and its absorption might be delayed by the use of an elastic tourniquet. I should like to ask Dr. Frescoln what method of cauterization he employed in the cases reported.

Dr. L. D. Frescoln: Fuming nitric acid or crude phenol was used immediately to cauterize.

Compensation by Displacement of the Thoracic Viscera in Pulmonary Tuberculosis

A long abstract of this paper by Dr. Charles L. Leonard appeared in The Journal, Oct. 21, 1911, p. 1393.

DISCUSSION

Dr. Henry R. M. Landis: I should like to ask Dr. Leonard how many cases came to the autopsy table, because even where the clinical results and the roentgenograms have been compared, experience has shown that a different condition is sometimes present. I should also like to ask whether the pneumothoraces were recognized by clinical examination or by the plates only. I should think it would be difficult to detect any displacement of the aorta by clinical means, and I should like to inquire how often the clinical examination of displacement of the aorta coincided with that found in the Roentgen examination.

Dr. James M. Anders: I was somewhat surprised to hear the statement made that the heart is displaced toward the right four times as often as toward the left in pulmonary tuberculosis. In making physical examinations in cases of tuberculosis, one is led to believe that the heart is displaced toward the left, because the left lung, when retracted, uncovers an increased area of the anterior surface of the heart, giving the impression that the latter is displaced toward the left. This group of cases is readily eliminated by the Roentgen ray. Dr Leonard has pointed out that in the vast majority of cases in which there is displacement of the heart toward the right, the aorta is also displaced; this had not been discovered by the clinician prior to the introduction of the Roentgen-ray method of studying cardiovascular diseases. One reason that the heart is displaced more frequently toward the right than toward the left is doubtless the fact that the hydropneumothoraces are more common on the left than on the right.

Dr. Charles L. Leonard: The superficial hydropneumothoraces were discovered by the physical signs only, after the Roentgen examination showed them to be present. The fact that we have the anteroposterior position produced by the heart has led me to believe that in many cases the supposed frequent occurrence of a decrease in the size of the heart in tuberculous cases is due rather to a change in the position of the heart than to a change in the size. As Dr. Anders has said, the drawing away of a portion of the lung from the right has led to the idea of its hypertrophy. I have studied these cases from the roentgenologic standpoint, rather than from that of the internist. We have compared all the cases with the clinical findings, and the result of the roentgenographic findings is what I have presented in my paper.

Book Notices

Lehrbuch der Therapie innerer Krankheiten für Aerzte und Studierende. Band I. Allgemeine Therapie innerer Krankheiten. Herausgegeben von Dr. Paul Krause, Professor und Direktor der Medizinischen Universitäts-Poliklinik in Bonn, und Dr. Carl Garre, Professor und Direktor der chirurgischen Universitäts-Klinik in Bonn. By various authors. Paper. Price, 11.50 marks. Pp. 758, with 345 illustrations. Vienna: Gustav Fischer, 1911.

This is an excellent treatise by some of the more noted clinicians of Germany and promises to be of unusual worth from its thoroughness and practical character. Evidence of the first quality is furnished by the passage which gives the application to the administration of remedies of the more recent facts regarding the absorbability of different substances from the stomach—the first attempt we have seen to make this application. Professor Magnus remarks in this connection that on account of the difficult absorbability of most medicines from the stomach, we are to consider the time which they stay in that organ as lost time and that their action begins only at the time when they are expelled from the stomach into the intestine.

A Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Tenth Edition. Cloth. Price, $5.50 net. Pp. 1328, with 81 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The present edition of this manual has undergone a more thorough revision than its predecessors, with the addition of much new matter. The list of topics revised or considered the first time includes over forty titles. The attempt to confine the work largely to the more practical aspects of medicine, etiology, diagnosis and treatment makes it possible to present a vast amount of useful information within the compass of a single volume. Still so much condensation becomes necessary that some of the more important topics receive a mere notice. Thus the glycyl-tryptophan test for gastric cancer is dismissed in a line which leaves the student as ignorant as before of its nature or significance. It may be questioned whether such references as this are of any practical value, although, of course, their omission would lay the work open to the charge of incompleteness. On the whole the book is well adapted to meet the needs of the general practitioner who may find here authentic information, well up to date, without discussion of disputed points, for which he may consult other works or periodical literature.

Clinical Lectures on the Acute Abdomen. By William Henry Battle, F.R.C.S., Surgeon to St. Thomas's Hospital. Cloth. Price, $1.50 net. Pp. 107, with 10 illustrations. New York: William Wood & Co., 1911.

These lectures are collected to make seven chapters: I, The Influence of the Appendix Vermiformis and Its Diseases. II, The Treatment of Acute Appendicitis with Peritonitis. III, Pathologic Perforations of the Digestive Tract. IV, Acute Intestinal Obstruction. V, Diseases of the Female Generative Organs. VI, Some of the More Rare Causes of the Acute Abdomen. VII, Some Neuroses Which May Cause Symptoms of Urgency. Many of the conditions discussed are illustrated by case reports, thus adding to the value of the text. Where operation is indicated, the procedure particulary adapted to the case is described in a manner enabling even the tyro to do the operation. The author repeatedly emphasizes his preference for silk sutures and ligatures. He believes that catgut should not be used in acute abdominal cases because it is apt to soften and yield too quickly. He always uses silk.

Medicolegal

Members of Board of Health Not Liable for Damages from Fumigation—Construction of Health Laws—Power to Quarantine Against Local and Interstate Points

(Allison vs. Cash and others (Ky.), 137 S. W. R. 245)

The Court of Appeals of Kentucky affirms a judgment holdng that the defendant sheriff and members of the Lyon County oard of health were not liable for damages sustained by the laintiff in having her store fumigated, etc. The court says hat the laws from which the boards of health derive their owers should be liberally construed that they may not be eedlessly restricted in their efforts to preserve the public ealth; otherwise the health officers would be unable to know heir duties and so embarrassed in their performance as to esitate to act, until irreparable injury has resulted to the ublic.

In the court's opinion, the power, as for example of the yon County board of health to establish quarantine for the enefit of Eddyville against Kuttawa, is impliedly, if not exressly, conferred by Section 2055 of the Kentucky Statutes. ut, while the powers enumerated by that section seem suffiient to authorize a county board of health to establish and aintain quarantine in behalf of one city or county against nother city or county within the state, such power cannot be xercised by a county board or the state board, as against nother state or county thereof, without express legislative uthority specifying the conditions and limitations on which uch quarantine shall be maintained. In the absence of such gislative authority, the enforcement of quarantine regulations y one state against another would violate the comity that hould exist between them and perhaps constitute an interfernce with interstate commerce.

However, aside from the question of whether the Lyon ounty board of health exceeded its powers in establishing uarantine against the town of Kuttawa, it clearly had under he general powers conferred by Section 2055 authority to ompel the closing of the plaintiff's store for disinfection and kewise to quarantine her, either by requiring her to return her home in Kuttawa, or be quarantined at some isolated lace in Eddyville for the time specified in the notice, as the ringing of her son to the latter place from the infected town Kuttawa gave her an opportunity to become infected with mall-pox, and the leaving of his cast-off clothing in her store fforded danger of infection to her customers. In having her n taken to Eddyville, placing his clothes in the store, and efusing her consent to the temporary closing of the store for isinfection, the plaintiff violated the rules and regulations tablished by the county board of health and put in force in ddyville for preventing small-pox from breaking out in that ty. In thus dealing with the plaintiff and her property, the fendants not only acted in pursuance of the powers conferred this section of the statutes, but also in conformity to the les and regulations of the state board of health.

A board of health is an instrumentality of government creed for convenience and invested with such powers as will able it to protect the general health of the people of the ate, county or community over which it is given jurisdiction.

The acts of the defendants complained of in this case did t, according to the proof, constitute in the meaning of the nstitution or laws of the state the taking of private propty for public use; nor did they result in such an injury to destruction of the plaintiff's property as authorized a recovy. Fairly viewing the evidence, the acts of the defendants closing the plaintiff's store, disinfecting her goods, and in quiring her to elect whether she would temporarily return her home in Kuttawa or be for a stated time quarantined an isolated place in Eddyville were reasonable and lawful easures adopted by them as members of the county board of alth for the suppression of an extraordinary outbreak of all-pox, and were rendered unavoidable by the plaintiff's nduct in violating the regulations established by the defendts, acting as members of the local board of health, in king her child from the infected town of Kuttawa to Eddylle, and placing his probably infected clothes in her store.

Nor was there any evidence to show that the defendant Cash's connection with the transactions in question put his conduct in a light different from that of the other defendants. As sheriff he merely obeyed the orders of the local board of health in closing the plaintiff's store. This he was bound to do.

It seems to be well settled that a health officer who by statute is authorized to take action for the prevention of the spread of disease is not liable for injuries resulting from such reasonable and customary measures as he may in good faith adopt or direct for that purpose with regard to persons or matters subject to his jurisdiction.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Internal Medicine, Chicago

October 15, 8, No. 4, pp. 417-556

1 *Importance of Tonus for Movements of Alimentary Canal. W. B. Cannon, Boston.
2 *Brill's Symptom-Complex; Typhus Fever; Manchurian Typhus. G. A. Friedman, New York.
3 Correlation of Clinical Progress with Results of Immunological Studies in Pulmonary Tubeurculosis. A. H. Caulfield, Gravenhurst, Canada.
4 *Incoagulable Nitrogen of Puncture Fluids, with Special Reference to Cancer. R. S. Morris, St. Louis.
5 *Influence of Temperature on Output of Heart. H. F. Wolf, New York.
6 *Experimental Cardio-Renal Disease. H. A. Christian, R. M. Smith and I. C. Walker, Boston.
7 Modification of Wohlgemuth's Method for Quantitative Study of Activity of Pancreatic Function. P. B. Hawk, Urbana, Ill.

1. **Tonus for Movements of Alimentary Canal.**—Cannon's observations have convinced him that double provision is made for the establishment of a state of tonic contraction in the alimentary neuromusculature. Almost the entire length of the digestive canal is supplied with extrinsic nerves which, when stimulated, cause an increase of tone and when destroyed leave the canal at first in a toneless state. And if the canal is entirely separated from the central nervous system it has a remarkable power of developing an independent tonic state. When thus isolated, the canal regains its characteristic movements only as it recovers tone. Tonus is therefore fundamental. It supplies the resiliency that causes the state of tension when the canal is filled, or establishes the state of tension when the canal is only partly filled. The state of tension is the occasion for the contraction of viscera which are walled with smooth muscle holding a nerve net. Refractoriness to stimulation during contraction, and gradually increasing irritability during relaxation, result in a rhythmic response to the condition of tension. The most characteristic feature of the movements of the alimentary canal, their rhythmicity, can thus be accounted for.

The view that tonicity of the neuromusculature of the alimentary canal is a fundamental necessity for the appearance of rhythmic movements harmonizes many diverse observations. It accounts for the failure of efficient motility in atonic states of the stomach and intestines. It gives a reasonable explanation for the existence and importance of extrinsic motor nerves. It is in agreement with the observation that tonic contraction and rhythmic peristalsis disappear together in cases of general bodily weakness, when the depleted central nervous system may be supposed to fail to deliver the necessary tonic impulses; it is also in agreement with the observation that worry, anxiety and distress stop gastro-intestinal movements, for such states, accompanied by splanchnic impulses, abolish tonus. It fits admirably with the fact that the stomach of hungry animals is strongly contracted, for then the tonic state makes the organ ready for instant action on swallowed food. Indeed Cannon is inclined to believe that the sensation of hunger results from tonic contraction of the empty stomach. These are only some of the conditions in which the importance of tonus for movements of the alimentary canal is manifested; doubtless other conditions will suggest themselves.

2. **Brill's Symptom-Complex.**—Brill's symptom-complex is regarded by Friedman as being identical with mild and moderately severe cases of typhus fever.

4. **Incoagulable Nitrogen of Puncture Fluids.**—In view of the demonstration of a proteolytic enzyme or enzymes in carcinoma and sarcoma, it occurred to Morris that a ferment, if secreted into a serous fluid, might disclose its presence by an increase in the quantity of incoagulable nitrogen. In all, twenty-five fluids have been available for examination up to the present time. It would appear that a puncture fluid with incoagulable nitrogen below 0.07 gm. per cent. is probably not of malignant origin. There appear to be at least two possibilities, either that a non-carcinomatous fluid occasionally shows a very large amount of incoagulable nitrogen, or that the case was in reality one of malignant disease. Morris says that no explanation of the high incoagulable nitrogen in certain carcinomatous fluids can be given at the present time. It is highly probable, however, that it is the result of the action of a proteolytic enzyme. It is possible, too, that an anti-enzyme may account for the low values met with in some of the cancerous fluids. Both of these points are under investigation. An attempt is also being made to determine whether the application of this method to the blood may be of service in the recognition of malignancy.

5. **Influence of Temperature on Output of Heart.**—The results of Wolf's experiments lead him to assume that the work of the heart becomes greater during fevers, provided that blood-pressure remains constant. As fevers affect not only the peripheral blood-vessels but also those of the heart, the resulting impairment of the nutrition of this organ must become the more severe, the greater the increase in the work of the heart. This fact is of importance in the treatment of infectious diseases, inasmuch as the work of the heart is a product of the heart in a unit of time, in conjunction with the blood-pressure. The work of the heart increases, therefore, with the pulse-rate, the cardiac discharge and the blood-pressure.

6. **Experimental Cardiorenal Disease.**—The interesting and valuable work done by the authors is reported at great length, and as justice cannot be done this study in an abstract, the reader is referred to the original article.

Bulletin of Manila Medical Society

August, III, No. 8, pp. 130-151

9 Spinal Anesthesia. D. M. Molloy, Manila.
10 Progress of Medical Research in Philippine Islands. W. F. Musgrave.
11 The Taon (Infantile Beriberi) Treated at La Gota De Leche. F. G. Calderon, Manila.

Kentucky Medical Journal, Bowling Green

September, IX, No. 17, pp. 731-786

12 Why Should I Belong to the County Medical Society? J. M. Salmon, Ashland.
13 Acute Poliomyelitis. J. S. Lutz, Highland Park.
14 Pellagra. B. K. Menefee, Walton.

Cleveland Medical Journal

September, X, No. 9, pp. 729-794

15 Nature and Transmission of Trypanosomes. O. T. Schultz, Cleveland.
16 *Macroglossia. J. H. Comroe, York, Pa.
17 *Case of Malformation of Heart. E. P. Edwards, Cleveland.
18 Surgical Ideals and Experiences. N. S. Scott, Cleveland.
19 Surgical Application of Pathologic Physiology in Shock. H. G. Sloan, Cleveland.
20 Removal of Steel from Vitreous; Report of Two Cases. W. P. Chamberlain, Cleveland.
21 Medical Aspects of Breast Tumors. W. D. Fullerton, Cleveland.

16. **Macroglossia.**—Immediately after birth, it was observed that Comroe's patient, a girl, at the time of operation 3 years old, had a very large tongue, which appeared to be normal in every other respect. When the teeth began to erupt, the tongue became very much thicker and many small papillæ appeared on the anterior portion. After the first year, both the tongue and the papillæ became rapidly and progressively larger and appeared to take on a bluish color. About one year ago, the entire tongue became quite sore and there developed rather an alarming hemorrhage, which was controlled with some difficulty. Since then there have been several smaller hemorrhages. There has never been much difficulty in mastication and the speech has been fairly distinct. Physical examination showed a robust, well-nourished child of splendid intellect. The swollen and cyanotic lips were bulged forward by a very much thickened, excoriated, violaceous, papillary mass, which represented the anterior portion of the tongue. When the tongue was protruded, it was found that the anterior half of the organ was considerably hypertrophied and was profusely studded with papillæ varying in size from a small pin-head, posteriorly, to a small pea, anteriorly, and separated by many irregular fissures. Many of the papillæ were pustular and the tongue presented a very angry appearance. The posterior half, however, appeared to be not only healthy but of considerably smaller size, such as might be expected in a child of such age. The anterior margin of the tongue, which protruded between the lips, was about 2.5 cm. in thickness and 5 cm. in width. With the teeth in contact, there was a space of about 2.5 cm. between the incisors. The microscopic diagnosis was lymphangioma. Four months after the operation, the tongue, except for some slight thickening, appeared to be quite normal in every respect.

17. **Malformation of Heart.**—At autopsy on Edward's patient the following conditions were found in the heart: Heart and pericardium enlarged. The heart extended from a point to the right of the sternum to the left nipple. The pericardium showed no changes. The heart presented a remarkable appearance. The larger part of the organ seemed to consist of the right auricle. The right heart composed at least two-thirds of the whole organ. The venæ cavæ was large and distended. The right ventricle was not to be made out on inspection. On dissection the following changes were found: The right ventricle was enormously dilated; the walls thin and the musculi pectinati prominent. The foramen ovale seemed entirely closed, but a probe could be passed through the very much thickened septum at one point. The tricuspid orifice and right ventricle were represented by a mere pit in the mesial wall of the auricle below the foramen ovale. This pit was 8 by 5 mm. Leading from the rudiment of a ventricle, along the anterior portion of the aortic ring could be traced a fibrous cord about 4 mm. in diameter, which was evidently the obliterated pulmonary artery, for it was attached to the ductus arteriosus where that vessel joins the branches of the pulmonary. The left auricle was about normal, but the left ventricle was large. The wall averaged 6 mm. in thickness. The mitral and aortic valves showed no changes. The aorta was very large but smooth and elastic. The ductus arteriosus easily admitted a 2 mm. probe and it was continuous with the first branches of the pulmonary artery, so that the blood reached the lungs through it.

Journal of Tennessee State Medical Association, Nashville

October, IV, No. 6, pp. 215-250

22 *Injuries of the Head. D. Eve, Nashville.
23 Post-Abortive Sepsis. C. A. Robertson, Nashville.
24 Significance of Tongue in Diagnosis. H. E. Christenbery, Lonsdale.
25 Sarcoma of Stomach; Report of Case. J. Overton, Nashville.
26 *Two Outbreaks of Typhoid in Institution Traced to Bacilli Carriers. T. Weaver, Nashville.
27 *Need of Reform in Public Schools in Regard to Hygiene and Sanitation. O. Dulaney, Dyersburg.

22, 26 and 27. Abstracted in The Journal, May 6, 1911, pp. 1354 and 1355.

Surgery, Gynecology and Obstetrics, Chicago

October, XIII, No. 4, pp. 365-480

28 *Use of Silver Wire in Opening Kidney. E. K. Cullen, Baltimore, and H. F. Derge, Eau Claire, Wis.
29 Etiology of Appendicitis. J. D. Robertson, Chicago.
30 Case Illustrating Occasional Advisability of Resecting Tuberculous Glands of Mesentery. K. W. Monsarrat, Liverpool, England.
31 *Operative Versus Conservative Treatment of Certain Forms of Bone Tuberculosis. T. W. Huntington, San Francisco.
32 Diagnosis of Hour-Glass Duodenum. J. Burke, Buffalo.
33 *Blood-Supply of Duodenum. D. P. D. Wilkie, Edingurgh Scotland.
34 Cesarean Section. A. B. Davis, New York.
35 Consideration of Anatomic Relations of Gut-Tube. N. Ginsburg, Philadelphia.
36 Complications of Appendicitis. J. N. Hall, Denver.
37 Saving the Hundredth Man. W. P. Carr, Washington, D. C.
38 Treatment of Ununited Fractures. N. M. Percy, Chicago.
39 Meckel's Diverticulum; Five Cases of Acute Intestina Obstruction Due to It. C. E. L. Burman, Pietermaritzburg Natal, Africa.

40 A Pseudohermaphrodite. T. S. Cullen, Baltimore.
41 *Fracture Clamp for Open Treatment of Fractures. R. Brown, Santa Barbara, Cal.
42 Nitrous Oxid-Oxygen Anesthesia. E. I. McKesson, Toledo, O.

28. **Use of Silver Wire in Opening Kidney.**—From the research made by Cullen and Derge it would appear that in nephrotomy with the silver wire the following represent the main advantages of the wire incision over that of the knife. as obtained in experiments. 1. The amount of bleeding at operation averaged only one-half that observed in the knife incision. 2. The bleeding was readily controlled. 3. There was no postoperative hemorrhage. 4. The resultant infarct was much smaller.

31. **Operative vs. Conservative Treatment of Bone Tuberculosis.**—Huntington is convinced more than ever that the medullary structure, at or near a joint, can, with perfect impunity, be removed in its entirety; this to be followed by complete repair of the resultant bone defect. With added experience and with deepened conviction, he feels warranted in applying his statement to tuberculous disease in other localities than the head of the femur, toward which his efforts were orignally directed.

33. **Blood-Supply of Duodenum.**—The supraduodenal artery described by Wilkie supplies what he calls the critical area of the duodenum, the upper two-thirds of the anterior wall of the first part of the duodenum, and the upper third of the posterior wall. Its origin is variable and while in the majority of the cases examined it arose from the upper part of the runk of the gastroduodenal artery, in other cases it was found pringing from the common hepatic trunk, from the right or rom the left hepatic branches, or from the cystic artery. n these cases, when injected, it formed a very striking picture nd impressed one with the precarious nature of the blood-upply of this part of the intestine. In the majority of the ases injected, the supraduodenal artery had no communica-ion of any size with any other gastric or duodenal artery and he application of considerable force failed to drive the injec-ion beyond this limited area of the duodenum. In these ases the supraduodenal artery appeared to be an end artery. n some cases, however, twigs communicating with the pyloric rtery or with the duodenal branch of the right gastro-epiploic rtery were plainly visible; the anastomosis was, however, ever a very free one. When the supraduodenal artery arises rom the gastroduodenal artery it usually takes the form of a hort trunk, which, arising on a level with the upper border of he duodenum, soon ends by dividing into a spray of branches iving a characteristic fountain-like appearance, the branches or the most part arching over to the front of the duodenum. n three cases the supraduodenal vessel was of large size and an outwards along the upper border of the duodenum for several inches, sending numerous branches to both its anterior nd posterior walls.

In four of the forty injected cases, there was definite evidence of old duodenal ulceration, undiagnosed before death. n one case this was so definite as to have produced a marked tenosis of the first inch of the duodenum. In three of these ses the scars of the ulcers were situated on the anterior all of the duodenum in the area supplied by the supraduodenal artery and the branches of this vessel could be raced into the scar tissue and appeared to have little or no nastomotic connection with other duodenal vessels. The rigin of the supraduodenal artery in these three cases is of nterest. In one case it arose from the left hepatic branch, in nother from the common hepatic trunk and in the third case was represented by two vessels, both arising from the right epatic branch and running vertically downwards. In the ourth case the scar was situated on the upper border of the uodenum ½ inch from the pylorus. In this case injection of e celiac axis artery, without ligature of its branches, failed o inject the first ¾ of an inch of the upper border of the uodenum, even after considerable force had been applied and ft an area of pallor in the apparently healthy duodenal wall ound the scar.

On dissecting this specimen, a small supraduodenal artery as found arising from the gastroduodenal artery. It sent only one small branch to this pale area which also received a small twig from the pyloric artery. Whatever be its point of origin, the artery soon divides into several branches. One of these, a small one, usually runs upwards in the gastrohepatic omentum; the larger branches descend to the anterior wall of the duodenum, one or more small branches going to the upper part of the posterior wall. In several cases a ligature was applied to this vessel and the celiac axis artery was then injected. In these cases an uninjected area was left and this corresponded almost exactly to the limits of the critical or ulcer-bearing area. In the majority of cases a second artery was found, springing from the gastroduodenal about ½ inch above its bifurcation and supplying the posterior wall of the first part of the duodenum and sometimes reaching to its second part. This vessel, though not constant, was generally present and Wilkie calls it the retroduodenal artery. The lower third of the anterior aspect of the first inch of the duodenum is supplied by a branch which, arising from the right gastro-epiploic artery or from the superior pancreaticoduodenal artery, turns upwards about ¼ of an inch to the right of the pyloric vein of Mayo.

41. **Clamp for Open Treatment of Fractures.**—The clamp devised by Brown is made from a single piece of metal of good tensile strength and flexibility. His preference is for Russia iron, though silver, vanadium steel and aluminum are serviceable. The clamp consists of two long parallel bands tapering at the lower ends and joined at the upper ends by a cross bar. There are two or three other cross bars equidistant from each other, the lowest somewhat above a point one-half way down on the parallel bands. The cross bars are elevated 1/32 to 3/32 of an inch above the parallel bands on one surface. Each end of the upper cross bar is perforated in such manner as to allow the passage of the corresponding long bands when bent circular. The clamp is made in various sizes adaptable to any of the long bones.

Journal of Medical Association of Georgia, Augusta

October, I, No. 3, pp. 75-116

43 *Simple Technic in Gynecologic and Obstetric Perineal Repair, Incomplete and Complete. R. R. Kime, Atlanta, Ga.
44 Treatment of Pellagra. H. F. Harris, Atlanta.
45 Sambon's New Theory of Pellagra and Its Application to Conditions in Georgia. S. R. Roberts, Atlanta.
46 Gastric Intestinal Disorders in Pellagra. . J. C. Johnson, Atlanta.
47 Clinical Analysis of Pellagra. S. R. Roberts, Atlanta.
48 Malaria: Report of Some Cases of Irregular Remittent Malaria. H. C. Whelchel, Douglas.
49 Antityphoid Vaccination in U. S. Army. C. H. Halliday, U. S. Army.
50 Case of Empyema. A. W. Simpson, Washington.
51 Eyestrain. O. H. Johnson, Athens.
52 Obscure Appendicitis: Report of Cases. J. P. Proctor, Athens.
53 Conservation of Health. T. D. Coleman, Augusta.
54 Warning Concerning Use of Salvarsan. W. C. Slusher, Bluefield, W. Va., and E. B. Burchell, New York.

43. Abstracted in The Journal, June 10, 1911, p. 1754.

New York Medical Journal

October 21, XCIV, No. 17, pp. 813-860

55 *Experimental Poliomyelitis, Produced in Monkeys from Dust of Sickroom. M. Neustaedter and W. C. Thro, New York.
56 Salvarsan Treatment of Syphilis. G. F. Lydston, Chicago.
57 Syphilis of Anorectal Region. L. H. Adler, Philadelphia.
58 Comparison of Results Obtained by Intravenous Administration of Acid and Alkaline Solutions of Salvarsan. G. M. MacKee, New York.
59 Action of Salvarsan on Eye and Ear. F. P. Hoover, Jacksonville, Fla.
60 Ear Complications of Exanthemata. T. L. Saunders, New York.
61 Tuberculosis of Both Ears Cured by Tuberculin. J. S. Cipes, Albuquerque, N. Mex.
62 *Treatment of Fracture of Shaft of Femur. J. Douglas and J. N. Drury, New York.
63 Case of Aneurysm of Thoracic Aorta Treated by Abram's Method. L. C. Boyd, Long Beach, Cal.

October 28, XCIV, No. 1717, pp. 861-908

64 Relation of Biophysical Laws of Osmosis to Nasal Vasomotor Processes. J. Wright, New York.
65 Present Status of Vivisection in Medical Profession. M. J. Clurman, New York.
66 Etiologic Factors of Purulent Chronic Otitis Media. S. M. Smith, Philadelphia.
67 Acute Otitis Media. G. L. Richards, Fall River, Mass.
68 Comparative Merits of Various Methods Employed in Operations for Septal Spurs. J. B. Kanter, New York.
69 Statistical Review of Work of Tuberculosis Clinics of Department of Health for 1910. B. H. Waters, New York.
70 Dental Radiography. M. K. Fisher, Philadelphia.

55. **Experimental Poliomyelitis.**—A number of additional observations are cited by the authors which they believe prove their theory that: (1) Poliomyelitis is propagated by dust. (2) That the nasopharynx probably is the point of entry. (3) Acute poliomyelitis is both infectious and contagious. It becomes perfectly evident that prophylactic measures should be most rigidly carried out in order to check the spread of this disease.

62. **Treatment of Fracture of Femur.**—The purposes of Drury's splint in fractures of the shaft of the femur are: 1. To obtain the maximum amount of extension with the least amount of weight attached to the Buck's extension apparatus. 2. To tell at a glance the amount of extension maintained by the Buck's extension. The splint is made of ¼-inch soft pine wood, and consists of two sections—the upper part, of a thin, box-like arrangement a little more than ¾ of an inch wide; the lower part of a long ¼-inch board, which slides into the upper part, with a foot piece extending at right angles.

Before applying the splints the legs are measured and the amount of shortening of the injured leg is noted. The Buck's extension apparatus is applied, first using moleskin plaster. Next, coaptation splints are applied around the thigh at the seat of fracture. The splint is now applied, the upper box-like part extending from the axilla downward to the seat of fracture, and firmly bandaged to the body and upper part of the thigh. The lower part of the splint consisting of a long ¼-inch board which projects into the upper part for at least 2 feet, is now firmly bandaged downward from the seat of fracture to the foot, each part being bandaged separately. Extension is now made on the Buck's apparatus, and the lower part of the splint slides downward from the upper part, carrying with it that part of the thigh and leg below the seat of fracture. To maintain this amount of extension, sufficient weight is attached to the rope of the Buck's apparatus extending over a pulley at the foot of the bed. After the muscular spasm wears off, the amount of weight may be decreased without interfering with the amount of extension.

Medical Record, New York

October 21, 80, No. 17, pp. 809-858

71 Specialism in Medicine. E. B. Cragin, New York.
72 *Results in Two Cases Treated by Vaccine Therapy. C. L. McDonald, Cleveland.
73 Tonsillectomy; Special Reference to Quinin Anesthesia. B. D. Sheedy, New York.
74 *Method of Treatment of Empyema in Young Children. J. H. Kenyon, New York.
75 Diagnostic Value of Use of Sphygmomanometer in Examinations for Life Insurance. J. W. Fisher, Milwaukee, Wis.
76 *Concentric Progressive Diminution of Area of Liver Dulness in Differentiation of Free Gas in Peritoneal Cavity from Abdominal Tympanites. H. W. Berg, New York.
77 Practical Consideration of Hyperchlorhydria and Hypersecretion. C. S. Fischer, New York.
78 Prophylaxis of Oropharynx and Nasopharynx. J. H. Guntzer, New York.
79 Case of Aspirin Poisoning. D. I. Macht, Baltimore.

October 28, 80, No. 2138, pp. 859-908

80 Psychanalysis and Correction of Character. E. W. Scripture, New York.
81 *Why Is the Apex the Point of Election in Tuberculosis of Lungs? T. G. McConkey, San Francisco.
82 Arc Light in Medicine. A. D. Rockwell, New York.
83 Electrical Treatment of Arterial Hypertension. J. H. Burch, Syracuse, N. Y.
84 Vaccine Therapy in Acute Rheumatic Polyarthritis. W. C. Wolverton, Linton, N. Dak.
85 *Albumin Reaciion of Sputum in Pulmonary Tuberculosis. M. Fishberg and D. Felberbaum, New York.
86 Three Cases of Brain Abscess. J. Frank and G. B. Hassin, Chicago.
87 *Methylene-Blue Test of Urine of Cancer Patients. J. R. Verbrycke, Washington.

72. **Vaccine Therapy.**—McDonald cites the histories of two cases of chronic infection which were quickly cured with the aid of vaccine therapy. In both cases other treatment had failed. They were both due to the *Staphylococcus albus* and were treated with stock vaccines prepared by the author.

74. **Treatment of Empyema in Young Children.**—Kenyon reports good results following his method of treating empyema in young infants. He opens the pleural cavity along the aspirating needle, making an opening so small that it will just permit the introduction of a rubber drainage tube, so inserted as to let as little pus as possible escape. This tube is a long one and is connected with a bottle of warm saline fluid so arranged that the fluid is aspirated into the chest, and dilutes the pus. The operation is very simple and quick, and is not accompanied by shock. The apparatus causes no discomfort to the child, and the escape of the pus is slow and does not cause a pneumothorax. There is little leakage around the tube and mixed infection is avoided. Convalescence is shorter than usual, and drainage is efficient.

76. **Differentiation of Free Gas in Peritoneal Cavity.**—Berg has found that free gas in the peritoneal cavity, as contradistinguished from tympanitic distention of the abdominal hollow viscera, is shown by the substitution, for the area of liver dulness and flatness, of a tympanitic resonance, rapidly progressing synchronously from above downward, and from below upward, the last to disappear being the mid-area of liver flatness.

81. **Point of Election in Tuberculosis of Lungs.**—According to McConkey, if the fact that tuberculosis of the lungs is secondary to pleural involvement is once appreciated, it will not be difficult to understand why such a very large percentage of pneumonia and pleurisy cases eventually terminate in phthisis. The bacilli contaminating the serum or lymph which lubricates the pleural surface are usually phagocyted or prevented from getting a lodgment on the pleura when the phagocytes have a chance to attack them in this thin film of lymph. The apex is peculiar in this: It has only its own scant lymph transudate which is immediately carried below by gravity. This effect of gravity will be more pronounced in those with a "peaked" apex.

85. **Albumin Reaction of Sputum in Pulmonary Tuberculosis.**—The authors submit a report on the results of the chemical examination of the sputum in cases of pulmonary tuberculosis in the wards of the Montefiore Home. Many of the patients have been in this institution for several years, one even as long as twenty-four years, so that the diagnosis, if made, is quite reliable. On the whole, their results do not confirm Roger's statements to the effect that in every case of tuberculosis the sputum gives a positive albumin reaction. They found some cases of undoubted tuberculosis in which careful analysis of the sputum gave negative results. In forty-two specimens of sputum showing the presence of tubercle bacilli, the albumin test was also positive. It has been their experience that the number of bacilli present in the field has no relation to the amount of albumin found by the chemical test. Some specimens of sputum showing an enormous number of bacilli had only a faint trace of albumin, which was sometimes so slight as to render it altogether doubtful whether the reaction was positive. It appears that the activity of the process has considerable influence on the intensity of the chemical reaction. In active, progressive cases the amount of albumin is greater than in quiescent or healing cases. In fibroid cases the amount is often infinitesimal, or entirely absent. Three cases of tuberculosis, with bacilli in the sputum, which gave negative results at the first examination for albumin, reacted positive at a subsequent one. The lesion in the lungs in all these three cases was rather quiescent, the fibroid changes being quite marked. Seven cases of unquestionable tuberculosis, but in which tubercle bacilli were not found when the sputum was examined, gave a positive albumin reaction, two only faintly. There were also three cases of tuberculosis, with tubercle bacilli in the sputum, and the very specimen giving positive results bacteriologically reacted negatively as regards the albumin reaction. One of these was a case of abdominal malignant growth with general metastases (confirmed by autopsy) and with a complicating pulmonary tuberculosis with bacilli in the sputum. Of the cases of pulmonary emphysema examined, two gave a positive albumin reaction and three were negative. Of five cases of bronchial asthma the sputum was negative in all, while one case of asthma complicated by emphysema and cardiac dilatation reacted positively. The sputum was also positive in two cases of Pott's disease.

87. **Methylene Blue Test of Urine of Cancer Patients.**—Verbrycke is emphatically of the opinion that this test cannot even be credited with giving contributory evidence when positive; nor is a negative reaction of any worth.

Boston Medical and Surgical Journal

October 26, CLXV, No. 17, pp. 629-668

88 Open-Air Schools. D. Snedden, Boston.
89 Open-Air Rooms and Schools. T. F. Leen, Boston.
90 Replies to Circular Letters Concerning Fresh-Air Rooms and Out-Door Schools, Sent Out by Associated Tuberculosis Committees of Masachusetts Medical Society. J. B. Hawes, Boston.
91 *Brown-Séquard's Epilepsy in Guinea-Pigs. L. B. Alford, Palmer, Mass.
92 *One Hundred and Fifty-Eight Cases of Heat Prostration Treated at Boston City Hospital, July 2-13, 1911. W. D. Reid, Boston.
93 Heat Prostrations. I. C. Walker, Boston.
94 Progress in Ophthalmology, 1911. E. W. Clap, Boston.

91. **Brown-Sequard's Epilepsy in Guinea-Pigs.**—A very extended series of experimental observations was made by Alford on this question and he reports his findings at great length. When watched in their cages the scratching reactions of so-called "epileptic" guinea pigs are seen to be intense, prolonged and poorly coordinated, and to occur more frequently than in normal animals. Preventing this scratching by removing its most potent exciting factor, viz., the body lice, prevents the appearance of "epilepsy" in newly-operated animals and causes it to disappear in animals already "epileptic." The value of section of the sciatic nerve seems to be wholly in the incoordination of movement in the posterior limb that results and causes the scratching reactions to be ineffective. Ineffectiveness of scratching produced by other measures, as, for instance, by removal of the claws of the hind feet, has the same effect. The "epileptogenous" area may be increased in extent in the posterior direction by interfering with the movements of the head. The explanation of the fact that "epileptic" guinea-pigs scratch on stimulation while normal animals do not may be either that the frequent repetition of the scratching movements has made them the reaction of choice in place of struggling attempts, or that disturbances in the skin have made it impossible for the animal to distinguish between stimuli of various sorts. The "complete attack" or convulsion is regarded as a reflex phenomenon in which it is possible to recognize the elements of the scratch reflex somewhat distorted by the disturbance of reciprocal innervation. This conception receives some support from the facts (a) that spinal irritants such as strychnin and caffein increase the ease with which convulsions may be elicited and the severity of the convulsions themselves, while the reflex depressant, alcohol, markedly decreases both these factors; and (b) that operations which increase the spinal reflex irritability, i. e., removal of some or all of the nervous centers above the medulla, also facilitate the convulsions. With regard to the localization of the mechanism of Brown-Séquard's "epilepsy" in the nervous system, it has been found (a) that convulsions are present after removal of all the centers above the pons; (b) that they may be obtained from the pons, medulla and cervical portion of the cord when these structures are isolated; and (c) that they may also be obtained from the dorsal and lumbar portions of the cord after high dorsal section. As far as can be determined, the tracts of the cord that are involved are those of voluntary motion. The scratching reaction during anesthesia is regarded as the result of stimulation by the anesthetic of the same nervous mechanism as is involved in the "complete attack." The presence of "epilepsy" in the offspring of "epileptic" animals, Alford says, may be explained in other ways than by assuming inheritance, but Brown-Séquard's "epilepsy" cannot as yet be related to epilepsy in man.

92. **Heat Prostration Treated in Boston City Hospital.**—The treatment employed in these cases varied according to the kind of case. Exhaustion Type.—Dry rub, blankets, sometimes heaters, ice bag to the head and stimulation according to the individual case. Whiskey, aromatic spirits of ammonia, caffein and strychnin and occasionally epinephrin were used. Prostration Type.—Ice cap, ice pack, cold pack or sponge bath, according to the temperature, and rest in bed with moderate stimulation as above if there were signs of weakness. Heat-Stroke Type.—Here there are four indications: (1) Reduction of temperature, (2) maintenance of cardiac action, (3) control of convulsions, (4) treatment of complications.

(1) Tub baths and ice packs were the choice in combating the high temperature. If the heart action was poor, the ice pack was always used as the patient need not be moved so much. Ice water enemata were used in a few instances, but as a rule a proper use of external measures seemed sufficient. (2) Maintenance of cardiac action often required stimulation of a heroic type, mostly hypodermically, as the patients were generally unconscious. Generous use of atropin was practiced for pulmonary edema, and strychnin, camphor and various forms of shock enemata were directed at the failing heart. (3) Convulsions were so frequent in the heat-stroke cases that it became the practice towards the end of the so-called epidemic to administer morphin and sometimes hyoscin with the plan of repeating the morphin in case convulsions nevertheless developed. (4) The treatment of complications as they occurred varied in no way from cases in which they were the primary disease. About five of these unconscious men required catheterization for retention of urine.

New York State Journal of Medicine, New York

October 11, No. 10, pp. 451-504

95 Certain Phases of Diagnosis by Means of Cystoscope and Cysto-Urethroscope. L. Buerger, New York.
96 Hematologic Factor in Causation of Uterine Hemorrhage. A. Sturmdorf, New York.
97 Essay on Man. M. B. Downer, Woodstock, N. Y.
98 Cancer. W. B. Jones, Rochester, N. Y.
99 *Operations for Adherent Retrodisplaced Uteri by Shortening Round Ligaments Through Inguinal Canal After Abdominal Section Through Transverse Incision. L. Broun, New York.
100 *Olive Oil in Postoperative Nausea. C. R. Hyde, Brooklyn.
101 *Auscultation of Cough. A. H. Garvin, R. Brook, N. Y.
102 Relationship of Tabes to General Paralysis. E. D. Fisher, New York.
103 *Chronic Appendicitis; Postoperative End-Results. E. M. Stanton, Schenectady, N. Y.
104 *Significance and Therapy of High Blood-Pressure. J. F. Rooney, Albany, N. Y.
105 Value of Eye in Diagnosis of Pathologic Conditions. T. Dixon, Brooklyn.
106 Plan to Improve Medical Expert Testimony. S. W. Little, Rochester, N. Y.
107 Errors in Diagnosis. E. B. Kaple, Elbridge, N. Y.
108 *Diagnosis and Surgical Indications of Duodenal Ulcer. J. T. Pilcher, Brooklyn.
109 Retropharyngeal Abscess, Its Diagnosis and Treatment. M. J. Levitt, Brooklyn.
110 Case of Meningococcic Meningitis in Three-Months-Old Infant Successfully Treated with Flexner Serum. A. Spingarn, Brooklyn.
111 Gunshot Wounds of Abdomen. E. A. Van Veer and J. L. Bendell, Albany, N. Y.
112 Opposition Against Reform of Medical Onomatology by New Medical Dictionary. A. Rose, New York.
113 Some Factors in Operative Technic and Management Which Make for Success or Failure. W. B. Chase, Brooklyn.

99 and 108. Abstracted in THE JOURNAL, May 6, 1911, pp. 1351 and 1352.

100, 101, 103 and 104. Abstracted in THE JOURNAL, May 20, 1911, pp. 1504, 1505, 1506 and 1507.

Bulletin of American Academy of Medicine, Easton, Pa.

October, XII, No. 5, pp. 253-342

114 *To What Extent Are Suicide and Other Crimes Against Person Due to Suggestion from Press? H. B. Hemenway, Evanston, Ill.
115 *Neurotic Books and Newspapers as Factors in Mortality of Suicide and Crime. E. B. Phelps, New York.
116 *The Press and Crimes Against Person. F. Fenton, Mt. Holyoke, Mass.
117 *Newspapers and Crime. W. S. Wadsworth, Philadelphia.

114, 115, 116 and 117. Abstracted in THE JOURNAL, July 22, 1911, pp. 311 and 312.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

October 15, XXXI, No. 20, pp. 481-506

118 Conditions Other Than Appendicitis in Right Iliac Fossa. W. A. Dennis, St. Paul.
119 Report of Special Tuberculosis Commission Appointed by Minnesota State Board of Health. W. J. Marcley, Minneapolis.
120 Mental Defective and His Relation to Criminality. O. H. Wolner, St. Cloud.
121 Toxemia of Pregnancy. L. W. Day, Minneapolis.

West Virginia Medical Journal, Wheeling

October, VI, No. 3, pp. 111-146

122 Medicine and Organization. C. A. Wingerter, Wheeling.
123 Trend of Modern Psychiatry. A. P. Herring, Baltimore.
124 Iodin Method of Skin Sterilization. J. E. Cannaday, Charleston.
125 Melena Neonatorum. C. D. Holland, Fairmont.
126 Pellagra; Report of Two Cases. T. R. Evans, Charlottesville.
127 Fibroma of Thigh. G. D. Jeffers, Parkersburg, W. Va.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 14, No. 2650, pp. 869-960

1 Auricular Fibrillation. J. Mackenzie.
2 Aspects of Medicine as a Profession. J. T. J. Morrison.
3 A Large Fibrocystic Tumor Distending the Buttock. J. D. Malcolm.
4 *Congenital Diaphragmatic Hernia Associated with Embryonic Organs. L. Rawes.
5 Conveyance of Electricity Through Solids, Liquids and Gases and Production of Radiation. Sir O. J. Lodge.
6 Ionic Medication and Theory of Ions. H. L. Jones.
7 Roentgenotherapy of Ringworm. J. Hall-Edwards.
8 Therapeutics of Radium. W. D. Butcher.
9 Radium in Rodent Ulcer and Other Skin Conditions. J. H. Sequeira.
10 Action of Filtered Radium Rays When Applied Directly to Brain. Sir V. Horsley and N. S. Finzi.
11 Diathermic Treatment of Circulatory Disorders. F. Nagelschmidt.
12 Roentgenotherapy of Malignant Disease. E. R. Morton.
13 Treatment of Certain Diseases of Alimentary Tract by Roentgen Rays Combined with Internal Administration of Metallic Silver. F. Hernaman-Johnson.
14 Fractures Undiagnosable Except on Roentgen-Ray Examination. C. F. Bailey.
15 Pyelography and Use of Collargol in Diagnosis of Diseases of Urinary Tract. W. I. Bruce.
16 Differences in Appearances of Phthisical Chests as Shown Before and After Treatment. W. B. Knobel.
17 Radium Water Therapy. W. Armstrong.
18 Radium Emanation and Physiologic Processes. S. Saubermann.
19 Treatment of Chronic Adhesive Processes in Middle Ear. M. Yearsley.
20 Diagnostic Value of Suction Syringe in Maxillary Antral Sinusitis. P. Watson-Williams.
21 Dysphagic Conditions Wrongly Attributed to Esophageal Spasm. W. Hill.

4. **Congenital Diaphragmatic Hernia.**—Rawes' patient was a baby which lived only twenty hours after birth. The following conditions were found at the necropsy: The right lung was small, measuring about 3 inches by 1 inch, the greater part of that side of the chest being empty. The left lung was extremely small and resembled a large raisin, the whole organ being about the size of a half-penny; filling the remainder of the left side of the chest was the stomach and the whole of the small and large intestine, with the exception of the descending colon and rectum. The small intestine was empty and massed together; the large bowel contained meconium, which could be expressed per anum. The greater curvature of the stomach was directed upward with the posterior surface of the organ lying anteriorly, so that the whole viscus was "upside down." The appendix was normal and measured 1½ inches. The heart was small and pushed over to the right side, although lying in close apposition to the left lung. The liver was normal in size and position. The pancreas and left kidney were bound down together in the left renal region. Both kidneys resembled a small walnut in size and presented a rough fissured surface. There was a large opening in the center of the left side of the diaphragm (with a smooth rounded edge), which would admit three fingers quite easily.

Lancet, London

October 14, CLXXXI, No. 4598, pp. 1055-1116

22 Past Work of Obstetrical Society of London and Obstetric and Gynecologic Problems Still Awaiting Solution. A. Routh.
23 *Intracranial Murmurs in Their Relationship to Tinnitus Aurium. T. B. Hyslop.
24 *Intestinal Hemorrhage in Typhoid and Its Relation to Agglutinating Power of Blood. H. Whitehead.
25 Acute Middle-Ear and Mastoid Inflammations. S. F. Snow.
26 *Ophthalmo-Reaction of Calmette in Early Diagnosis of Paralysis. A. S. Hosford.
27 *Researches in Epilepsy. D. M. Alexander.
28 Case of Acute Antrum of Highmore with Eye Complications. J. R. Foster.
29 Rupture of an Empyema Into the Esophagus. W. A. Bullough.

23. **Intracranial Murmurs and Tinnitus Aurium.**—Some facts and theories pertaining to intracranial physics and pathology which may, in part, serve to explain the origin of some of the entacoustical phenomena which may be appreciable not only subjectively by the patient as tinnitus, but also objectively by the observer as intracranial murmurs, are presented by Hyslop. He says that in cases in which the sheath of the auditory nerve is affected by an increase of pressure in the lymphatic fluid, direct stimulation of the nerve may cause subjective phenomena somewhat similar to those occurring in connection with the visual sense when the specific energy of the visual apparatus or tracts is irritated and manifested by symptoms ranging from scintillating scotomata to mere sparks of light or pressure phosphenes. Hyslop believes that such direct stimulation is rare except in cases in which degeneration of the auditory nerve is taking place. Another point to be noted is that, although pulsatile tinnitus is common, rarely do we have evidence of similar pulsatile phenomena in connection with any other of the cranial nerves which, in all probability, would be subject to somewhat identical conditions of influence. The point to recognize is that the fluid from the subarachnoid lymph spaces, when forced from the brain by increased intracranial blood-pressure, not only passes into the perilymphatic space of the labyrinth and thereby tends to modify the pressure of the endolymph, but it also serves as a more direct conducting medium for sound vibrations arising in connection with the pulsatile or other movements of the brain.

There are three different kinds of brain movements: (1) Pulsatile movements communicated from the pulsations of the large basal cerebral vessels; (2) respiratory movements, in which the brain rises during expiration and falls during inspiration; and (3) vascular elevations and depressions which alternate and are due to periodic dilatation and contraction of the blood-vessels. This last is a peristaltic arterial movement, regulated by the vasomotor center, and occurs from two to six times per minute. It is in connection with one or other of these movements that sound vibrations are apt to occur in the arterial, venous or lymphatic systems. The pulsatory movements of the brain are exceedingly interesting, and undoubtedly they most frequently give rise to intracranial murmurs. From the circle of Willis the arteries ascend and their currents are directed upward in the same direction as the venous currents. The large arteries at the base of the brain communicate a movement to it, each pulse wave raising it up and thereby compressing the cerebral veins. In expiration the venous blood is dammed back into the sinuses and the brain expands at the expense of the cerebrospinal fluid. During inspiration the veins are emptied by suction action, the brain collapses and the cerbrospinal fluid re-enters the cranial cavity. During these movements the cerebrospinal fluid is subjected to doubly compensatory movement, i. e., the pulsatile movement is mainly intracerebral and is concerned mainly with the passage of the fluid through the cerebral tissues and the ventricles, and the respiratory movement which is concerned mainly with the flow of the fluid to and from the cranium. Thus, it is that the vascular mechanism of the brain determines not only the intracerebral, arterial and venous movements, but it also serves to give a peristaltic movement to the ventricles of the brain, whereby the cerebrospinal fluid is slowly passed onward. Excess of cerebrospinal fluid within the cranium is not, as a rule, attended by tinnitus.

Anemia and hyperemia are powerful agents in modifying pressure equilibrium. The high arterial pressure which occurs in Bright's disease is attended by undue pressure on the peri- and endolymph, and gives rise to tinnitus. In hemicrania due to gout the intracranial arteries may be dilated or hyperextended, and by their more forcible action not only drive the cerebrospinal fluid from the cranial cavity, causing increased tension in the labyrinth, but, by the same process, force the brain toward the internal table of the skull and thereby render it possible for the pulsatile waves to come into almost direct contact with it. So it is in conditions of plethora culminating in apoplexy, of which tinnitus is an early symptom. Tinnitus is often a prominent and distressing symptom in anemia and chlorosis. From certain anatomic and clinical data there appears to be no doubt that intracranial venous murmurs may occur in the same way.

24. **Intestinal Hemorrhage in Typhoid.**—Whitehead cites cases to prove that intestinal hemorrhage gives rise to an increased formation of agglutinins in the blood lasting for a short time, which may help to tide the patient safely over a dangerous period. As a result of his investigations, Whitehead

recommends that, in many toxic cases of typhoid, and more especially in those in which the blood gives a poor agglutination reaction, phlebotomy to the extent of about 10 ounces (according to the physical condition of the patient) be tried as a treatment.

26. **Ophthalmo-Reaction of Calmette in Early Diagnosis of Phthisis.**—Hosford has never obtained a positive result, except in true cases, nor did he see any bad results whatever from the use of the test as regards the eye. If a patient in a suspicious case fails to give a reaction, then, he says, the test should be applied on three different occasions, with an interval between each application of from three to four weeks.

27. **Researches in Epilepsy.**—Attempts to produce an epileptic animal and researches on the blood and urine by Alexander gave uniformly negative results with one exception. There appears to be a relationship between the fit and a low urea-ammonia ratio.

Practitioner, London

October, LXXXVII, No. 4, pp. 409-596

30 *Flatulence. Sir R. W. Burnet.
31 Pruritus Ani. Sir F. Wallis.
32 *Measles. Sir J. F. H. Broadbent.
33 Burns and Scalds. Sir L. H. Ormsby.
34 Dysmenorrhea. G. F. Blacker.
35 Common Ailments of Eye. A. Lawson.
36 Croup. F. J. Poynton.
37 *Backache. C. Berkeley.
38 Cuts, Bruises and Sprains. R. H. A. Whitelocke.
39 *Biliousness. W. S. Fenwick.
40 Hiccough. J. W. Carr.
41 Intestinal Worms. E. Cautley.
42 Renal Pain. C. Wallace.
43 *Morbid Blushing. H. Campbell.
44 Hemorrhoids. P. L. Mummery.
45 Epileptic Fits. G. Johnston.
46 Profuse Sweating. C. N. Meachen.

30. **Flatulence.**—Ascertain the predisposing cause, says Burnet, and put the patient, if possible, on such a plan that he will gradually be able to eat all wholesome, though probably for a time, at least, very simple and light, articles of diet without discomfort and with great benefit to his general health and well-being. The less he comes to think of his diet and the more he is able, as time goes on, to forget his former flatulence and distention, the happier and better he will be. At first, no doubt in most cases the diet will have to be carefully chosen and somewhat restricted. A rather dry diet will be found to suit best in nearly all cases, little liquid being allowed with meals. This excludes all soups and broths at the beginning of a meal and allows of only a small quantity of fluid toward the close of the meal. What the special drink should be has to be decided in each particular case. Some will be best with plain water, others may require a little stimulant, alcohol in some form. Tea must be limited in quantity and must be freshly made. As a source of flatulence the excessive use of tea among well-to-do people should always be borne in mind. Animal food is, as a rule, best digested by these patients; it must be carefully selected and well, though plainly cooked—underdone rather than overdone. Much green vegetable will usually not be well borne, and what is given should be rubbed through a sieve, cooked as spinach is served. Often it is best to forbid potato, for a time, and to substitute toast or second day's bread. Farinaceous foods have to be given carefully and the effect watched, but where digestion by the stomach is chiefly at fault, starchy foods, as they are dealt with chiefly in the intestines, may be given in greater amount.

Nux vomica is one of the most useful remedies in these cases and it may be given in tincture, or in pill, with ¼ grain of capsicum and 2 grains of compound rhubarb pill. Bismuth is of use in many instances, with an alkali such as bicarbonate of sodium and calumba or other bitter infusion. Salicylate of sodium with liquor pepticus, nux vomica and spirits of chloroform seems useful in a certain number of cases. Extract of malt given with or just after meals helps in those cases in which the digestion of starchy foods is obviously difficult. A few drops of dilute hydrochloric acid in water shortly after meals is often decidedly beneficial. In some cases iron and quinin seem to be indicated. A pill which is often well borne consists of 1 grain of reduced iron, with extract of nux vomica, quinin and pillula rhei compositus. It acts as a tonic and also as a mild aperient. It may be varied by 1 grain of pepsin and 1/20 grain of arsenious acid in place of the quinin and it is useful in anemic subjects. Calomel in very small fractional doses, given twice daily for a few days at a time, has often very good effect, and where there is sluggish action of the liver, 1 or 2 grains of blue pill with colocynth and hyoscyamin, or pillula rhei compositus should be given occasionally and followed, if necessary, by a mild saline in the morning, but anything like strong purgation should be avoided. When the distention is chiefly in the bowels, salicylate of bismuth, betanaphthol and salol, in cachet, give at least temporary relief. Lavage is not usually needed in these cases, but if there is much accumulation of mucus it is very helpful by clearing the stomach and thus giving a fair start to other treatment. In acute attacks of flatulence, hot water, with aromatic spirits of ammonia and spirits of chloroform with perhaps a teaspoonful of brandy, often relieves the tension and spasm. Sometimes a drop or two of oil of cajeput in mucilage has a very good effect.

32. **Measles.**—Good nursing is considered as of the greatest importance by Broadbent. Drugs are seldom required, he says, except for complications, which must be treated as they arise. For healthy children properly cared for in good homes an attack of measles for the most part runs a normal course and does not give rise to serious anxiety or call for special treatment. It is the neglect of precautions in the prodromal stages, the ignorance of the parents, the absence of proper care and treatment and the insanitary nature and surroundings so frequently met with in the homes of the poor which are mainly responsible for the high mortality.

37. **Backache.**—In searching for the cause of backache Berkeley says one must consider the vertebral column, the vertebral joints, the sacro-iliac joint, the coccyx, the spinal cord, the spinal membranes, the muscles of the back, the abdominal viscera, the aorta and the pelvic viscera. In addition, backache is found to be associated with the acute specific fevers and with neurosis.

39. **Biliousness.**—In no diseases, says Fenwick, is the employment of calomel and other mercurial preparations more abused, and it is highly probable that the daily recourse to calomel, which is such a common practice, produces extreme irritation of the duodenal mucous membrane. On the other hand, a dose of calomel or mercurial pill once a week followed by a saline the next day, always affords temporary relief to the nausea and giddiness. During an attack of febrile jaundice, due to acute cholangitis, the patient must remain in bed on a bland liquid diet. Tonics of all kinds are veritable poisons and only alkaline mixtures should be prescribed to relieve the symptoms of the secondary gastric and intestinal indigestion. The question of surgical interference should always be considered when clinical evidence points to the existence of gall-stones, chronic pancreatitis or duodenal ulcer.

43. **Morbid Blushing.**—The essential cause of morbid blushing in Campbell's opinion is an inherited morbid temperament. Drugs have little effect on it. The bromids are, on the whole, the most useful. Mild galvanic currents applied to the cervical sympathetic may do some good, but probably rather by suggestion than by their direct effect. The vasomotor centers of the face are readily affected by digestion; witness the liability to redden in the fact after taking food. Hence, a further need for paying attention to the digestive system in the subjects of morbid blushing. These patients may gain some confidence by using strong convex glasses. The artificial myopia thus induced by blurring the surroundings tends to diminish self-consciousness. Psychic methods are of undoubted value. Correct the patient's morbid outlook on life and to achieve this end it is necessary to get into close mental touch with him. Above all give him confidence.

Australian Medical Journal, Melbourne

September 2, I, No. 7, pp. 67-76

47 Mentally Defective Children. A. Davidson.
48 Acute Parotitis with Orchitis, Followed by Insanity. W. H. Barker.

September 9, I, No. 8, pp. 77-86

49 Case of Cavernous Angioma of Face. G. McCallam.

September 16, I, No. 9, pp. 87-98

50 Treatment of Visceroptosis. A. Honman.
51 Prolapse of Uterus. T. Murphy.

Journal of Tropical Medicine and Hygiene, London

October 2, XIV, No. 19, pp. 285-298

52 Water-Supply of Towns in Tropics, Chiefly from Bacteriological Standpoint, as Illustrated by Water-Supply of Khartoum. A. Balfour.

Annales des Maladies des Org. Génito-urinaires, Paris

September 1, XXIX, No. 17, pp. 1537-1632

53 *Syphilis of the Bladder and Upper Urinary Passages. (Syphilis de la vessie et des voies urinaires supérieures.) N. A. Mikhailoff.
54 Primary Tuberculosis of the Bladder. (De la cystite tuberculeuse primitive.) G. Li Virghe.

53. **Syphilis of the Bladder.**—Mikhailoff's patient was a woman of 39, the wife of a physician, who applied for relief from a sensation of weight in the kidney region and periodical hematuria which had been observed for five years. The kidney and other organs were apparently normal and she had borne a healthy child thirteen years before. The cystoscope revealed hyperemia in parts of the bladder, and around both ureter mouths there were small papules like those of impetigo; groups of the papules resembled roseola on the skin. The Wassermann test was applied twice, the first time with negative and then with positive results; under a course of mercurial pills and potassium iodid conditions were rapidly restored to normal.

Annales de Médecine et Chirurgie Infantiles, Paris

September 15, XV, No. 18, pp. 561-592

55 *Tuberculosis of the Testicles in Children. (Tuberculose testiculaire chez l'enfant.) P. Vignard and L. Thévenot.
56 Invagination of the Intestine. (Invagination intestinale; desinvagination. Guérison.) H. Triboulet and M. Savariaud.
57 Three Cases of Tuberculous Rheumatism. S. Veras.
58 Favorable Influence of Mountain Climate on Eczema in Infants. (Influence favorable de la cure d'altitude sur l'eczéma des nourrissons.) A. B. Marfan.

55. **Tuberculosis of the Testicles in Children.**—In one of the three cases reported, an infant of 14 months died six months after the first symptoms of tuberculous disease of the left testicle. Another child of 11 months died a week after removal of the tuberculous testicle. The tuberculosis in this case was primary. The third child was over 12 years old and the testicle had been giving trouble for a month and a half before the epididymectomy which put an end clinically to the local trouble. A review of the literature confirms this same predominance of infants among such patients. Of Jullien's seventeen, all but twelve were under the age of 2. The onset may be sudden and acute, the symptoms suggesting acute gonorrheal orchitis, but these subside in a few days leaving suppuration which soon forces its way outward. In other cases the onset is slow and indolent and the trouble is unsuspected until revealed by chance or an abscess ruptures.

Archives Générales de Chirurgie, Paris

August, V, No. 8, pp. 841-960

59 *Neurotomy for Obliterating Endarteritis. (Névrotomie pour endartérite oblitérante.) Marquis.
60 Solitary Cysts in the Bones and Fibrous Ostitis. (Kystes solitaires des os et ostéite fibreuse.) P. Mauclaire and Burnier.

59. **Neurotomy for Endarteritis.**—Marquis reports two cases in which he successfully severed the nerves and put an end to the intense pain accompanying gangrene. In the first case the lesion was in the leg and the neurotomy is, he says, the sixth of the kind on record on the leg, while his other case is the first on record in which the operation was done for gangrene on the hand. He has been able to find in the literature only nineteen cases of gangrene on the hand for which neither syphilis nor diabetes was responsible. Conditions in the arm are so complicated by the anastomoses between nerves that a very complex operation would be necessary to ensure a complete cure. In his case the gangrene continued to spread, thus involving new nerves, with recurrence of pain after two weeks of freedom from it, and the patient died before the month was out. Marquis outlines the technic necessary in such cases to prevent recurrence of the pain.

Archives des Maladies de l'App. Digestif, Paris

August, V, No. 8, pp. 409-468

61 *Swallowing of Air in Connection with Acute Dilatation of the Stomach. (La distention aigue de l'estomac avec occlusion duodénale. Le rôle de l'aérophagie dans sa pathogénie.) A. Mathieu.
62 Absorption by the Large Intestine. (Sur l'absorption par le gros intestin.) G. Diena.
63 Polycythemia with Predominating Dyspeptic Symptoms. (Cas de polycythémie rouge—maladie de Vaquez—avec symptomes dyspeptiques prédominants.) Wasserthal.

61. **Acute Dilatation of the Stomach with Duodenal Occlusion.**—Mathieu remarks that the discovery of the causes and remedy for this condition, which used to prove fatal in 75 per cent. of those affected, is one of the greatest triumphs of modern medicine. The main feature of the trouble is the immense distention of the stomach and upper part of the duodenum with its attendant symptoms and complications. The dilated portion stops abruptly where the mesenteric artery crosses and compresses the duodenum, and Mathieu shows in diagrams how any excessive distention of the stomach pulls down on the mesentery below the duodenum, thus tightening the pressure on the duodenum and starting the dangerous vicious circle. But, Mathieu queries, what starts the acute dilatation of the stomach, especially after operations? The syndrome has been observed in three cases of eclampsia and in cases in which exclusively medical measures had been applied, without any anesthetic. Consequently there must be some other causal factor in the syndrome besides the anesthetic, to which it is being universally ascribed. This factor, he asserts, is the swallowing of air; Lardennois has reported eight cases in which this fact was established beyond question. In one case he noticed that the patient after appendectomy, being tormented by thirst and dryness of the throat was constantly swallowing saliva and the air swallowed with it was progressively distending the stomach and causing great uneasiness. The condition was evidently the first phase of the dire "arteriomesenteric occlusion of the duodenum." When he explained to the patient the danger to which she was exposing herself, she ceased this insistent swallowing and conditions soon righted themselves, as also in his seven other cases of the kind. Mathieu was called once in consultation in a similar case of commencing dilatation of the stomach, and he introduced a cork between the patient's teeth whenever she began to retch, regurgitate or hiccough, thus preventing swallowing of air by keeping the mouth open. Improvement of the threatening symptoms was soon evident and by the second day all trouble from this source was at an end. The patient said afterward that the gag, the lavage of the stomach and the saline infusion had all helped in the cure, but above all the removal of the basin which had seemed to invite her to retch and try to vomit. The aerophagia, Mathieu affirms, is thus the primal factor in all these surgical and medical cases—the trouble having been observed even during convalescence from typhoid fever. There is no doubt a predisposition on the part of the stomach, some toxic or other cause weakening the stomach walls so that they yield more readily to the strain from the air swallowed in excess by the restless, nervous patients. The pressure from within may even close the cardiac orifice so that it may be impossible to introduce the stomach sound. Only in such an event need operative measures be considered, and they should be restricted to a minute gastrostomy to permit escape of the gases. In the eight cases on record in which a laparotomy was done and the stomach incised, the patients all died.

Archives de Médecine des Enfants, Paris

September, XIV, No. 9, pp. 641-720

64 *Functioning of the Kidney in the Course of Nephritis in Children. (Les fonctions rénales au cours des néphrites de l'enfance.) P. Nobécourt and P. Merklen.
65 Day Nurseries in Russia. (Les crèches en Russie.) W. Chenguelidze.
66 Diphtheria Bacillus-Carriers. (Diphtérie et porteurs de germes.) J. Michel.

64. **Nephritis in Children.**—Nobécourt and Merklen report research on acute nephritis in children, especially the simple albuminurie form, of which they report three typical examples, three of the form with retention of chlorids, and one with retention of nitrogen, as also a case combining these forms. They also analyze ten other cases of these various

types in a chronic form. Study of the elimination of albumin, chlorids and nitrogen allows the course of the kidney affection to be traced and explains the transient character of many cases of acute nephritis with great tendency to edema, and it also explains the tolerance of the children to certain forms of chronic nephritis. There may be phases of retention of chlorids in chronic nephritis, each simulating an acute disease. This intermittence is one of the features of nephritis in children. Nobécourt and Merklen expatiate on the advantages of a milk diet even when there is no retention of salt and urea; they found that the albuminuria was milder and briefer during scarlet fever when the children were restricted to milk for a time. If the albuminuric nephritis enters a chronic phase, a milk-vegetable diet is necessary, with yolks of eggs and very little meat, moderately salted. With retention of salt in acute nephritis, the children should be restricted to water and little of that for the first few days. The edema is generally rapidly reabsorbed when this is done. Even milk contains enough salt to prolong and intensify the edema during this phase. Salt should not be allowed until certain that the kidneys are able to eliminate it again. These dietetic measures may be supplemented by diuretics, such as lactose and theobromin or digitalis if the heart action is weak. In nephritis with retention of urea, they restrict the children to lactosed water, and avoid all albuminous substances until the permeability of the kidney for urea is restored. While milk is the main reliance in acute nephritis, it is not nourishing enough in the subacute and chronic cases, and it should be supplemented by unsalted food or food poor in nitrogen, according as the tests of kidney functioning point the way.

Lyon Chirurgical, Lyons

October, VI, No. 4, pp. 377-492

67 The Pyloric Vein. (Anatomie de la veine infra-pylorique.) A. Latarjet.
68 *Stenosis of the Pylorus of Tuberculous Origin. (Tumeur inflammatoire sténosante du pylore d'origine tuberculeuse. Rapports de l'inflammation avec l'hypertrophie et les tumeurs du tissu musculaire lisse.) J. Chalier and L. Nové-Josserand.
69 *Exclusion of the Duodenum and of the Pylorus. R. Leriche and E. Bressot.

68. **Stenosis of the Pylorus of Tuberculous Origin.**—Necropsy of a patient succumbing to chronic pulmonary tuberculosis revealed muscular thickening of the pylorus without any specific tuberculous changes, yet inoculation of guinea-pigs with scraps of tissue from this neoproduction resulted in the death of the animals from tuberculosis. This is the first case of inflammatory specific tuberculosis of the pylorus with positive inoculation of guinea-pigs. In adults fibrous or sclerous stenosis of the pylorus has only rarely been examined for tuberculosis; if this were done oftener, lesions suggesting inflammatory tuberculosis would certainly be found in many instances. The structure of the thickening in this case resembled so much that of myoma of smooth muscle tissue that it suggests the possibility that inflammation (tuberculous in this case) may be at the basis of true tumors (a benign leiomyoma in this case). The structure of the stenosis in this case resembled so closely the lesions encountered in the stenosis of the pylorus from muscular hypertrophy in the new-born, that it suggests a possible similar origin in the latter cases.

69. **Exclusion of the Duodenum.**—Leriche and Bressot describe the history of the operations excluding the pylorus and duodenum and the preferable technic, and then review fifty-nine cases, including two from their own experience; they also know of fifteen other cases without details. By exclusion of the duodenum they mean cutting the pylorus across and closing each stump with a suture, reestablishing the continuity of the digestive tract by a gastro-enterostomy. For exclusion of the pylorus, the operation has to be done on the stomach tissue proper and is thus more difficult than the simple severing of the duodenum at the pylorus, as the raw surfaces are more extensive. All the patients derived great benefit from the operation and no death is recorded. Jonnesco has performed the operation twenty-nine times without a fatality. The outcome is so good after exclusion of the duodenum that they insist that this should be the routine treatment for gastric or duodenal ulcer. They denounce this operation in cases of gastric cancer—this requires more radical measures—but with gastric ulcer exclusion of the duodenum should be given the preference over pylorectomy (on account of the difficulty of the technic) and over gastro-enterostomy (on account of the inadequacy of the effect from this alone). The details of forty-five cases are given in full.

Lyon Médical, Lyons

September 3, CXVII, No. 36, pp. 469-516

70 Variability of the Blood-Vessels Supplying the Kidney. (Recherches sur les organes du pédicule rénal.) A. Chalier and A. Jalifier.

September 10, No. 37, pp. 517-564

71 Fatal Pneumothorax Complicating Thoracocentesis. Bouchut and Bouget.

Revue de Gynécologie, Paris

July, XVII, No. 1, pp. 1-96

72 Outcome of Ninety-Four Conservative Operations on Ovaries and Fallopian Tubes. (Des résultats des opérations conservatrices pratiquées sur les trompes et les ovaires.) W. L. Jacobson.
73 Rupture of Vessels with Abdominal Contusions. (Des ruptures vasculaires dans les contusions abdominales. II.) Ducuing and Florence. Concluded in No. 3.

August, No. 2, pp. 97-192

74 *Formation of Vagina by Autoplastic Technic. (De la création d'une cavité vaginale par la méthode autoplastique dans les cas d'absence congénitale.) S. Pozzi.
75 Anatomy of the Kidney. (Recherches sur le hile, le sinus et le pédicule du rein.) A. Chalier and A. Jalifier.

74. **Autoplastic Formation of Vagina.**—Pozzi describes with numerous illustrations a successful operation of the kind on a young woman and the anatomic outcome six months later.

Revue de Médecine, Paris

September, XXXI, No. 9, pp. 673-760

76 *The Toxic Origin of Neurasthenia. (De la neurasthénie grippale.) H. Bernheim.
77 Primary Bilateral Cancer in the Adrenals of Young Women. (Cancer primitif et bilatéral des capsules surrénales avec metastases viscerales et craniennes.) F. Mouisset and J. Chalier.
78 Treatment of Tuberculosis in Antiquity. (La phtisiothérapie dans l'antiquité. Orientaux, Grecs, Arabes.) M. Piéry and A. Rémy.
79 *Connection Between Hysteria, Renal Insufficiency and Retention of Salt. (Hystérie, insuffisance rénale, retention chlorurée.) J. Lépine.

76. **Grippal Neurasthenia.**—Bernheim reports twenty-three cases to illustrate the various forms of neurasthenia which influenza is liable to induce, in addition to its action on various organs. He is inclined to regard ordinary neurasthenia as an auto-intoxication, often constitutional, continuous or periodically recurring, and influenza may be the means of arousing this tendency to develop into actual neurasthenia. The symptoms of neurasthenia are refractory to suggestion, and they may persist for weeks or months or pass into a chronic stage with remissions and exacerbations, but the spinal and cerebral symptoms of neurasthenia only exceptionally merge into actual organic disease; persisting neuritis, tabes, myelitis or dementia are extremely rare as a consequence of neurasthenia or influenza.

79. **Hysteria and Kidney Insufficiency.**—Lépine's patient was an intelligent man of 51 suffering from traumatic hysteria which finally subsided. Study of this case and of the experiences of others seems to indicate that every hysteria has a toxic element, and that this can be sought on the part of the kidneys. This view explains the aggravation of conditions liable when there is retention of salt. This patient's serum contained twice the normal proportion of salt, and he finally succumbed to uremia.

Semaine Médicale, Paris

October 11, XXXI, No. 41, pp. 481-492

80 The Indirect, Psychic or Conditional Reflexes. (Les réflexes conditionnels en physiologie et en pathologie.) F. Rose.

Berliner klinische Wochenschrift

October 9, XLVIII, No. 41, pp. 1829-1872

81 *Anemia in Infants. (Anämien des frühsten Kindesalter.) H. Finkelstein.
82 *Arteriovenous Anastomosis for Angiosclerotic Gangrene. (Behandlung der angioskleratischen Gangrän der unteren Extremität mittels arteriovenöser Anastomose.) J. M. Glasstein.
83 Determination of Antitrypsin in the Blood-Serum. (Prognostische und diagnostische Bedeutung der Antitrypsinbestimmung im Blutserum.) G. Katzenbogen

84 *The Colloidal Nitrogen in the Urine as Sign of Cancer. (Bedeutung einiger urologischer Befunde für die Diagnose der malignen Epithelialtumoren.) L. Caforio.
85 Forensic Aspect of History of Venereal Disease in Candidates for Matrimony. (Besteht nach der deutschen Rechtssprechung zwischen Heiratskandidaten eine Pflicht zur Offenbarung überstandener Geschlechtskrankheiten?) J. Heller. Commenced in No. 40.

81. **Anemia in Infants.**—Finkelstein remarks that the blood will often be found normal when the pallor of the infants suggests anemia. On the other hand, some infants are born with less than the normal reserve of iron to carry them along through the nursing period, as milk contains very little iron. This chlorotic type of anemia in nurslings has been described mostly by French writers. In Germany infants are given mixed foods earlier, and in consequence they get iron in time to prevent development of the anemia. The prematurely born and twins, and infants of frail, anemic and neuropathic mothers, do not have this normal reserve of iron. In such cases the lack of iron usually can be compensated by giving the child iron or mixed food, but in a certain proportion of cases there seems to be a constitutional weakness of the blood-producing apparatus. In a case of this kind in a male infant, both the mother and grandmother had a constitutional tendency to anemia. Hygienic-dietetic measures are the reliance in treatment, adding a little meat juice, cheese or half an egg, or fruit juice, vegetable soup, etc., to the milk. This generally answers the purpose, but if not a little saccharated ferrous carbonate, twice a day, generally is sufficient in the primary forms. With secondary anemia, removal of the cause is the first task, and blood tonics do more harm than good until this is done. His experience with pseudoleukemic anemia in infants seems to demonstrate that it is the extreme type of secondary anemia from toxic or infectious causes in children with a congenital debility of the blood-producing organs. If it is possible to keep the infant in pure air and free from complications with proper care and diet, the prospect of a cure of the pseudoleukemic anemia is good. Only in the uncomplicated cases and those in which iron has been given, does the anemia seem to respond favorably to arsenic.

82. **Arteriovenous Anastomosis for Gangrene.**—Glasstein reports a case of angiosclerotic gangrene of the left leg requiring amputation. Two years later the right leg became extremely painful. Persistence of the pains for eight months with chilliness of this leg, the livid tint and extreme tenderness, suggested impending gangrene, and when two cyanotic patches developed at the base of the great toe and no pulse could be detected in the popliteal, posterior tibial and dorsalis pedis arteries, the patient, a man of 38, consented to arteriovenous anastomosis at the root of the thigh. The Carrel technic was applied and in less than a month all pains had subsided and the foot was nearly of normal tint. When the patient was last seen, five months after the operation, complete function was restored and the leg had a normal aspect. He had been accustomed to smoke fifty or sixty cigarettes a day and was somewhat addicted to alcohol.

84. **Colloidal Nitrogen in the Urine in Cancer.**—Caforio investigated the urine of twenty-eight cancer patients and of twenty-two others to test the constancy of the increase in colloidal nitrogen which Salkowski thinks is specific for cancer. Caforio found the sign positive in pulmonary tuberculosis and liver disease as well as in cancer so that it is not pathognomonic for cancer, but negative findings are useful to exclude malignant disease. He never found the range above normal in the healthy or those free from organic disturbances, while it ran up to 7 per cent. with cancer even in the incipient stage, and subsided to normal range after the cancer had been excised.

Deutsche medizinische Wochenschrift, Berlin

October 5, XXXVII, No. 40, pp. 1825-1872

86 *Tuberculin by the Mouth. (Stomachale Anwendung von Tuberkulinpräparaten.) B. Möllers and W. Heinemann.
87 *Exhaustion of the Epinephrin-Producing System by Muscular Work. (Das chromaffine System und seine Erschöpfung durch Muskelarbeit.) W. Carl.
88 *Appendicitis and Colitis. R. Tölken.
89 Volvulus of the Cecum with Gangrene. H. Riese.
90 *Inflammatory Tumors in Abdominal Wall. (Ueber entzündliche Bauchdeckengeschwülste.) E. Heymann
91 *Summer Infant Mortality a Housing Problem. (Die Sommersterblichkeit der Säuglinge, ein Wohnungsproblem.) J. Rietschel.
92 *Examination of the Thymus. (Zum physikalischen Nachweise der Thymus.) K. Basch and A. Rohn.
93 Roentoscopic Diagnosis of Foreign Bodies in the Eye. (Doppelte Perforation des Auges und Nachweis durch Röntgenstrahlen.) J. Jung.

86. **Inefficacy of Tuberculin by the Mouth.**—Möllers and Heinemann report extensive experimental research confirming the uncertain action of tuberculin administered internally, as the pepsin and trypsin in the digestive tract have a destructive influence on the specific elements of the tuberculin. The method is thus totally unfit for diagnostic purposes and even for treatment on account of the unreliability of the dosage, as it is impossible to calculate the amount that will eventually be absorbed.

87. **Exhaustion of "Chromaffine System" by Muscular Exertion.**—Carl says that the substance taking the chrome stain in the medulla of the adrenals, the paraganglia and the carotid gland—the apparatus called the "chromaffine system"—disappears in the frog under the muscular exhaustion from protracted reflex convulsions in strychnin poisoning.

88. **Appendicitis and Colitis.**—Tölken has been examining for evidence of colitis in all cases of appendicitis in his charge, and has found colitis more common than he expected. Circumscribed colitis and catarrhal conditions elsewhere in the large intestine are liable to prevail alone or as complications of appendicitis. The physiologic stagnation of the feces in the cecum naturally predisposes to inflammation in this region. Palpation shows a more extensive resistance than with appendicitis alone, and the tenderness is not so limited or so extreme as in the latter affection while the temperature, pulse and leukocyte count are nearer to normal range. In cases colitis is diagnosed, castor oil may show that operative treatment is not required.

90. **Inflammatory Tumors in Abdominal Wall.**—Heymann refers to a tumefaction years after a herniotomy which healed by primary intention. The slow development of the lesion suggests a malignant tumor, but examination always reveals some scrap of suture material as the primal cause. In a case reported in detail the tumor was evidently connected with the urachus and excision confirmed this assumption and the slight virulence of the germs causing the tumor-like infiltration. He advocates extensive excision.

91. **Heat Stroke as Factor in Summer Infantile Mortality.**—Rietschel argues that hitherto attention has been devoted too exclusively to the infant's food while the infant itself has been disregarded in our study of infantile mortality. He has found the mortality highest in the cities and in the hottest parts and in the hottest houses and rooms, and he has become convinced that the heat is an extremely important factor. It debilitates the children so that they feel any slight digestive disturbance far more severely and succumb more readily. The campaign against infant mortality is thus seen to be essentially a housing problem. He says that until the population began to accumulate in the cities, an excessive summer mortality among infants was known in Germany only from the reports in American literature, so that cholera infantum was long called the "American disease." Not until about 1870 did it attract attention in Germany, coincident with the industrial development and the migration to the cities. Among the arguments he presents for this view are that sterilizing the milk has not materially reduced infantile mortality, while the mortality fluctuates with the temperature, and especially with the temperature in the room where the child lives—this effect of heat may be evident even in winter, in overheated rooms. He adds that no one has been able to discover any actually toxic bacteria in milk, and if such were present they would proliferate just as well at 24 C. as at 30 C. He regards the morbidity as an actual heat stroke in many cases, or the heat may act as a chronic debilitating influence. Keep the milk cool, certainly, he says, but keep the baby cool first and foremost.

92. **The Thymus.**—Basch and Rohn use a special pleximeter with very narrow hammer for percussion with auscultation,

and state that it is thus possible to determine the outlines of the thymus even in infants, especially when combined with auscultation on friction of the region. In their examination of 140 children they found the normal outline of a rhomboidal shape, extending from the clavicle to the second or third rib, and bounded by the margin of the sternum and parasternal line. They give the area of dulness thus determined as compared with the necropsy findings in a number of cases. The area varies characteristically with the age and state of nourishment and with pathologic conditions in the vicinity.

Deutsche Zeitschrift für Chirurgie, Leipsic

September, CXI, Nos. 4-6, pp. 321-630

94 *Local Anesthesia for Operations in Area of Fifth Nerve. (Lokalanästhesie bei Operationen im Trigeminusgebiet.) H. Braun.
95 Chronic Obstruction of Common Bile Duct: Four Cases. (Hydrops und Empyem der Gallenwege beim chronischen Choledochusverschluss.) F. Brunner.
96 Muscle Hernia. (Muskelhernien.) Heinemann.
97 Idiopathic Extreme Fragility of the Bones in Brother and Sister. (Zur Frage der Osteopsathyrosis idiopathica.) J. Hartmann.
98 Fracture of Cuneiform Bone of the Carpus. (Frakturen des Os triquetrum; spez. die Ulnar-Dorsalflexionsfraktur mit Absprengung des Proc. styl. ulnae.) F. Denecke.
99 Cause of Retrogade Incarceration of the Intestine. (Pathogenese der retrograden Inkarzeration des Darmes.) E. Polya.
100 Trauma of Upper Cervical Vertebræ. (Beitrag zu den Verletzungen im Bereich der beiden ersten Halswirbel.) F. W. Brill.
101 Traumatic Aneurysm of Intestinal Artery After Abdominal Contusion. (Traumatisches Aneurysma einer Darmwandarterie als seltene Folge einer Bauchverletzung durch stumpfe Gewalt. Tötliche Blutung aus dem Aneurysma in der siebenten Woche nach dem Unfall.) H. Lang.
102 Connection Between Gall-Bladder Lymphatics and Pancreas. Beziehungen der Gallenblasenlymphgefässe zum Pankreas.) C. Franke.
103 Curability of Liver Abscesses. (Zur Heilbarkeit multipler cholangitischer Leberabszesse und über kleine solitäre Leberabszesse und ihre Bedeutung in der Chirurgie.) C. Lehmann.
104 Pathology of Kidney Calculus. (Zur Pathologie der Nierensteine.) H. Rosenbach.
105 *Vagotomy in Treatment of Tabetic Gastric Crises. (Ein neues Operationsverfahren bei tabischen Crises gastriques.) A Exner.
106 Transplantation of Bone for Defect in Lower Jaw. (Klinischer Beitrag zur Frage der freien Knochentransplantation bei Defekten des Unterkiefers.) J. Vorschütz.
107 Ligation of Innominate Vein. (Unterbindung der Vena anonyma.) W. Kluge.

94. **Technic for Local Anesthesia of the Trigeminus.**—Braun gives illustrated descriptions of ten different operations in the area innervated by the fifth cranial nerve for cancer or other serious lesion, all done under local anesthesia, blocking the main nerve-trunks. He declares that the advantages of local anesthesia are more evident in this than in any other field of surgery. The technic is somewhat similar to that of Schlosser's deep injections of alcohol for relief of trigeminal neuralgia, but it includes further the direct blocking of the nerve-trunks by injecting the anesthetic around it and infiltration of adjacent tissues, preceded by injection of morphin or morphin-scopolamin. One of the illustrations shows the total resection of the upper jaw and evacuation of the orbit for cancer in a man of 63, more than half of the face thus being opened up in a single yawning wound. There was very little bleeding, although the carotid was not ligated. The patient did not have to go to bed afterward and was strolling in the garden the next day. It is startling in one of the illustrations to meet the intelligent pain-free gaze of the patient, a man of 64, who was having a cancer of the base of the tongue, tonsil and fauces and the glands in the left side of the neck removed through the single large opening. Half of the tongue and jaw had just been cut out when the photograph was taken. Resection of the upper jaw, Braun adds, has lost its horrors under local anesthesia, and become an entirely different operation, as at any point elsewhere. With good local anesthesia and the patient quieted by morphin beforehand, the psychic influence of being a witness to the operation does not seem to disturb; its importance has been overestimated, Braun declares. The aim is to render the entire field free from pain without injecting directly into the diseased tissues.

105. **Vagotomy for Tabetic Gastric Crises.**—Exner severed the tenth, eleventh and twelfth dorsal roots to relieve tabetic gastric crises in a man of 47 and the pains were banished permanently, but the vomiting crises continued. This persistence of the vomiting feature of the crises, while the pains were abolished, convinced Exner that the primary trouble in the crises was some affection of the vagus or its centers, the vomiting thus indicating the primary feature of the gastric crises. Assuming this to be the case, treatment should be directed against the primary affection of the vagus or its centers, correction of which would be followed by the spontaneous arrest of the pains. The aim thus would be to sever the vagus on both sides just below the diaphragm, close to the cardia. In order to prevent any eventual spasm of the pylorus he reasoned that the pylorus ought to be kept open by a drain tube. On the basis of these theoretical assumptions he has performed this operation on two patients. In both the vagus was found much degenerated, quite enough to explain the gastric crises, he thinks. The first patient was relieved completely of the gastric crises, but still suffers from preexisting lancinating pains in legs and bladder. The second patient was very restless and pulled out the drain tube and the stomach became dilated, the atony increasing and the patient soon dying from inanition. A subphrenic abscess was found under the left lobe of the liver. Exner concludes from these experiences that it would be preferable to resect the vagus just below the diaphragm, before it ramifies. To avoid complications, a perforated drain should be passed through an opening in the stomach wall into the duodenum. It is probably safe to remove the drain by the end of the third week. He advocates this method of treatment, instead of rhizotomy, as liable to prove equally effectual, while it is far simpler and less dangerous than the Förster technic.

Medizinische Klinik, Berlin

October 8, VII, No. 41, pp. 1565-1604

108 *Efficacy of Phosphorus in Senile and Tardy Osteomalacia. (Ueber Osteomalacia senilis und tarda.) H. Curschmann.
109 Prophylaxis of Puerperal Fever. (Verhütung des Kindbettfiebers.) C. J. Gauss. Commenced in No. 40.
110 Paroxysmal Tachycardia. (Analyse eines Falles von paroxysmaler Tachykardie:) R. Beck.
111 Radium Treatment of Cancer. (Behandlung des Krebses mit Radium als Ergänzung zu der chirurgischen Behandlung bei operablen und als selbständige Behandlungsmethode bei inoperablen Erkrankungen.) Nahmmacher.
112 *Salt-Poor Diet. (Zur Technik der kochsalzarmen Ernährung.) J. Leva.
113 Operative Treatment of Exophthalmic Goiter. (Umfrage über die chirurgische Behandlung der Basedowschen Krankheit.) Krecke, Enderlen, Schloffer and A. Cramer.
114 *Therapeutic Application of Negative Differential Pressure of the Lungs. (Anwendung der Luftdruckerniedrigung über den Lungen, eine wertvolle Heilmethode bei Herz-, Lungen- und Gefässerkrankungen.) Pick.
115 Dry Rot in Wood. (Ueber den Hausschwamm.) W. Wangerin.

108. **Tardy and Senile Osteomalacia.**—Curschmann asserts that non-puerperal osteomalacia is far more common than is generally assumed, and that frequently it is not recognized and the patients are treated on the wrong basis for assumed rheumatism, lumbago, sciatica, spondylitis or other spinal affection. The mistaken diagnosis is the more harmful, as treatment based on it is ineffectual, while phosphorus will cure the real trouble, the senile or tardy osteomalacia. During the last few years he has had twelve cases of pronounced osteomalacia in women approaching or just past the menopause. He advocates the term "tardy" osteomalacia for this form, as also for the tardy exacerbation of osteomalacia first developing during a pregnancy. One such case was in a woman of 43, whose osteomalacia developed during and subsided after her various pregnancies, and then recurred in a very severe form, seven years after the last pregnancy. He has encountered six cases of pronounced senile osteomalacia, and four of an abortive form, all but two of his osteomalacia patients being women. This rarity in men is one reason why it is so seldom recognized when it does occur in a man. In an instructive case of the kind a man of 65 had had severe osteomalacia for seven years, but no one had recognized it; the pains radiating to the sacrum and thigh had been diagnosed as sciatica. There were also pains in the chest in coughing, and the legs had grown stiffer and more painful until the man could only get around his room with support. Tentative antisyphilitic treatment gave no relief; neither did courses of treatment at Nauheim, Wiesbaden and elsewhere, to which he was sent by different

physicians in turn, with the diagnosis of gout, muscular rheumatism, chronic lumbago and finally sciatica, the history of treatments including a two-year course with a certain quack. But no measures gave permanent relief until Curschmann discovered the signs of severe osteomalacia, namely, extreme painfulness on pressure over the ribs, sternum or spine; moderate round dorsal kyphosis, the lower ribs resting on the bony framework of the pelvis; a transverse groove in the skin across the epigastrium and contracture of legs, especially of the adductors in standing and walking, the patient taking with great difficulty the shortest of steps, the thighs pressed close together, and stopping exhausted after a minute or two. On reclining the muscles relaxed. The tendon reflexes were normal. Under phosphorus, bed rest and baths the spontaneous pains disappeared entirely in four weeks, and in another month the patient was able to walk normally, without pain, and return to business. The lack of recognition of osteomalacia in this case had given the patient seven years of martyrdom. All these patients were well-to-do, and the osteomalacia developed very insidiously and slowly in all but one case in which it reached its acme in two months. The chest, spine and thighs are mainly affected in this senile and tardy form, the pelvis least or not at all. There was no tendency to paralysis in any of his cases, but in five of his six cases of senile osteomalacia, numbness and paresthesia in hands and feet suggested neuritis at first. The angiospastic symptoms subsided as the osteomalacia was cured. In two cases of the tardy form there were trophic disturbances in face, fingers or nails, but no trace of any complicating organic disease, mental disturbances or hysteria in any instance. The height was reduced a little, 5 cm. in one case. The efficacy of phosphorus in cod-liver oil in these cases confirms the diagnosis. He gives from five to three teaspoonfuls of a 0.01 per cent. solution at first, gradually dropping to one or two teaspoonfuls, but keeping this up for months; in two cases for nearly a year. The phosphorus has to be given continuously, like iodid in arteriosclerosis or thyroid in myxedema. The benefit from phosphorus-cod-liver oil confirms the assumption that rachitis and osteomalacia are essentially the same affection. Curschmann adds in conclusion that in the tardy and senile form of osteomalacia, castration without a preceding energetic and long-continued course of phosphorus treatment is actual malpractice.

112. **Salt-Poor Diet.**—Leva calls attention to a number of seasonings which can be used in place of salt in various dishes, such as mint thyme, capers, onions, laurel leaves, celery and cress, lemon, vinegar, mustard and sugar, disguising the lack of salt. Caper sauce, tomato sauce, madeira sauce, etc., mayonnaise and the copious use of cream, enable one to dispense with salt to an unanticipated extent. It is not a difficult matter to have the baker keep out enough unsalted dough to supply a loaf of unsalted bread. It can be made more palatable by having this loaf shortened with unsalted butter; in some countries, especially Italy, a large part of the population always use unsalted bread. Leva has been experimenting with sodium bromid as a substitute for salt, saying that the use of 1 or 2 gm. a day for a time would do no harm in the majority of cases, while it seasons bread, eggs, soups and vegetables in a fairly satisfactory manner. It does not taste like salt, but it enables the salt to be dispensed with better. His experiments have demonstrated that sodium bromid promotes the elimination of sodium chlorid, and thus indirectly of dropsical fluid, and it can usefully supplement the dietetic measures.

114. **Negative Differential Pressure in Treatment of Heart, Lung and Vascular Disease.**—Pick has used Bruns' apparatus for negative differential pressure in a number of cases, and has found that it arrests asthma, and aids in the cure of emphysema of the lungs and bronchial catarrh, while it regulates the circulation by promoting the reflux of blood from the periphery to the left heart by the aspirating action of the negative pressure. Not only the heart but the entire vascular system benefits by this. The method is thus peculiarly useful, he says, in arteriosclerosis. Respiration under the negative pressure is like that at high altitudes; the result is an expanding of the chest and strengthening of the breathing apparatus, stimulating the blood-producing organs to better functioning.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 12, pp. 633-672

116 Chemical Composition of Human Milk. (Chemische Zusa mensetzung der Frauenmilch auf Grund neuer Analyse E. Schloss.
117 Experimental Albuminuria and Nephritis Induced by Mecha ical Factors. (Weitere Mitteilungen über mechanisc Erzeugung von Albuminurie und Nephritis bei Tieren.) Fischl.
118 Clinical Importance of Albuminoids in Infants' Urine. (Z klinischen Bedeutung des durch Essigsäure fällbar Eiweisskörpers im Urin der Säuglinge.) Giffhorn.
119 Lipanin Not an Effectual Substitute for Cod Liver Oil Rachitis. (Lipanin als Ersatzmittel des Lebertrans Rachitis. Sein Einfluss auf den Stoffwechsel.) J. Schabad and R. F. Sorochowitsch.

Münchener medizinische Wochenschrift

October 3, LVIII, No. 40, pp. 2097-2144

120 *Warming of Ether and Chloroform Vapor for General An thesia. (Vorwärmung von Aether- und Chloroformdämpf für die Narkose.) A. Läwen.
121 *Early Stages of Deforming Spondylitis. (Ueber klinisc Erscheinungen bei den Frühstadien der Spondylit deformans.) E. Plate.
122 *Nail Extension for Fracture. (Ueber Erfahrungen mit d Nagelextension nach Steinmann.) E. Koerber.
123 Drug Eruption After Salvarsan. (Ueber medikamentö Spätexantheme nach intravenösen Salvarsaninjektionen R. Frühwald.
124 Modification of Course of Syphilis Under Salvarsan. (Abwei ungen im Verlaufe der Syphilis nach Anwendung von Arsen benzol.) J. Desneux and B. Dujardin.
125 Severe Jaundice After Hectin Treatment of Syphilis. (Fa von schweren syphilitischen Ikterus während der Behan lung mit Hektin. Heilung durch Salvarsan.) Duhot.
126 Gastro-Enteropexy for Volvulus of Posterior Retrocolic Gastr Enterostomy. R. Werner.
127 *Operative Treatment of Tuberculous Cavity in the Lung Total Mobilization of Chest Wall: Thoracoplastic Pleur pneumolysis. (Statistisches und Prinzipielles zur Frage d Rippenresektion ausgedehnten oder beschränkten Umfang bei kavernöser Lungenphthise und bei Hämoptoe.) P. Friedrich. Commenced in No. 39.
128 Treatment of Streptococcus Infection in General, Especiall in Abortion. (Streptokokken-Aborte und ihre Behandlung. H. Schottmüller. Commenced in No. 39.

120. **Warming the Anesthetic Fumes for Major Operations.**—Läwen states that complications on the part of the lung follow in about 5 per cent. of all the laparotomies at th Leipsic clinic, even those done under local anesthesia. He i convinced that the essential factor is the impossibility o adequate expectoration after the operation; at the same tim chilling probably contributes, and he has devised a contrivanc to add to the apparatus for mixed oxygen and ether or chlo roform inhalation anesthesia, which warms the fumes. I twenty-seven operations performed with this technic th results seemed to be excellent, and he thinks that possibl this method may prove useful in protracted laparotomies o operations leaving extensive raw surfaces, such as amputatio of the breast, or when the patients are in shock or have los an excessive amount of blood.

121. **The Early Stages of Deforming Spondylitis.**—Plate call attention to the necessity for early diagnosis of this affectio in order to prevent aggravation later. By treatment as fo inflamed flat-foot, radiotherapy with arc-light baths, supple mented by strong irritation to the skin (by grandination) and with a supporting corset in the chronic forms, it is pos sible to cure or relieve to a great extent. The benefit derive confirms his assumption of the trouble as loss of the elasticit of the intervertebral disks; they are crushed down and th upper edges of the bodies of the vertebræ become jagged These changes are readily seen with the Roentgen rays and i is thus possible to differentiate the condition when the patient complain of pains in the back when they walk, stand or sit which vanish at once when they recline. No other spina affection has this characteristic of the disappearance of th pain on lying down. In walking the patients try to avoi shaking the spine; they take short cautious steps, not stretch ing the knee, and striving to spare the spine by grasping th thigh with the hand. No tendency to curvature was notice in any case, and although pressure and tapping the spine caus pain or aggravate existing pain, yet it is never so intense a with tuberculous or other severe spinal lesions. His patient were all men forced to bear heavy loads or push heavily lade small carts, and a number were under 50 years old. Roentos copy is especially instructive when the spine is examine sagittally.

122. **Nail Extension for Fractures.**—Koerber has applied Steinmann's nail extension in seventy cases of fracture, and onsiders the method useful in cases in which there are bstacles to the Bardenheuer adhesive-plaster extension technic, r the ordinary methods of treatment prove inadequate, but ays that it is not a standard method for the ordinary run of ases, and it is not ripe for introduction into general practice.

127. **Operative Treatment of Tuberculous Lungs by Total Mobilization of Chest Wall: Thoracoplastic Pleuro-Pneumoysis.**—Friedrich's work in this line is familiar to American eaders (The Journal, 1909, LIII, 1970). He here reviews is experiences to date and emphasizes the fact that fourteen f his patients are in fairly good health to date who were aved by his operation during the last four years when the evere general symptoms accompanying the progressing tuberculous cavity in the lung foretold a speedy demise. The fine esults obtained from immobilizing the lung by induced pneumothorax encouraged him to operate in this way in cases in hich there were obstacles to the therapeutic pneumothorax. uincke was the pioneer in this line in 1888, and the Marburg linic has pressed forward in this path, having now a record f twenty-eight operations, resecting more or less of the ribs ver the cavity. Experience has shown that recent metastasis n other organs, larynx, intestines or bones, contra-indicates he operation. Six of the total eight cases with a fatal outcome were of this class, which is now excluded from this ethod of treatment. Patients under 15 and older than 40 re likewise excluded, but persistent fever and swarms of acilli do not necessarily contra-indicate the operation. Some f the most successful cases were of this class. The total ortality of twenty-six per cent. in these twenty-six cases f progressing tuberculous cavity-production certainly is far rom disheartening. The main point is to be certain that the hest wall and the pleura have become hard and stiff under the nfluence of the irritation. If they give way under the pressure after the ribs are resected, and sink down on the sound ung, its functioning is impaired and the operations fail to enefit. Normal functioning of the other lung is indispensable o success, but it is not necessary always for it to be entirely ound. The operation is less serious, while the outcome seems qually good, when the ribs are resected through an incision the axilla, a longitudinal incision through the serratus, folding in the lips of the soft parts like a cushion over the stumps f the ribs, pushing back the pleura and lung and suturing e skin to reduce the girth. He shows in some diagrams how is technic compresses the lung between the spine and the ternum. This technic has several advantages but it is harder detach the first rib, and the brachial plexus may be injured hile functioning of the serratus may be impaired more than ith other technics. A number of typical cases are described detail, with diagrams to illustrate the special conditions. one case all three right lobes were infiltrated, with multiple vities; the operation was aimed only at the two upper lobes, e third lobe being left until one year later when the patient, physician of 25, had recuperated wonderfully. In a number f cases, recurring severe hemoptysis was the stimulus to operation, which proved thus a direct life-saving measure in some stances. The cavities shriveled up so quickly that no need as felt for direct local cauterization, but the possibility of is should not be forgotten with this thoracoplastic pleuropneumolysis.

Virchows Archiv, Berlin

September, CCV, No. 3, pp. 321-480

29 Kidney Stones in Infants. (Nephrolithiasis im Säuglingsalter.) H. Joseph.
30 Regeneration of Blood in the Liver. (Physiologische und pathologische Blutregeneration in der Leber.) M. Askanazy.
31 Fragmentation of the Heart. (Anatomische und experimentelle Untersuchungen über die Fragmentation des Herzens.) M. Lisauer.
32 Anatomic Changes in Heart Under Influence of Nicotin. (Anatomische Veränderungen des Herzens Infolge von Nikotin—Experimentalstudie.) C. v. Otto.
33 Chronic Alcoholism. (Zur Frage des chronischen Alkoholismus.) Fahr.
34 Plasma Cells in Human Lacrimal Glands. (Vorkommen und Herkunft von Plasmazellen in der menschlichen Tränendrüse.) B. Hannes.
35 Metastasis of Cancer in Central Nervous System. (Metastasierung maligner Tumoren ins Zentralnervensystem.) J. Heinemann.

136 Fibromyomas of the Gastro-Intestinal Tract. (Zur Lehre der Fibromyome des Verdauungskanals. Myome des Oesophagus und der Kardia.) N. N. Anitschkow.
137 True Secondary Diphtheria of the Skin. (Zur Kenntnis der Hautdiphtherie.) A. Reinhardt.
138 Participation of Glomeruli in the Varying Thickness of Kidney Cortex. (Beteiligung der Glomeruli an der wechselnden Breite der Nierenrinde.) R. Steinebach.
139 Calcification of the Dura. (Weiterer Beitrag zur Pachymeninxverkalkung bei Usura cranii.) E. Allenbach.
140 Gouty Tophi in Nubian Mummy. (Harnsäurenachweis in gichtischen, der altchristlichen Zeit entstammenden Tophis.) W. Ebstein.

Wiener klinische Wochenschrift, Vienna

October 5, XXIV, No. 40, pp. 1383-1418

141 Importance of Anaphylatoxin for Infectious Disease. (Bedeutung des Anaphylatoxins für die Infektionskrankheit.) E. Weil.
142 Roentodiagnosis of Deep Stenosis in the Small Intestine. (Erkennung der tieferen Dünndarmstenose mittels des Röntgenverfahrens.) G. Schwarz.
143 Syphilids Under Influence of Salvarsan. (Ueber einige durch Salvarsanbehandlung bedingte Eigentümlichkeiten kutaner Syphilis.) M. Oppenheim.
144 Alimentary Galactosuria of Nervous Origin. (Ueber alimentäre Galaktosurie nervösen Ursprungs.) H. Pollitzer.
145 The Health in Youth of the Blind. (Gesundheitsverhältnisse der Jugendblinden.) P. Silberstern.
146 The Kidney Disease in Familial Amaurosis. (Nierenaffektion familiär Amaurotischer.) P. Silberstern.

Zentralblatt für Chirurgie, Leipsic

October 7, XXXVIII, No. 40, pp. 1337-1368

147 *Blocking of the Brachial Plexus. (Die Anästhesierung des Plexus brachialis.) D. Kulenkampff.

147. **Regional Anesthesia by Blocking the Brachial Plexus.**—Kulenkampff has applied the technic of which he gives an illustrated description in twenty-five cases. The result was complete anesthesia of the entire arm in fifteen and anesthesia of enough of the arm for the desired operation in five others, while the other five cases were operated on during the tentative experiments with the technic. The best point of access to the plexus is just above where it is crossed by the omohyoid muscle and the transversalis colli artery. The patient seated, the subclavian artery is located by palpation or even by the eye, the head held in the proper position. The subclavian can generally be located at the point where if the external jugular vein were extended it would cut across the clavicle. The needle is inserted at this point, close to the upper margin of the clavicle, seeking to touch with the needle one of the arm nerves. On contact with the nerve there is tingling in the arm and motor phenomena but no pain. If the needle has been pointed correctly these paresthesias develop as soon as the skin and deep fascia have been pierced. The point of the needle must be directed toward the tip of the second or third thoracic spinous process. If the needle butts against the first rib without reaching the plexus, it has been introduced too far toward the side; the sign that the nerve has been reached is the appearance of the paresthesias. The anesthesia induced by the nerve-blocking injections lasts from ninety minutes to two or three hours. The only pain during the entire procedure and operation is from the prick to make the little infiltration blister through which the needle is introduced into the depths.

Zentralblatt für Gynäkologie, Leipsic

October 7, XXXV, No. 40, pp. 1393-1424

148 Posterior Cervical Cesarean Section. (Ueber Sectio caesarea cervicalis posterior.) O. Polano.
149 Treatment of Genital Prolapse. (Zur Prolapsbehandlung.) T. R. Jaschke.

Gazzetta degli Ospedali e delle Cliniche, Milan

September 28, XXXII, No. 117, pp. 1235-1242

150 *Galvanic Electrotherapy in Amenorrhea. O. Rigamonti.

October 1, No. 118, pp. 1243-1258

151 Physiology of Secretion of Urine. I. (La secrezione dell'urina.) F. Bottazzi.
152 Diagnostic Importance of Variation in Temperature in the Axillæ. (Sul valore diagnostico delle differenze termometriche tra le due ascelle.). D. Miotto.

150. **Electrotherapy in Amenorrhea.**—Rigamonti applies one pole with the galvanic current to the sacrum and the other to the hypogastrium, and reports three cases of amenorrhea in which this treatment proved effectual although the trouble was of a different origin in each. In one, menstruation had been arrested by a fright, in another the condition suggested

possibly incipient tuberculosis, and in the third case there was chlorosis. The patients were from 19 to 28 years old, and the symptoms from the suspended menstruation were about the same in all. From thirty to forty sittings were given, daily at first and then at longer intervals.

Policlinico, Rome

October 1, XVIII, No. 40, pp. 1257-1288

153 Functional Importance of the Interstitial Cells in the Testicle. (Ulteriori ricerche sperimentali sul valore funzionale delle cellule interstiziali del testicolo.) V. Barnabo.

154 Intravenous Injections of Mercuric Chlorid in Treatment of Puerperal Fever and Tetanus. (Due casi di setticoemia puerperale guariti con le iniezioni endovenose di sublimato corrosivo.) O. Rigamonti.

155 Epidemic of Laryngitis Stridulus of Influenzal Origin. V. Fraschetti.

Riforma Medica, Naples

October 2, XXVII, No. 2, pp. 1093-1120

156 *Successful Resection of Scapula for Enchondroma. (Resezione subtotale della scapola per voluminoso encondroma. Guarigione.) L. De Gaetano.

156. **Resection of the Scapula.**—Gaetano reports excellent functional outcome in a young man whose scapula was resected on account of a large enchondroma two years ago. The functioning of the arm is scarcely interfered with, the patient being able to lift a 200-pound weight. He knows of twenty-seven operations of the kind on record, which he tabulates, the outcome being constantly favorable since 1870, with exception of one case in which the patient succumbed to metastasis of the sarcoma.

Hygiea, Stockholm

September, LXXIII, No. 9, pp. 1025-1104

157 *Gunshot Wounds of the Heart. (Om skottskador på hjärtat.) S. Sjövall.

158 *Coincident Similar Mental Disease in Twins. (Fall af psykos hos tvillingar.) E. Göransson.

159 *Whooping-Cough in Connection with Spasmophilia. (Om pertussis och pertussisliknande katarrer samt deras förhållande till den spasmofila diatesen.) W. Wernstedt.

160 *Torsion of the Spermatic Cord. (Om torsion of sädesstränger.) O. Löfberg.

157. **Gunshot Wounds of the Heart.**—Sjövall devotes nearly ten pages to tabulation of the details in thirty-one operative cases of this kind, including one from his own experience. These data show that the patient stands a much better chance when a proper operation is done than under expectant treatment. In sixteen cases apparently complete restitution followed suture of the wound.

158. **Psychosis in Twins.**—Göransson reviews the fifty cases on record of a similar form of mental impairment in twins, and reports a case of the kind from his own experience. His patients were women 23 years old, and the psychosis came on suddenly in both with less than two months' interval. It was of the confusional type with agitation in one and stupor in the other, and with complete recovery in two or three months.

159. **Whooping-Cough and Spasmophilia.**—Wernstedt has been examining children with pertussis during a recent epidemic to determine the electric excitability. He found a constant connection between the severity of the spasmodic coughing and the reaction to the electric tests. His findings suggest a close connection between the spasmophilic diathesis and the pertussis, and he thinks that both the former and severe forms of the latter are an indication of a neuropathic constitution.

160. **Torsion of the Testicle.**—Löfberg reports three cases and refers to seventy-six on record. Two of his patients were infants less than a year old, the third a man of 28; the torsion was the result of trauma in this case. Castration had to be done in 76 per cent. of the cases on record.

Ugeskrift for Læger, Copenhagen

October 5, LXXIII, No. 40, pp. 1451-1484

161 *Chronic Appendicitis. (Undersøgelser over kronisk Appendicitis.) V. Scheel.

162 Vaccine Therapy of Alveolar Pyorrhea. (Pyorrhoea alveolaris og dens Behandlung med Injektioner af autogen Vakcine.) O. Drescher.

161. **Chronic Appendicitis.**—Scheel has examined the appendix after extirpation in 164 cases. He found signs of chronic inflammation in fifty-eight of the eighty-five cases in which the appendicitis was supposed to be merely an acute lesion, and he is inclined to think that in most of the so-called chronic appendicitis cases, the trouble was inflammation of the cecum as well. Inflammation of the cecum has many ups and downs, and there may be long intervals of latency. It is possible that the cure ascribed to the appendectomy in many instances may have been merely the effect of the rest in bed and dieting, or it may have been coincident with a spontaneous remission.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

LEHRBUCH DER HYPERÄMIEBEHANDLUNG AKUTER CHIRURGISCHER INFEKTIONEN. Theorie und Praxis für Aerzte und Chirurgen. Von Dr. med. Eugen Joseph, Privatdozent der Chirurgie an der Friedrich-Wilhelms-Universität Berlin. Mit einem Vorwort von Prof. August Bier. Paper. Price, 7 marks. Pp. 283, with illustrations. Leipzig: Dr. Werner Klinkhardt, 1911.

DENTAL DISEASE IN ITS RELATION TO GENERAL MEDICINE. By J. F. Colyer, L.R.C.P., M.R.C.S., L.D.S., Dental Surgeon to Charing Cross Hospital and the Royal Dental Hospital, England. With the Asistance of Stanley Colyer, M.D. (Lond), M.R.C.P., D.P.H. Cloth. Price, $1.60 net. Pp. 189, with 62 illustrations. New York: Longmans, Green & Co., 1911.

THE REPORT OF THE PHILADELPHIA MILK SHOW. Its Organization and Management and a Description of the Exhibits. Edited by Arthur Edwin Post, Executive Secretary. Paper. Dr. Joseph S. Neff, Chairman of the Executive Committee, 1912 Chestnut Street, Philadelphia. Pp. 123, with illustrations. Published by the Executive Committee, 1911.

DIE LUNGENSAUGMASKE IN THEORIE UND PRAXIS. Physikalische Behandlung von Lungenkrankheiten, Blutarmut, Keuchhusten, Asthma, Kreislaufstörungen und Schlaflosigkeit. Zusammenfassende Ergebnisse aus Literatur und Praxis. Von Dr. E. Kuhn. Paper. Price, 1 mark. Pp. 25, with 24 illustrations. Berlin: Julius Springer, 1911.

THE ORIGIN OF LIFE. Being an Account of Experiments with Certain Superheated Saline Solutions in Hermetically Sealed Vessels. By H. Charlton Bastian, M.D., F.R.S., Emeritus Professor of the Principles and Practice of Medicine, University College, London. Cloth. Price, $1.50. Pp. 119. New York: G. P. Putnam's Sons, 1911.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS. Twenty-Fifth Annual Meeting Held at the Hotel Astor, New York City, May 31-June 1, 2 and 3, 1911. Vol. VI. Paper. Pp. 198, with illustrations. Published for the Association by Frederick H. Hitchcock, 105 W. 40th Street, New York.

THE WAY WITH THE NERVES. Letters to a Neurologist on Various Modern Nervous Ailments, Real and Fancied, with Replies Thereto Telling of Their Nature and Treatment. By Joseph Collins, Physician to the Neurological Institute of New York. Cloth. Price, $1.50. Pp. 313. New York: G. P. Putnam's Sons, 1911.

MOVABLE KIDNEY, ITS ETIOLOGY, PATHOLOGY, DIAGNOSIS, SYMPTOMS AND TREATMENT. By William Billington, M.S. (Lond.), F.R.C.S., Senior Surgeon to Out-Patients, Queen's Hospital, Birmingham. Cloth. Price, 7 shillings 6 pence net. Pp. 167, with illustrations. New York: Cassel & Co., 1910.

THE FIGHT AGAINST TUBERCULOSIS AND THE DEATH-RATE FROM PHTHISIS. By Karl Pearson, F.R.S., Galton Professor of Eugenics in the University of London. Questions of the Day and of the Fray. No. IV. Paper. Price, 1 Shilling. Pp. 35. London: Dulau & Co., 37 Soho Square, W., 1911.

MICROBIOLOGY. For Agricultural and Domestic Science Students. Edited by Charles E. Marshall, East Lansing, Mich., Professor of Bacteriology and Hygiene, Michigan Agricultural College. Cloth. Price, $2.50 net. Pp. 724, with 128 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

ELEVENTH ANNUAL MEETING OF THE NATIONAL CIVIC FEDERATION. New York, Jan. 12, 13 and 14, 1911. Welfare Workers' Conference Paper. Pp. 385, with illustrations. New York: The National Civic Federation, Metropolitan Bldg.

THE HOUSE-SURGEON'S VADE-MECUM. By Russell Howard, M.B., M.S., F.R.C.S., Surgeon to Poplar Hospital, London. Cloth. Price, $2.10 net. Pp. 511, with 142 illustrations. New York: Longmans, Green & Co., 1911.

A MOTHER'S GUIDE. A Manual for the Guidance of Mothers and Nurses. By Francis Tweddell, M.D., Alumnus, Bellevue Hospital, New York. Cloth. Price, $1. Pp. 182. New York: James T. Dougherty, 1911.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY. At the One Hundred and Twentieth Anniversary, held at Concord, May 11 and 12, 1911. Cloth. Pp. 241. D. E. Sullivan, Secretary, Concord.

FORTIETH AND FORTY-FIRST REPORTS OF THE BOARD OF DIRECTORS OF THE CONNECTICUT INDUSTRIAL SCHOOL FOR GIRLS. Presented to the General Assembly at its Session in January, 1911. Paper. Pp. 63.

TECHNIK DER KLINISCHEN BLUTUNTERSUCHUNG. FÜR STUDIERENDE UND AERZTE. Von Dr. A. Pappenheim, Berlin. Paper. Price, 2 marks. Pp. 55. Berlin: Julius Springer, 1911.

FORTY-SIXTH REPORT OF THE PROVIDENCE HOSPITAL, WASHINGTON, D. C. For the Fiscal Year Ending June 30, 1911. Paper. Pp. 74, with illustrations.

ANNUAL REPORT OF SAGINAW GENERAL HOSPITAL, SAGINAW, MICH. Paper. Pp. 56, with illustrations.

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VISCERAL SYPHILIS *

FRANK BILLINGS, M.D.

CHICAGO

Visceral syphilis is not limited to the tertiary stage. Lesions of the viscera may occur during the secondary period of syphilis, but visceral syphilis occurs chiefly in the tertiary period.

Clinical evidence of visceral syphilis occurs more frequently in disease of the liver or heart and blood-vessels than of any other organs of the body. Fever of a septic remittent or intermittent type is not an infrequent event. It is not unusual to find chills, fever and sweat resembling malarial fever. Indeed, the fever of visceral syphlis is frequently mistaken for malaria, tuberculosis, typhoid fever or rheumatism. The fever will frequently recur at intervals over years of time. Gummas are usually the source of such fevers and the fact that a gumma may spontaneously heal and disappear, and, especially if the patient is put to rest, is not usually recognized. While the condition may be obscure in these febrile conditions, a thorough examination, including a close survey of the liver and other organs of the body, he serum Wassermann test and the use of mercury and he iodids will frequently clear up the diagnosis.

Syphilis of the respiratory system is not of common occurrence. The trachea, the bronchi and the lung may be involved. A congenital syphilis of the lung in the form of a white pneumonia, described by Virchow, is not of frequent occurrence. Those whose practice is imited to the diseases of children frequently recognize he disease. Usually it is fatal. Acquired syphilitic nfection of the trachea, bronchi and the lung is of such nfrequent occurrence that it does not come within the xperience of the general practitioner and is seen only s a rare event in a rather large hospital practice. ummas resulting in ulcer or in scars and contraction of he trachea and bronchi are sometimes found and recognized by concurrent evidence of syphilis elsewhere in the ody, or by the improvement from the use of antisyphilitic treatment. The symptoms are not at all characteristic, usually consisting of cough and dyspnea with an xpectoration free of tubercle bacilli and evidences of ther diseases. Acquired syphilis of the lung usually occurs in the form of gummas near the hilum or sometime within a lobe. Cough with chills and an intermittent type of fever, rather profuse expectoration with nlargement of the superficial lymph-glands as well as those of the mediastinum are usually found. The physical examination may simulate that in tuberculosis or in ronchiectasis. The absence of tubercle bacilli in the sputa, the evidence of syphilis through the history of the patient or evidence of syphilis elsewhere and response to antisyphilitic treatment help to verify a diagnosis.

CASE 1.—*Patient.*—I have seen one patient of this kind: H. S., aged 26, Hebrew, single, traveling salesman, presented himself with a complaint of cough, febrile condition, sweats at night, loss of weight and strength, diminished appetite. At first he denied syphilitic taint. Expectoration was rather profuse and contained mucopus, saprophytic bacteria and no tubercle bacilli.

Examination.—There was a relative dulness over the left upper lung, especially in the region of the interlobular fissure behind, increase of tactile fremitus and voice sounds, bronchovesicular breathing and moist râles, both fine and coarse. Lymph-nodes existed in the posterior triangles of the neck, the supratrochlears and other superficial glands enlarged and firm.

The patient was closely questioned because of the presence of the enlarged lymph-nodes of the postcervical region and of the supratrochlear region. Finally, he admitted an acquired syphilis of five years before with only superficial and inadequate treatment.

Treatment and Result.—The use of inunctions of mercury and a moderate dosage of iodids resulted in surprisingly rapid improvement and a final disappearance of all evidence of local lesion and of symptoms. The patient continued on the treatment for a year and remained well.

A chronic bronchopneumonia is said to occur in the lung of a syphilitic type, but the literature does not contain many examples and I have never seen one that I have recognized.

Tertiary syphilis of the alimentary canal is recognized but is rare. Ulcers of the esophagus following a probable gumma, or by extension from ulcerative processes of the pharynx, occur with resulting difficulties in swallowing or the formation of strictures from the scar contraction.

Diffuse acute gastritis is said to occur and also syphilitic ulcer. Nodular gummata of the stomach are rare, but cases are cited, including descriptions of this condition by Simon Flexner.

Enteritis with swelling of the lymph follicles and enlargements of the mesenteric glands occurs rarely. Ulcers may result from follicular enteritis. Gummas may appear in the mucous membrane of the intestine with resulting ulcer and, if healed, with scar contraction and stricture.

The rectum may be infected directly from the vulva or from condylomata. Ulcers of the rectum of syphilitic origin are more common in women than in men.

The spleen may be enlarged in the early stage of syphilis. Gummas of the spleen are common and one of the sources of fever. Cicatrices of healed gummas are frequently found post mortem. Amyloid degeneration of the spleen of syphilitic origin is seen in patients with syphilitic amyloid liver.

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The liver is the most common seat of visceral syphilis. The syphilitic process may consist of a diffuse interstitial hepatitis with enlargement of the organ, which may occur congenitally. In this condition the liver is large, smooth and the cut surface is of a gray yellow appearance. It may appear early and usually is fatal. The same type may occur in later life, most commonly in adolescence associated with other evidences of syphilis in the form of interstitial keratitis, rhagades, Hutchinson's teeth and sometimes with small stature amounting to infantilism.

A diffuse interstitial hepatitis of the acquired type may occur, which partakes frequently of hypertrophic cirrhosis. In this type the liver is enlarged, smooth and sometimes tender to the touch. There may be a moderate jaundice, and fever of the intermittent type is not infrequent associated with chills and sweats. An atrophic cirrhosis with recurring ascites may also occur in acquired syphilis. This may be a later stage of the hypertrophic form. Gummas may appear in the hilum of the organ and by pressure on the portal vessels produce ascites.

The lesion may consist of gummas in the form of tumors measuring from 2 mm. in diameter to the size of a fetal head. They may be single or multiple. These tumor masses may produce enormous enlargement of the organ. There may be jaundice. Usually there is an intermittent or remittent type of temperature with or without chills, and frequently there are night sweats. There may be great tenderness and spontaneous pain. With small gummas the clinical phenomena may last for a variable period and disappear. Recurrences over years of time are not unusual. Lessened strength, endurance and loss of weight and a muddy complexion are of frequent occurrence. Gummas situated near the blood-vessels or gall-bladder may simulate other diseases. The following case is an example:

Case 2.—*Patient.*—L. S. S., aged 37, railway engineer, contracted lues in 1897. In June, 1898, he noticed dull pain in the border of ribs in the region of gall-bladder. This was aggravated by motion. Sometimes after meals he experienced severe attacks of colicky pain radiating from the right hypochondrium. He had also suffered from chill, fever, sweat and jaundice. There was some nausea with these attacks. The paroxysms of chill, fever, sweat and pain occurred at irregular intervals during 1898 and then there was a period of relatively good health.

Examination.—On Sept. 29, 1899, the patient was first examined. His weight was 145 pounds, a loss of 20 pounds. A slight coating of the tongue. No enlargement of lymph palpable glands. The lungs and heart presented no abnormal condition. The liver was moderately enlarged and easily felt below the costal edge. The border was smooth, rounded, slightly resistant, and very tender to the touch. A mass could be felt in the region of the gall-bladder. The urine (specific gravity 1.020) contained a trace of bile, no albumin, no sugar, no casts. The blood showed no plasmodia; 9,000 leukocytes per c.c.

Operation and Result.—A diagnosis of calculous cholecystitis was made and the patient was sent to Mercy Hospital where he was operated by Dr. Christian Fenger. Multiple gummas of the liver were found; the largest one situated just behind the gall-bladder, which was infected by the gumma. No gall-stones were present. The patient rapidly recovered from the operation and made a rapid improvement with the use of inunctions of mercury followed by potassium iodid. The absence of syphilitic lesions of the superficial glands, skin, etc., and the typical symptoms of gall-stones due to the infection of the gall-bladder from a gumma, led to a wrong diagnosis.

The following cases are examples of gummas of the liver existing for a long period of time and unrecognized:

Case 3.—*Patient.*— M. E. C., aged 54, presented himself Sept. 2, 1907. He had suffered from malaria while living in the south in 1887. Otherwise had rugged health until two years ago. Then illness developed in the form of fever with a temperature of 101 or more at night, sometimes preceded by chill and in the night the fever disappeared with a sweat. The morning temperature was either normal or subnormal. Medical care did not benefit him. The following summer was spent in Canada at the seashore. During this time the fever disappeared to recur the next fall with purpura of the legs. During this period he took quinin for what was supposed to be malaria, although no plasmodia were found in the blood. Following the purpura, copper-colored pigment spots remained in the skin. The summer of 1906 he spent in Europe and for a part of the time at Vichy, France, where he was sent by a physician of Paris. There the condition improved without anything but general treatment. On the return voyage fever developed, which confined him to his bed during September and October. Then he was up and about again with a return of fever in December, 1906. This relapse of December, 1906, disappeared after general treatment with quinin and rest during January and February, and the patient remained well until July, 1907. Again fever appeared and continued until Sept. 2, 1907, the date of the first examination; then he had fever usually of 101 or more every evening, a normal temperature in the morning and sometimes a chill preceding the temperature of afternoon and a sweat at times in the night. He had lost a great deal in weight, from 178 pounds (maximum) to 132. His appetite was poor, and he was troubled with a good deal of flatulence. The bowels were constipated; patient had had hemorrhoids for years which often bled. He had no disturbance of the urinary tract; denied venereal disease. He used whiskey largely, as much as fifteen drinks a day at times.

Examination.—Patient looked ill and sallow; there was no subcutaneous fat; the muscles were flabby. There were no lymph-gland enlargements. Lungs and heart were normal; spleen palpable at the end of deep inspiration. The liver was tender and enlarged, projecting 2 or 3 cm. below the costal edge; surface smooth excepting at one point where a nodule in the right lobe could be felt. The whole organ was tender to the touch. Stomach tympany extended to the umbilicus. Rectum congested and many hemorrhoidal tumors appeared with the use of the speculum. Urine: a specimen, clear, specific gravity 1.015, acid, a faint trace of albumin, a trace of bile pigment, no sugar, a few hyalin and faintly granular casts. The blood: hemoglobin 70 per cent. (Dare), reds 4,800,000, whites 9,000. No plasmodia were found in either fresh or stained specimens of the blood.

Treatment and Result.—In spite of the fact that the patient denied syphilis, a diagnosis of probable gumma with interstitial hepatitis of syphilitic origin was made and he was treated at the Presbyterian Hospital, Chicago, for about six weeks by the deep intramuscular injections of bichlorid of mercury in the dose of 1/6 to ⅓ gr. given every day or every other day. Following the use of 20 injections of mercury he was given gradually increasing doses of potassium iodid. Under this treatment there was a rapid subsidence of all symptoms and of the evidence of visceral disease. The improvement was phenomenal, the patient rapidly gaining in strength and weight and a full restoration to health. The patient has remained so until the present time. A recent communication from him includes the statement that his weight is the full normal and he is entirely well. Subsequent to his treatment in the Presbyterian Hospital his physician carried out similar treatment at periods during 1908 and 1909.

Case 4.—*Patient.*—C. K., aged 60, married, railway business, presented himself on Dec. 24, 1904. He had contracted lues fifteen years previously. For ten years he has had disturbance of the stomach in the form of pain in the epigastrium, of a cramping character which came on soon after taking food. The pain sometimes is relieved by an aromatic drink. The pain is dull and sometimes griping in character. Recently he had used a stomach-tube which has diminishe the attacks and usually immediately relieved him. No analyses have been made of the stomach condition. A year before examination he suffered from what was described as ulcer of the mucous membrane of the nose for which he received local treatment and was also given some potassium iodid. Recently, the pain in the epigastrium had recurred and was not relieved by lavage. There was an occasional chill with slight fever and sweat but these febrile attacks were not continuous.

Examination.—The patient's general appearance was healthy, and general nutrition good. There were no palpably enlarged lymph-glands. Throat was normal; lungs negative; the left heart border dulness extended to the left nipple. The apex-beat was normally situated, the heart action regular. The aortic second tone was accentuated. There was no palpable thickening of the blood-vessels. The arterial tension was 140. The liver was palpably enlarged, projecting 5 to 7 cm. below the costal edge. It was smooth, firm and tender to the touch. A distinct mass could be felt in the right lobe near the region of the gall-bladder. The spleen was not palpable. Stomach tympany extended to the umbilicus. Pupillary and patellar reflexes were normal. Temperature was 100.8, pulse 90, respiration normal. Blood: 3,800,000 reds, 60 per cent. hemoglobin (Dare), 17,400 leukocytes with polynuclears predominating. Urine: a specimen, 1.015, acid, trace of albumin, a few hyalin and finely granular casts. A twenty-four-hour urine amounted to 1.000 c.c., specific gravity 1.015. An Ewald meal showed a total acidity of 28, free hydrochloric acid 15, combined 13, no lactic acid, no blood, no increase of leukocytes.

Treatment and Result.—The patient was given deep intramuscular injections of salicylate of mercury in the dose of 1 grain every day or every second day and after twenty injections was given potassium iodid in the dose of 15 to 30 grains, three times a day. Immediate improvement followed the mercurial treatment with a rapid recovery to good health. The patient not only was restored to a good condition of health but all stomach symptoms disappeared and have remained absent to the present time. A recent Wassermann test was negative.

Case 5.—*Patient.*—F. B. S., a German-American, 38 years of age, a clerk by occupation, presented himself on Jan. 5, 1905. He complained of great general weakness, poor appetite, heaviness and fulness in the stomach after meals, a sense of weight in the right hypochondrium with soreness, pain in the right side and a fever every day in the late afternoon with occasional sweats at night. He had contracted lues fourteen years previously and had taken treatment for it off and on for years.

Examination.—The patient was a man of good physique with poor general nutrition, a muddy complexion with slight yellowness of conjunctiva. The temperature was 100, the pulse 90, no palpable glandular enlargements. The mucous membranes were rather pale, the tongue moderately coated. The throat and lungs were normal. The heart presented no abnormal signs. The liver was distinctly enlarged, projecting 5 or 6 cm. below the costal edge, and was somewhat firm and tender. In the parasternal line there was a distinct mass in the right lobe. The spleen was not palpable. There was a spindle-shaped swelling of the right femur at the junction of the middle and lower thirds. It was nodular, tender and was painful when the patient attempted to walk. An *x*-ray examination of the thigh showed a swelling of the shaft of the bone which involved not only the periosteum but the bone itself. The blood examination showed 63 per cent. hemoglobin (Dare), 4.200,000 reds, 10.000 whites. The urine: 1.015, a trace of albumin and a few hyalin and granular casts.

Treatment and Result.—The patient was treated at the Presbyterian Hospital for three weeks. During this time he was given deep intramuscular injections of 1 grain of salicylate of mercury every day followed by potassium iodid in the dose of 10 to 30 grains three times a day. Immediate improvement followed the use of mercury and continued uninterruptedly until all evidence of disease disappeared and on April 27, three and a half months after he was first seen, he presented no physical evidence of disease and showed a gain in weight of 20 pounds. He has been under observation since then and has had a series of injections of mercury for two periods and the use of the iodid after the injections. He remains entirely well.

Many other cases could be cited, as this form of visceral syphilic is very common.

There can be no question that diffuse interstitial hepatitis of a chronic type is of rather frequent occurrence and when treated in a general way develops into a cirrhotic atrophic type. Early antisyphilitic treatment would in many instances cure such patients. The scarred liver, the result of gummas, or the botryoid liver consisting of deep fissures comprised of dense bands of connective tissue partially or completely separating portions of the liver into small lobules, is usually without symptoms. Such a type of liver usually is a sequel of syphilis of the liver either congenital or acquired, or may be a latent manifestation.

SYPHILIS OF THE KIDNEYS

Syphilitic nephritis is a recognized entity. It usually occurs in the secondary stage, but may develop later. Nephritis of this type is frequently aggravated by the use of both mercury and the iodids. The symptoms and urine condition are those of a chronic parenchymatous or sometimes of the interstitial type of nephritis. Frequently, one is obliged to cease the use of mercury or of the iodids because of the aggravation of the condition brought about by their use.

This is not surprising when one knows that mercury is excreted by the kidney and may be found in the urine as late as one year after the use of that drug, especially by the intramuscular injection method. Syphilitic nephritis may lead to an early death, may develop into a chronic type and continue as ordinary nephritis even when all syphilitic disease is apparently eliminated.

Amyloid kidney is of syphilitic origin, is of rare occurrence and gummas of the kidney are rare.

SYPHILIS OF THE HEART AND BLOOD-VESSELS

The toxin of syphilis falls with unusual severity on the heart and blood-vessels. The morbid phenomenon occurs in the following forms:

1. In the form of nodular para-arteritis which may involve any of the small arteries of the body, but occurs most frequently in the arteries of the circle of Willis.

2. As an acute gummatous endarteritis of vessels of medium size and sometimes of large ones of the brain and also of the aorta. This is the type in which perforation of the arterial wall may occur and when it involves the aorta results in sudden death.

Such a case I have had in a man 37 years of age, who suffered from syphilis eight years before. He had inadequate treatment because he would not submit to the necessary discipline and consequently suffered from frequent manifestations of syphilis, especially of the bones of the legs, head, etc. Without evidences of circulatory disease he suddenly developed dyspnea and in attempting to walk up a moderate-sized hill was seized with great pain in the precordium with a sense of suffocation and died within a few hours. Post-mortem revealed perforation of the aorta in the first portion of the arch and hemorrhage into the pericardium. The perforation was due to gummatous endarteritis.

3. Obliterative endarteritis involving small blood-vessels of the brain and elsewhere of the body, especially of the coronaries. This condition of the coronary arteries

frequently results in fibrous myocarditis and development of heart inadequacy and with anginal attacks in the young, sudden deaths may supervene.

4. Syphilitic arteritis usually confined to the larger blood-vessels and especially to the root of the aorta and manifested by the easily recognizable changes in the intima and media. Gumma may occur in the heart-wall and interfere with the conductivity of the muscular fibers. It may appear in the bundle of His and cause heart-block.

RELATION OF SYPHILIS OF BLOOD-VESSELS TO ANEURYSM.

It has been estimated that from 20 to 80 per cent. of aneurysms are related to syphilitic disease of blood-vessels. This occurs because of the effect of the syphilitic toxin on the intima, frequently resulting in a splitting of that coat and an undermining of the wall of the blood-vessel in consequence. The general nutrition of the coat of the vessel is further diminished by a not infrequent obliterative endarteritis of the vasa vasorum. A general syphilitic arteritis most frequently affects the root and arch of the aorta and consequently aneurysms are most frequent in that part of the circulatory apparatus. Aneurysm may appear long after the initial infection. In recent time the *Spirochæta pallida* has been found in late syphilitic lesions of the aorta and explains the progressive nature of such lesions and resulting aneurysm.

The heart itself may show lesions in the form of verrucose endocarditis. The aortic valves may be involved with resulting aortic insufficiency. Not infrequently in this condition the coronary vessels are involved with resulting myocarditis and anginal attacks.

Syphilis of the heart and of the blood-vessels may be modified by antisyphilitic treatment, but unfortunately the good results of such treatment on other organs is not so fully realized.

DIAGNOSIS OF VISCERAL SYPHILIS.

This may be difficult at times and especially diagnosis of the lesion of organs which are rarely involved. The more commonly involved organs, the heart, blood-vessels, liver, spleen and kidneys, present evidences of syphilitic disease which may be very obscure, and on the other hand may be easily recognized.

The presence of a septic temperature of a remittent or intermittent type, associated with chill, fever, sweat, occurring at irregular periods with intervals of latency manifested by improvement and apparent health, should arouse one's suspicions of syphilis. The condition may be mistaken for tuberculosis or malaria more frequently than any other febrile condition. The fact that so many people deny syphilis and that others are ignorant of the presence of the infection makes it a little more difficult. I think, however, that one should not consider such negative evidence. If a most careful examination fails to show positive evidence of syphilis, one may utilize the Wassermann serum test and the mercury-iodid therapeutic test with satisfactory results as a rule. Careful blood examinations will exclude malaria, and the tuberculin test may be used in afebrile conditions with comparatively satisfactory results.

The prognosis of visceral syphilis will vary with the condition. A thoroughly carried out treatment in syphilis of the liver of the acquired form is usually very satisfactory. In disease of the kidney one may modify the condition, but the damage done to this important organ prevents entire recovery. Syphilis of the myocardium may be also benefited by mercury and the iodids; and gummas of the heart, if not destructive of some important part like the bundle of His, may be dissipated by medication. Syphilis of blood-vessels of all types may be improved by brisk mercurial and maximum iodid treatment, but one is never sure of the result until the medication has been tried. In aneurysm, progressive disease of the blood-vessels due to latent syphilis may be somewhat modified by specific treatment, but a damaged blood-vessel cannot be restored to its original condition.

TREATMENT

Mercury remains the best specific medication in syphilis of all stages. It may be used by mouth, by inunction, by deep intramuscular injection or intravenously. The deep intramuscular injections offer a most satisfactory and easily controlled method of giving a maximum amount of the drug. I think that it is the consensus of opinion that the drug should be administered for periods of from fifteen to twenty-five injections, daily or every second or third day and repeated again after an interval of three or four months until the patient is cured. The iodids are of value to dissolve and throw out of the body the morbid material of syphilitic infection. The iodids are of special value in gummatous disease. The dose may be small and give satisfactory results in some instances, and in others it must be maximum amounting sometimes to 300 or 400 grains in twenty-four hours. The drug should be administered at periods like the mercurial treatment. In my experience the best results are obtained by using the iodid in periods when the mercury is not used. Salivation is less likely to occur than when the two are used coincidently.

Salvarsan is undoubtedly of great value in early syphilis and in syphilis with gummatous infiltration and ulceration. The fact that it will aggravate the morbid condition of a heart, blood-vessel or a kidney disease prohibits its use in those conditions. The fact that the best results are obtained in maximum dose by the intravenous method makes its use limited because of difficulty of giving it excepting by those who have a proper technic. A maximum dose of salvarsan followed by mercury is of undoubted value.

Mercury and the iodids have long been used with great satisfaction and we may continue to use them with gratifying results. I doubt very much if salvarsan will give us any better results than the rational use of mercury and iodids. Exceptions may occur in which salvarsan may prove a better remedy. The discovery of salvarsan and its undoubted specific effect on the spirilla warrants the hope that other drugs may be found of even greater specific action in syphilis and other diseases caused by these organisms.

122 South Michigan Boulevard.

Insurance of Babies Against Tuberculosis.—The Danish post-office official who is said to have first suggested the use of Christmas stamps to raise money for the campaign against tuberculosis, now proposes another scheme for the same purpose, namely, the insurance of infants against tuberculosis. On the birth of every child its parents are to pay 25 cents as insurance against tuberculosis. If the child should happen to develop tuberculosis it is to be entitled to free treatment at the age of 6 in the institutions founded by the insurance money. As the sale of Christmas stamps in Denmark is so satisfactory, there is no question of adopting Mr. Holbll's suggestion there, but it is heralded in the Italian journal *Tubercolosi*, as a "happy idea from Denmark," and our exchange adds that the national league in Sweden against tuberculosis proposes to adopt the insurance scheme, the local authorities paying the single premium at need.

LABORATORY DIAGNOSIS OF SYPHILIS*

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Laboratory aids to the clinical diagnosis of syphilis have developed rapidly since the announcement by Schaudinn and Hoffman[1] in 1905, of the *Treponema pallidum* as the probable causative agent. Prior to that time the rarely used Justus test (increase of hemoglobin after the administration of mercury) was the only laboratory procedure. A subject so vast and important can be approached from many sides, the more important being the technical, clinical and experimental. Therefore, it will be necessary to limit this paper to those of more general and practical use, and to avoid long technical descriptions; in other words, to present to the general practitioner the value and limitations of the various laboratory methods, rather than to dwell on the means of carrying them out.

SMEARS

This was the first method used generally for the purpose of demonstrating the presence of the *Treponema pallidum*. Many stains and mordants have been used. These divide themselves into two general groups: first, the more intense anilin dyes together with various mordants and, second, various modifications of the Romanowsky stains. I find the following method exceedingly satisfactory, but I do not wish to be considered as limiting the satisfactory methods to the one described.

The smears are first fixed in the fumes of osmic acid, then immersed in a weak solution of potassium permanganate as a mordant, washed in distilled water and covered with Giemsa stain diluted 1 to 10. They are heated on a copper plate for twenty minutes; the slides are then washed in distilled water and dried in the air. By this method the treponemas are stained deep purple.

Stearns' silver method stains the treponemas a deep black but distorts their outline somewhat. In addition, it is very difficult to obtain a solution of silver nitrate that will not precipitate a granular film on the smear.

Another method generally used on account of its extreme simplicity and rapidity is that described by Burri[2] in 1909, commonly known as "the India ink" method. A loopful of serum obtained from the lesion is mixed with a loopful of good India ink, preferably the Chin-Chin liquid pearl ink, and the mixture is rapidly spread over the slide as in making a blood-smear. After the film dries it is examined under an oil immersion lens, without mounting. The field appears as a brown or black background in which the treponemas, blood-cells, etc., stand out as colorless refractive bodies. Objection has been raised by Barach[3] to this method. He states that certain inks contain extraneous fibrils which resemble in form the treponema. I have never noticed this, but the fact that the presence or absence of the treponema must be determined not by finding the micro-organism but by seeing the unstained space which it occupied and that these spaces are often distorted in shape, appears to be a valid objection to this method.

The *Treponema pallidum* and the *Spirochæta refringens* can easily be differentiated by this method, but it is impossible to distinguish between the *Treponema pallidum* and the *Treponema dentium*. This applies, however, only to smears taken from lesions of the mouth.

SECTIONS

In making sections of syphilitic tissue there is no doubt that the Levaditi method (impregnation with nitrate of silver) is best in tissues from hereditary syphilis, and that the Levaditi and Manouélian method is preferable in all other syphilitic tissues.

FRESH SPECIMENS

By far the best method of finding *Treponema pallidum* is in fresh preparations by means of the dark-field condenser. When using this method as well as when making smears, great care must be taken in obtaining the material. No antiseptic solutions should be used prior to the examination. In primary lesions the surface is first washed with normal salt solution, and anesthetized, if necessary, with novocain and epinephrin, locally. The entire indurated area is then picked up with a long-pointed hemostat and squeezed until the tissue becomes blanched. Then the surface is scraped until a clear serum exudes, and from this serum the slides or smears are made, diluting with normal salt solution if necessary.

Serum can be obtained from secondary syphilids by first applying a Bier cup and then proceeding as above.

In lesions of the mouth the surface is rubbed thoroughly with normal salt solution and curetted, the upper surface being entirely removed before making the slides for examination.

Although I have attempted it frequently, I have never been able to demonstrate the presence of treponemas in the blood either in fresh specimens or smears. The advantages of the dark-field method are its quickness and its reliability. In a number of instances the treponemas have been demonstrated in the dark field in large numbers, while smears from the same lesion stained with Giemsa and India ink show but a few or none present. The advantage of an early diagnosis is shown by the following cases:

Case 1.—*Patient.*—Mr. M., Dec. 30, 1910. Clinically, a typical chancre of penis of three weeks' duration; glands palpable in both groins; no *Treponemata pallida* found by dark field or smears. Wassermann negative. Frequent examination revealed no *Treponemata pallida*.

Jan. 18, 1911.—Without treatment, the primary sore almost entirely disappeared, the inguinal glands became smaller. A Wassermann reaction was negative. Up to the present time absolutely no clinical signs have manifested themselves. The patient at no time had any anti-syphilitic treatment, nor was the sore treated in any way except with boric acid.

Case 2.—*Patient.*—Mr. R., Feb. 13, 1911: There was a slight indurated sore in the sulcus; the glands on the right side were enlarged and tender; examination under dark field showed many treponemas present.

Feb. 14, 1911.—0.5 gm. salvarsan administered intravenously.

Feb. 15, 1911.—No *Treponemata pallida* were found under the dark field.

Up to the present time no further clinical signs have manifested themselves. The Wassermann reaction was negative before the administration of salvarsan, positive ten days after the injection, negative twenty-four days after the injection, and has remained negative ever since.

Case 3.—*Patient.*—Mr. A., April 18, 1911: The patient had a chancre of eight days' duration. Many *Treponemata pallida* were found in the dark field. On the same day the chancre was excised and 0.5 gm. salvarsan given intravenously. Up to the present time, no secondary rash or other manifestations have developed. A Wassermann reaction was positive before the administration of salvarsan and weakly positive ever since.

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* From the Serological Laboratory, University of California Hospital.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Schaudinn und Hoffman: Arb. a. d. k. Gsndhtsamte., 1905, xxii, 527.

[2] Burri: Das Tuschererfahren als einfaches Mittel zur Lösung einiger schwierigen Fragen der Bakterioscopie, Jena, 1909.

[3] Barach: Warning Against the India-Ink Method for the Spirochæta Pallida, The Journal A. M. A., Nov. 26, 1910, p. 1892.

SERUM DIAGNOSIS

The diagnosis of syphilis by the above-mentioned methods is naturally confined to the early stages of the disease. By means of the Bordet-Gengou[4] complement fixation reaction, as described first in this connection by Wassermann, Neisser and Bruck,[5] another method of laboratory diagnosis has been added to the physician's armamentarium. The consensus of opinion at the present time is that this reaction in syphilis is a specific antigen-antibody combination in which the antigen used is closely related to the lipoid substances, and in which the antibodies react not alone with the specific syphilitic antigen but also with some of the constituents of normal tissue. It is probable that the substances which owe their origin to the luetic infection possess a certain chemical relationship to lecithin.

On account of the complicated technic of this reaction many investigators have attempted to modify and simplify it. The Noguchi[6] method is best known in this country and appears to be of sufficient value to be used instead of the method described by Wassermann. It also eliminates one source of error by the use of an anti-human amboceptor and furthermore requires a smaller amount of blood-serum. This becomes quite a factor when endeavoring to obtain a sufficient amount from infants. In a long series of cases in which both the Noguchi and the Wassermann systems have been used the results were parallel when the same antigen was employed.

In obtaining blood for these reactions a tourniquet is applied to the arm and one of the superficial veins of the forearm is punctured with a dry sterile needle. About 5 c.c of the blood are permitted to flow into a clean test-tube and allowed to coagulate in the position of an agar slant. The tube is then turned over and the clear serum separated from the clot without the need of a centrifuge. In children, and in people with small superficial veins, the blood is collected from the finger in a Wright's tube. Care must be taken that in collecting the patient's blood no alkaline or acid liquids come in contact therewith. The serum should be kept on ice until ready to use, a badly infected serum may give erroneous results. If an acetone-insoluble antigen is used, the serum can be employed in both an active or inactive state.

The antigen used in the laboratory, in both the Wassermann and the Noguchi systems, is made from syphilitic or normal human heart and liver extracted with alcohol, fractionated with acetone, and then dissolved in methyl alcohol. It is titrated by the method described by Noguchi. An antigen can be obtained from either syphilitic or normal tissue, but from my experience it appears that the percentage of good antigens obtained is greater when syphilitic material is used. It must be remembered that the reaction is a quantitative one and an exact proportion must be maintained between the various reagents. Great care is necessary in selecting a proper antigen and the variation in results reported by different workers is frequently due to the use of an improperly made and titrated antigen.

For those working continuously with the complement fixation reaction, there appears to be no advantage in the use of antigen and amboceptor dried on filter paper. Experiments with these papers, when controlled with liquid reagents, have shown that those papers impregnated with antigen will not keep as long as a liquid extract maintained in the ice-box.

DIAGNOSTIC VALUE

Reports of the diagnostic value of the complement fixation reaction varies greatly with different workers. In a series of 1,350 cases my results have been as follows:

	Percentage +
Primary syphilis	93
Secondary syphilis	97
Tertiary syphilis	82
Hereditary syphilis	100
Early latent syphilis (Treated and untreated)	56
Late latent syphilis (Treated and untreated)	60
Tabes	77
General paresis	98
Cerebrospinal syphilis	71

In a total of 142 cases, from which syphilis could not be excluded as an etiologic factor, the number of positive cases was 106; negative, thirty-six.

In cases from which syphilis can be eliminated as a factor: Total 182: Positive, seven; negative, 175.

Of the positive, six were leprosy and one carcinoma. The presence of hereditary or acquired lues could not be excluded in three of these cases.

The great value of this reaction in the detection of syphilis as an etiologic factor and of latent syphilis has been amply brought out by many investigators. Chronic myocarditis, and aortitis, valvular insufficiency, aneurysm, hemiplegia, adult epilepsy, cirrhosis of the liver, may now be traced to a syphilitic etiology.

In my series there are a number of syphilitic families in which positive reactions were obtained in some of the offspring showing no clinical symptoms.

The reaction is also of great value in the determination of the need of further treatment. Most all observers have found that positive results are more frequent in untreated or insufficiently treated patients.

EFFECT OF TREATMENT

From the literature, and also in my experience, in the majority of cases a positive reaction becomes negative after the administration of a greater or less amount of mercury. In hereditary lues a positive reaction may persist despite the administration of a large amount of mercury and potassium iodid. It may persist after the disappearance of the clinical signs, or it may return after once having become negative, the administration of mercury having been stopped. In a series of 116 cases, in which salvarsan has been administered, the results were as follows:

Twenty-eight patients were given more than one dose; three were given more than two doses. All were positive before administering the salvarsan.

	Per cent. +
End of two weeks	51
End of one month	37
End of two months	18
End of three months	16
End of four months	15
Remained positive to date	18

Returned after once negative, 11 per cent.

CEREBROSPINAL FLUID

The usual methods of examining cerebrospinal fluid for the purpose of determining the presence or absence of syphilis are, cytologic examination, the Nonne[7] ammonium sulphate reaction, the Noguchi[8] butyric acid reaction and the complement fixation reaction. In the main, these reactions have their greatest value in patients suspected of having tabes, cerebrospinal lues, general paresis, and in psychiatric cases. In using the Nonne reaction I use the ring method of Ross and Jones.[9] In the butyric acid test care must be taken that the butyric acid is fresh and that only a flocculent precipitate, which appears within two hours after heating, is called positive. In carrying out the complement fixation reaction with the cerebrospinal fluid, it has been found by titration that an amount equal to ten times the quantity of blood-serum must be used. The presence of a positive Nonne and butyric acid test indicates an increase in the globulin content of the cerebrospinal fluid, and may be obtained in cases of acute inflammatory meningitis. In tabes I have obtained positive reactions in the cerebrospinal fluid, while the reaction on the blood-serum was negative. This result has also been obtained in several cases of cerebral syphilis.

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[4] Bordet-Gengou: Ann. de l'Inst. Pasteur, 1901, p. 289.

[5] Wassermann, Neisser and Breck: Deutsch. med. Wchnschr., 1906, xxxii, 745.

[6] Noguchi: Jour. Exper. Med., 1909, xi, 392; Serum Diagnosis of Syphilis. Ed. 2., 1911.

[7] Nonne: Clinical Diagnosis of the Syphilogenous Diseases of the Central Nervous System. The Journal, July 24, 1909, p. 289.

[8] Noguchi: Proc. Soc. Exp. Biol. and Med., 1909, vi, 77.

In a few cases of tabes the globulin content did not appear to have been increased, but the complement fixation reaction was positive. In none of these cases, however, was the cell-count positive. In general paresis the inhibition of hemolysis is almost always absolute.

In tabes, cerebrospinal lues and general paresis the complement fixation reaction should be done both on the blood-serum and on the cerebrospinal fluid, for the syphilitic etiology in some cases may be missed if the blood-serum alone is examined.

The complement fixation reaction with relation to milk, urine, transudates, etc., will not be entered into as they have no practical bearing on this subject.

A large number of modifications of the original Wassermann reaction have been described, but so far, with the exception of the Wassermann and Noguchi systems, all are subject to the same criticism, namely, that indefinite amounts of the amboceptor, complement, and blood-corpuscles are used.

The various precipitate reactions described are not as reliable as the complement fixation reaction.

MEIOSTAGMIN REACTION

Ascoli and Izar[10] utilize the fact that when a specific antigen and a serum containing its corresponding antibody are mixed a lowering of the surface tension of a drop results. This phenomenon has been utilized in the diagnosis of syphilis by first determining the number of drops in a given bulk of patient's serum, and then determining the variation from that number after the antigen has been added to a like quantity. My experience with the stalagmometer of Traube leads to the conclusion that this instrument is too delicate for the use of the general practitioner. The surface tension is changed by so many factors, such as vibration, temperature, specific gravity, etc., making it of little use outside of a well-equipped physical laboratory.

SCHURMANN COLOR REACTION

With a limited number of serums I have been unable o obtain results as noted by Schurmann. A number of definitely negative serums gave a positive reaction.

CONCLUSIONS

1. Examination by the dark-field condenser is the surest and most rapid method of determining the presence or absence of the *Treponema pallidum*.

2. The success with fresh specimens and smears depends largely on the care used and the manner of making the preparations to be examined.

3. The early diagnosis of syphilis becomes more important on account of the advantage obtained in aborting the disease in many instances by the use of salvarsan.

4. Serum diagnosis of syphilis is of great value throughout the course of the disease after the infection becomes systemic.

5. The complement fixation reaction is of value in determining a syphilitic etiology and the effect of treatment.

6. In patients under treatment a negative complement fixation reaction is not of the same value as a positive one in determining the presence or absence of the disease.

7. In certain forms of parasyphilis a negative reaction does not entirely exclude the presence of syphilis.

8. In syphilis of the central nervous system the complement fixation reaction should be done with the cerebrospinal fluid as well as with the blood-serum.

9. Great care should be taken in selecting and making antigens used in the complement fixation reactions. The reaction is a quantitative one and the accuracy of results are dependent entirely on the quantitative relation between the various reagents.

10. With properly selected antigens the Wassermann and Noguchi methods are equally reliable.

THE VALUE OF THE WASSERMANN REACTION AND OF SALVARSAN *

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I. *THE VALUE OF THE WASSERMANN REACTION, BY A. KEIDEL*

These observations are based on 378 cases examined by the Wassermann test at the Genito-Urinary Clinic of the Johns Hopkins Hospital. The technic of the test followed the original method of Wassermann, Neisser and Brück, except in the preparation of the antigen, which was made by the method devised by Noguchi from syphilitic livers and from normal beef hearts. The unit of volume was also reduced and a water bath used in place of the air incubator.

Fifty of the cases examined were definitely nonsyphilitic, including cases of epithelioma, sarcoma, tuberculosis, Raynaud's disease, scabies, acne, drug-rashes, and about twenty other various affections. In every case the reaction was negative.

There were sixty-four cases of undoubted syphilis with secondary manifestations at the time the test was made and of these 91.4 per cent. gave a positive reaction. Somewhat over half of the cases in this group had received no treatment and were positive, all those with a negative reaction being treated cases.

Of twenty-one cases with undoubted tertiary manifestations 62 per cent. were positive—four cases being doubtful. In all but three cases courses of antisyphilitic treatment had been received.

In twenty-three cases with early primary lesions and demonstrable *Spirochætæ pallidæ* twelve, or 52.2 per cent., were positive and one case was doubtful.

As no diagnosis had been made in most of the cases coming for the serum examination I was interested to note in what percentage the test had been of aid in establishing the diagnosis. In order that this may be clearly appreciated I have divided all the cases into five groups, as follows:

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[9] Ross and Jones: Brit. Med. Jour., 1909, I, 1111.

[10] Ascoli and Izar: München. med. Wchnschr., Jan. 11, 1910, p. 62; Jan. 25, 1910, p. 182; Feb. 22, 1910, p. 403; May 3, 1910, p. 974; May 31, 1910, p. 1170

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Non-specific cases. As already stated these were fifty in number, with 100 per cent. negative reaction.

2. Cases in which there were lesions of a doubtful nature and a negative history for syphilis. Of the seventy-one cases in this group, seventeen, or 24 per cent., were positive and three, or 5 per cent., doubtful.

3. Cases in which there were lesions of a doubtful or suspicious nature and an indefinite history of syphilis. This group is made up of sixty-one cases, twenty-three of which, or 37.7 per cent., were positive and two cases doubtful.

4. Cases in which there was a definite history of syphilis but no lesions. Eighty-three cases, twenty-one of which, or 25 per cent., were positive and five doubtful.

5. Cases in which there were suspicious or manifest lesions and a definite history of syphilis. This is the largest group, with 113 cases, of which ninety-three, or 82.3 per cent., were positive and six doubtful.

It was also of interest to note in how many cases in which the patients had venereal sores, a positive diagnosis of chancres could be made with the Wassermann test, in the absence of all secondary manifestations. Accordingly sixty-one patients with sores of from two days' to ten weeks' duration were examined and the results tabulated.

RESULTS IN THE EXAMINATION OF SIXTY-ONE VENEREAL SORES

Duration of sores in weeks	1	2	3	4	5	6	7	8	9	10
Number of cases	11	14	11	11	2	5	3	2	1	1
Positives	3	6	6	7	0	2	0	1	1	0
Negatives	8	8	5	4	2	3	3	1	0	1

This table shows a steady increase in the number of positives from about 27 per cent. in the first week to about 64 per cent. in the fourth week, after which the number of cases rapidly falls off and the results are irregular. The importance of being able to recognize so large a number of chancres in the first week and practically all of them in the fourth week is obvious, but the table also shows that of the small number of venereal sores seen after the fourth week and unaccompanied by secondary manifestations such as a general glandular enlargement, over 25 per cent. may be chancres and can be diagnosed as such by this test.

Notwithstanding the fact that many of these patients had non-specific lesions, 42.3 per cent. gave a positive Wassermann. Of thirty-three cases in which the spirochetes had not been demonstrated, thirteen were positive. One patient had a positive Wassermann when first seen, four days after the appearance of the sore. An attempt was made to follow these cases in order to ascertain how many of them with the negative reaction subsequently developed secondaries. This was attended with small success, however, only six patients returning for observation, and all with secondary manifestations. Of these, three patients had been examined in the first week of the primary stage, two in the second week and one in the fourth week. In this last case the lesion had been treated with calomel powder from the outset.

In conclusion it need hardly be stated that a positive Wassermann test is for practical purposes conclusive evidence of syphilis. It is of scientific interest that the test may be positive in some non-syphilitic conditions such as leprosy, yaws, scarlet fever, and trypanosomiasis, tuberculosis, carcinoma and profound anemias, in none of which the diagnosis can be confused with syphilis, except perhaps in yaws. The only difficulty lies in the correct interpretation of the negative results. This, I am convinced, may be met by careful attention to the technic of the test; by the use of only the highest-powered preparations, skilfully made and accurately titrated and by thorough familiarity with each step undertaken. The amount of treatment the patient has received and the time elapsed since the last treatment was discontinued should be taken into consideration. When the result is in doubt one should not hesitate to make repeated examinations at convenient intervals. With these precautions, I consider a negative Wassermann reaction while not of equal value with a positive result, almost as reliable.

II. THE VALUE OF SALVARSAN, BY J. T. GERAGHTY AND A. KEIDEL

This report is based on a series of seventy cases which came under our observation and care in the Genito-Urinary Clinic of the Johns Hopkins Hospital, and in private practice.

TECHNIC OF THE ADMINISTRATION

Except in the first four cases, all injections were made intravenously into the median basilic, the median cephalic, or one or other of the superficial ulnar and radial veins. The needle was thrust directly through the skin into the vein in almost all cases. Even where the vein was not plainly visible it could readily be made so by the application of a tourniquet, and venesection was necessary in only a few cases on account of excessive subcutaneous fat.

The salvarsan was dissolved in about 100 c.c. of sterile salt solution in a sterile glass-stoppered bottle, and made alkaline with from 1.2 c.c. to 1.3 c.c. of 4-normal sodium hydrate solution, and enough salt solution added to bring the volume up to 240 c.c. so that each 40 c.c. of this solution contained 0.1 gm. of salvarsan. A glass-barrelled, 20 c.c. syringe provided with a two-way stop-cock and connections of small rubber tubing was used, and the injection preceded and followed by a small quantity of salt solution.

Following the injections the patients were kept in bed in the hospital for two days, and then were allowed to resume their ordinary daily pursuits. As far as possible, all patients have been kept under observation and frequent Wassermann tests made, in order that failures and recurrences might be recognized as early as possible, and further treatment promptly instituted.

In the four patients treated intramuscularly the reaction to the drug was marked by most intense pain at the site of the injection, accompanied by the usual nausea, vomiting and headache. Following the intravenous administrations, in some instances, there was a slight rise in temperature, but this lasted for only a few hours and never exceeded 102 F. Owing to the pain, the intramuscular method was early abandoned in favor of the intravenous route, which was unaccompanied by local reaction, and did not incur the liability to abscess formation and painful indolent sloughs.

RESULTS

Of the seventy patients treated those in the primary stage, with chancres of from one to three weeks' duration gave the best results. Only one dose was given in each case, and the sore healed promptly. The results to date in this class of cases have been particularly gratifying, inasmuch as no further manifestations of the disease have appeared, although periods of from two to five months have elapsed since the treatment.

Another group of cases in which the results seem to be very satisfactory is that in which the patients have received the drug following a vigorous course of mercury for periods of from a few months to a year, with the disease under control at the time. None of the cases in this group have so far recurred clinically, and in all that we have been able to follow serologically, the Wassermann reaction has remained negative. Some of the cases have been under observation now for six months.

Cases with active secondary or florid syphilis, however, although all of the lesions and clinical manifestations have promptly disappeared following the treatment, and in many cases the Wassermann has become negative, almost invariably recur at some later date.

In cases with the late recurring secondary and tertiary lesions, or in which more or less diffuse syphilitic processes are present in the body, an absolute eradication of the disease with one or more doses of the drug can scarcely be expected. In none of our cases of this type have we been able to accomplish permanent results with salvarsan alone, although a marked beneficial effect on the lesions has almost always been observed.

In one case of congenital syphilis, with severe double keratitis in a girl 12 years old, no benefit resulted from an intramuscular injection of 0.2 gm. of salvarsan. In one tabetic receiving 0.5 gm. of salvarsan the painful crises disappeared and remarkable improvement in the general condition followed.

In six cases which were followed in order to observe the effect on the *Spirochætæ pallidæ* in open lesions, the organisms were seen to disappear in from five to twelve hours.

COMPLICATIONS

In no cases have any untoward effects been observed directly attributable to salvarsan, with possibly one exception. In this patient ten weeks after the injection a palsy of the iris and accommodation in the right eye developed. The patient has been under treatment with potassium iodid, but the lesion is still present. A sufficient interval has not yet elapsed to make clear whether the palsy was syphilitic or caused by the salvarsan. In another case two months after injection, a paralysis of he external rectus of the right eye, such as is often seen n syphilis, was noted. The Wassermann reaction never became negative. The paralysis disappeared gradually under treatment with mercury and potassium iodid, so hat it seems fair to assume that it was syphilitic in nature. No ear disturbances have been observed.

CONCLUSIONS

From our experience with this drug, we are convinced hat it is an important addition to the therapeutics of yphilis. In almost every case in which visible lesions ere present complete disappearance followed the injecion and marked improvement in the general condition f the patient was a constant feature. In all cases efractory to mercury, the response to salvarsan has been rompt and striking. The drug is indispensable for the reatment of patients who do not tolerate mercury. A tudy of our statistics does not warrant us in expecting complete cure of syphilis and absolute immunity from ecurrences in the majority of cases after the use of only ne or two injections. A small number of cases which ave been followed by us for four or five months withut recurrences justifies the belief that one injection of lvarsan will effect a complete cure in some cases. alvarsan is without doubt of equal value with a long course of mercury and potassium iodid in the cure of lesions. It has, however, the very great advantage of simplicity of administration, and causes the lesions to disappear with great rapidity. Moreover, it saves the patient from the damage done by the luetic toxin during the period necessary for the control of the disease by means of mercury.

We want particularly to emphasize the fact that the use of salvarsan has now passed beyond the experimental stage. One should no longer make it his object to see how much good can be done with one or more injections of this drug, but rather of how much value it can be made to assume in the treatment of syphilis when combined with other drugs.

The superior ability of salvarsan over mercury to kill rapidly the *Spirochætæ pallidæ* in the tissues has been demonstrated beyond question, and salvarsan is therefore indicated in every case of syphilis, when not specially contra-indicated, even in those cases in which it seems advisable to supplement it with the subsequent use of mercury.

From our experience at present, we strongly advocate a vigorous course of mercury following the injection of salvarsan, continued for about six months and possibly then followed by another dose of salvarsan. In the primary cases, and those already well under control with mercury, it seems fairly probable that salvarsan may be sufficient to eradicate the disease.

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THE DISADVANTAGES INCIDENT TO THE ADMINISTRATION OF SALVARSAN *

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Salvarsan in its present form can never become a popular remedy. Paul Ehrlich, however, is so ingenious that any day he may invent a modification that will be more easily administered, and will be even less toxic.

There are three determinations of salvarsan that are of fundamental importance; its poisonous action on the *Spirochæta pallida;* its selective action on epithelial tissue; and its selective action on the tissue of nerves. Its stimulating action on epithelial tissue is shown in the marvelous way mucous patches and luetic ulcers epidermize under its influence. Its selective action on nerve tissue, however, is what immediately interests us in this paper.

On the introduction of salvarsan, the attention of observers was fixed on the optic nerve, as it was feared that salvarsan might, like atoxyl, cause amaurosis. But experience accumulated, and as no reports of disagreeable ocular symptoms were at first recorded it was hoped that at last an arsenic preparation had been discovered which had no attendant grave toxic disadvantage. Still later experience tends to show, however, that salvarsan is not entirely free from poisonous influences on the nerves in the orbit. Finger was among the first to draw attention to these, but the instances reported are not so typical as those from atoxyl and arsacetin. They have been observed very infrequently, and it seems often to be a question whether they are owing to syphilis, to salvarsan, to a previous treatment with atoxyl, or to some other cause. It must be remembered that the hope and the interest aroused by the new drug have induced thousands of old syphilitics to apply for treatment for all sorts of chronic ailments not necessarily caused by syphilis at all, and that among these old ambulatory pathologic museums there would necessarily be a great number suffering from ocular disabilities.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

But while attention was fixed on the eye, the ear seems to have suffered, as since the introduction of salvarsan an unusual number of troubles with the vestibular apparatus have been observed in early syphilis. It would seem that the arsenic in salvarsan acts true to kind and that we cannot entirely escape the predilection of this metal for nervous tissue. Implications of other nerves have also been reported, but, of course, of infinitely less consequential gravity. In any fair consideration of the detrimental effect of salvarsan on the nerves, however, we must always take into account the patients with whom we are dealing. Besides having syphilis, which itself attacks the nerves, they, as a class, habitually overindulge in drugs that are strongly neurotropic, such as alcohol, tobacco, coffee and tea, and in addition put their nervous systems to the hardest kind of use, such as exposing the eye night after night to strong electric lights.

It is most interesting to consider for a few moments the selective action of arsenic on the nervous system. Arsenic has been used by therapeutists for ages as a nerve tonic, and although this experience has not the definiteness of a laboratory experiment, it, nevertheless, has value as indicating this metal's neurotropic nature. Accumulated clinical impressions always have a value. Furthermore, the marvelous action of salvarsan as a tonic is common to it and to the other arsenic preparations, and is probably due to its combined stimulating effect on epithelial and nerve tissue. The frequent occurrence of herpes zoster in those who are taking arsenic is another expression of the stimulating effect of this drug on the nerves. Then we have the selective action of atoxyl and arsacetin on the optic nerve, causing amaurosis. Furthermore, dentists constantly use arsenic to kill nerves. Arsenic has also been used for ages as a topical necrotizing agent in the treatment of epithelioma, and those who so employ it almost invariably come to the conclusion that the metal exerts a selective action on the diseased epithelial cells. At the same time, the atrocious pain that it causes when used on epitheliomas impels to the belief that the nerves at the same time are receiving special attention. The intolerable pain sometimes felt when salvarsan is employed, either subcutaneously or intramuscularly, is easily recognized by the experienced as the same kind of pain complained of by patients when arsenic is used topically in epithelioma.

Therefore, we recognize the neurotropic action of arsenic as a nerve tonic, as a herpetogen, as an amaurotic, as a nervocide and as a dolorific. Accordingly, it follows that when an unusual number of vestibular affections are reported in early constitutional syphilis, and therefore at a time of life, as well as at a stage of the disease, when such affections are rare, there naturally arises a grave suspicion that salvarsan may be the cause.

But the surprise lies in the fact that it is so little toxic. It is long since anything so dramatic as the introduction of salvarsan has occurred in the practice of medicine. The metal forming its main ingredient has played a romantic part in the world's history as a poison. Ehrlich, by combining this metal with other elements, changed at will its mode of action as regards this or that kind of animated protoplasm, so that it became almost indifferent even to its beloved nerve-cells and yet retained a strong affinity for the cells that constitute the virus of syphilis.

At present very few men rely solely on salvarsan in the treatment of syphilis. It is now used in conjunction with the two other great specifics, mercury and iodid of potash. On informing a patient that salvarsan is not an absolute specific for syphilis, clearing up the disease and all its manifestations at one stroke, it is interesting to watch the mental reaction that takes place. The patient almost invariably concludes that the remedy is worthless. Yet a medical man, for the sake of his own reputation, must tell the facts of the case. Furthermore, it is dangerous to tell a patient that he is cured, for then he is thrown off his guard in case further manifestations of his disease should appear.

Another feature tending to diminish the popularity of this remedy is the difficulty surrounding its administration. It cannot be taken by the mouth, and if given either intravenously, intramuscularly or subcutaneously, it has to be prepared with minute care, and the injection has to be carried out under the strictest antisepsis, as the drug itself is an irritant, but not an antiseptic.

Many drugs such as morphin and cocain are so bland in their action on the tissues that we never expect any local trouble to follow their hypodermic use. Others, while irritant and harmful, are at the same time antiseptic, and therefore the injured or necrosed tissues are not exposed to the additional danger of sepsis. One of the great points in favor of the administration of salicylate of mercury intramuscularly is that this particular preparation is slightly soluble and a good antiseptic, and yet so slowly soluble as to act almost as powerfully as an insoluble mercurial salt. Among the drugs used subcutaneously or intramuscularly, salvarsan is distinguished by its injurious action on the tissues, and often gives rise to local necrosis. K. Martius found that it did so in every case he investigated. Once, where the injection was thrown into the gluteal muscles, there was no tendency to heal, although three months had elapsed. In two instances the necrotic mass had to be excised.[1] Salvarsan, however, although it acts so injuriously, is not an antiseptic, and therefore if the technic is not perfect and germs happen to be included in the injection, they have an excellent opportunity to develop in the injured or helpless tissues. Septic infection, sometimes fatal, may therefore be a consequence of the administration of this remedy.

When salvarsan causes an arsenic necrosis that involves the whole skin, an ulcer results that is very slow in healing, and there is no telling when such an ulcer may develop. I have seen a patient get a necrotic ulcer from an injection of salvarsan who, several weeks before, had received an injection that passed off without any more than the ordinary inconveniences.

Then again, when salvarsan is given either subcutaneously or intramuscularly, the drug may not be absorbed. Schreiber had a patient, a doctor, who became so tired of the annoying deposit of salvarsan as to beg to have it cut out, and over 80 per cent. of the drug was removed from the local deposit. I have seen a number of these deposits, and the percentage of their occurrence must be quite high. In many instances they lie almost inert in the tissues causing pain only when pressed on, while in other cases they are very annoying. When the deposits are very annoying, the patient may ask to have the sac emptied, and the affair ends. When such a deposit is inert it is a question what to do with it; whether to leave it alone or to advise its removal. If left alone it might possibly give rise to arsenic poisoning by slow absorption, although I have never seen it do so. When the remedy lies unabsorbed, it, of course, does not act as an antisyphilitic, and may, if solely relied on to combat a progressive, destructive gumma, occasion serious loss of time. In other words, it constitutes a delay in treatment, possibly at a critical moment.

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[1] Martius, K.: Local Action of Salvarsan at Point of Injection, München. med. Wchnschr., Dec. 29, 1910; abstr. in THE JOURNAL A. M. A., Feb. 4, 1911, p. 388.

The intravenous method is undoubtedly to be preferred, as when the patient receives the dose, he has it then and there in sufficient quantity, and with little fear of any local trouble. But this way of administerng salvarsan constitutes a surgical operation, demanding skill, intelligent care, and the strictest antisepsis, and nore care and time indeed are here necessary than in nany more pretentious operations. Above all things, n absolutely perfect solution must be obtained, as the njection of solid particles into the venous circulation s not permissible. So important is it to get a faultless olution that Schreiber always kept this step under his lirect supervision. I never saw him give the actual njection into the vein, but I never saw an injection given in his clinic wherein he did not supervise the lissolving of the salvarsan. The greatest care is also necessary to keep adventitious particles out of the fluid. Sterilized distilled water should be used in making the olution, and no cotton should be employed in stoppering he bottles or in wiping the instruments lest cotton hreads get into the fluid. The solution injected into he veins should not be a concentrated one, as it is an xiom that even harmless salts, when employed intravenously, should be well diluted. Furthermore, if by ccident some of the salvarsan solution should escape nto the subcutaneous tissues, it irritates far less when ighly diluted than when concentrated. A concentrated eposit of salvarsan at the bend of the elbow where it may annoy for weeks is not pleasant.

Another important point in the intravenous injection is that the lumen of the needle should be free of rust. The blood in flowing out through a rusty needle is far more apt to clot than if the bore of the needle is smooth. This clot would naturally be injected into the vein in he course of the operation. I have also seen thrombus f the vein, presumably from the mere injury of the peration. The only symptoms were edema of the arm ith some functional incapacity, and a cord-like hardning that cleared up in a short time.

An annoying feature, although a fleeting one, is the vere pain at the shoulder that patients often complain f after about 100 c.c. are injected. This may necestate stopping the injection for a few moments in order allow the circulation to readjust itself.

What is called a Herxheimer arsenical reaction may ccur on the skin in the course of the first few days. It a bright red erythema, usually best observed on the runk, and I have never seen it give rise to any further isturbance. It is as well to know of its existence, however, as misunderstandings may otherwise occur.

The salvarsan reaction in the syphilitic lesions themlves is highly important. When, for example, there e a great number of very active syphilitic lesions, as early malignant syphilis, the temperature reaction ay run as high as 105 F. It is, therefore, important be careful when there are many lesions, and when ere is a low cachectic condition. I have never seen y deaths arise from this source, but at times there e serious inconveniences. In such cases Schreiber dvises giving half the usual dose, followed in a week by the other half. Usually, the temperature reaction comes on quite early in all syphilitic lesions excepting those of the central nervous system. The temperature reaction in lesions other than those of the central nervous system occurs at about four or five hours after the injection, while in lesions of the central nervous system it occurs at about from eight to ten hours afterward. This difference is so regular in its occurrence that it may be used for diagnostic purposes. When no syphilis is present, no temperature reaction occurs. The experience of Schreiber is particularly interesting in this respect. Knowing how frequently arsenic is prescribed in psoriasis, and how excellent the results sometimes are, and knowing also that in many instances the favorableness of the result bears some relationship to the size of the dose, he hoped to achieve success in psoriasis by injecting salvarsan which contains such an enormous quantity of arsenic. The psoriatic patients injected showed no temperature reaction whatever, nor had the drug the least effect on the eruption.

There is not alone a temperature reaction in cases of syphilis in which salvarsan is injected, but there is a marked reaction in the lesions themselves. They become redder and more swollen. The drug acts in this respect somewhat like tuberculin in tuberculosis. As may readily be seen, this is an important matter when it comes to the question of administering salvarsan where the affected organ is of great dignity, as in cases of gumma of the heart or of the brain. If a patient has gumma of the brain, from which he is suffering severely from the pressure of the tumor, the sudden enlargement of this tumor, consequent on the local reaction, may be of the greatest importance. For the same reason, if a patient has gummatous softening of an artery, giving rise to an acutely dilating aneurysm, a dose of salvarsan by increasing the quantity of blood sent to the part may cause irremediable damage. The action of mercury and of potassium iodid is quite a contrast to this, as under these remedies there is no increased afflux of blood to the affected part, but rather a slow melting down of the syphilitic infiltration. Of course, in a patient suffering with aneurysm the drug would not be administered intravenously, as the fluid itself would dangerously raise the arterial pressure.

Finally we come to a disadvantage in the administration of salvarsan, which may count for nothing in an altruistic or scientific sense, yet from a practical point of view is of great importance. It is not a remedy to use in office practice or in an ambulatory clinic. The patient should be sent to a hospital, and this in itself constitutes an expense which many patients cannot afford. Even when given intramuscularly or subcutaneously, the administration of salvarsan consumes considerable time, and the physician's time counts for something. When given intravenously a very considerable amount of time is consumed, as the administration amounts to a surgical operation, making its administration still more expensive. This expense the patient might cheerfully undergo if the physician were able to assure him that his troubles would thereby be ended, but we are far from being in a position, even after several injections of salvarsan, to assure the patient that he is permanently cured. In the present state of our knowledge, we still are compelled to advise the patient, although he has taken salvarsan, to take mercury and potassium iodid also.

An enumeration of the disadvantages of this new drug serves only to throw into still bolder relief its great advantages. The wonder grows that such a powerful spirillicide can be thrown in such quantities into the circulation with such little risk to the host. In contemplating this marvel, we begin to appreciate the fine scientific imagination of the man who made this possible.

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ABSTRACT OF DISCUSSION

ON PAPERS IN THE SYMPOSIUM ON SYPHILIS

Dr. D. W. Montgomery, San Francisco: I agree with Dr. Fox that it is unnecessary to dissolve salvarsan in normal salt solution. It is best dissolved in warm distilled water. But salt solution should be injected into the vein before injecting the salvarsan solution, in order to make sure that the point of the needle lies free in the vein. The making of the salvarsan solution is a most important step. The solution should be perfectly clear. I never saw Schreiber give the actual injection, but on the other hand I never saw this drug administered in Schreiber's clinic when he did not himself personally superintend the making of the solution. One of the speakers has accentuated a fact that I think cannot be successfully disputed, that mercury is a true specific for syphilis and that it constitutes the best means that has yet been found for treating the disease. I also believe that iodid of potash is a specific for syphilis, although inferior to mercury. Mercury is a poison. This, to my mind, is as clear as any fact in therapeutics.

Dr. Howard Fox, New York: In our work at the New York Skin and Cancer Hospital we have observed one case of herpes zoster following the use of this drug. In the course of 128 injections we have not had any serious ill effects. In two of the cases the treatment was followed by a general toxic erythema, accompanied by high temperature, lasting three days. Necrosis at the point of injection occurred in five cases, twice after subcutaneous injections, once after an intramuscular injection of an alkaline solution, and twice after intramuscular injections of oily suspensions. I cannot agree with the previous speaker that the intravenous injection of salvarsan is a difficult or complicated procedure. With a little experience the proper introduction of the needle into the vein can readily be learned. It is hardly necessary to say in addition that the usual aseptic precautions should be strictly observed. In the interest of simplicity I think it best to use sterile water instead of physiologic salt solution for diluting the salvarsan. Furthermore, the gravity method is in my opinion much simpler than the method originally suggested by Schreiber. In the course of sixty-nine intravenous injections we have noted the appearance of small nodules in the vein in eight cases. In six of these cases the nodules disappeared very shortly after the injection.

Dr. W. J. Butler, Chicago: In regard to the treatment of the disease under consideration, I wonder if we all have similar ideas on this question. When is syphilis cured? I do not think that any of us can answer that question; I do not think that we can saturate a patient for two or three years and then say that the patient is cured; we all know that he is not cured. I agree with what has been said regarding the value of mercury; I can also see certain advantages that result from the administration of this agent hypodermically. How do you know when a patient is saturated? This we do not know clinically. Too much importance has been given in past years to the disappearance of external manifestations and their continued absence in judging the results of treatment of syphilis. The possibility of visceral syphilis existing or appearing at any time should always be kept in mind. I cannot emphasize sufficiently strongly the above points. If we ask ourselves when are these patients cured, we can only say, recollecting the possibility of recurrence at any time, they are cured when they are dead. We can, however, determine the activity or inactivity of the specific virus in a syphilitic by resorting to the serum reaction for syphilis. This is the only means of judging early activity of the specific process in internal organs, before clinical symptoms have manifested themselves. In the treatment of syphilis the serum reaction should not be applied for one, two or three months, or even years, but indefinitely as a control on the activity or abeyance of the disease. We should never assume that we can treat a patient with this disease for two or three years and then say positively that he is cured. The serum reaction should be resorted to when treating these patients to see that the treatment is being pushed sufficiently. We should never assume that a cure has taken place because there is a negative reaction. Such patients should not be allowed to go out of the care of the physician even when the serum reaction is negative after two, three or four years of treatment, but should occasionally receive further treatment to protect them against recurrences, and their blood should be examined three or four times a year. When found positive, treatment should be resumed.

Dr. C. F. Hoover, Cleveland, Ohio: During my student days I was profoundly impressed by an autopsy on a young man who died from pulmonary syphilis shortly after his return from Switzerland where he was sent six months before on account of an hemoptysis supposedly of tuberculous origin. Ever since that experience I have endeavored to avoid such a diagnostic error by always considering the possibility of syphilis whenever a chronic pulmonary disease is under consideration. Thus far I have seen only three instances of pulmonary syphilis in adults. That it does not oftener occur seems strange, but it seems more strange to me that our colleagues who practice in regions frequented by tuberculous patients have not a goodly number of cases of pulmonary syphilis to report.

Every variety of fever curve is encountered in syphilis. I remember one instance in which the rise from normal to 106 F. and return to normal was accomplished within a few hours. There were sufficient signs to show that the disease was located in the liver and on account of the extremely rapid rise and fall of temperature a diagnosis of suppurative pylephlebitis was made. This patient promptly recovered after mercury was given. Another patient with syphilitic fever (whom I saw through the kindness of Dr. Buswell of Buffalo) had relapsing fever for a period of fourteen years and during all that period never had more than ten consecutive days without having at least one or two days of fever. Recently a woman who was referred to the medical ward of Lakeside Hospital from the gynecologic service had a daily evening rise of temperature to 104 F. This patient was infected with syphilis ten years previously and had been often treated for some manifestation of the disease since that time. Within forty-eight hours after mercury was given in large doses all fever ceased.

I think the experience we have had with salvarsan has taught us that the proper method of employing mercury is to give large doses up to the point of tolerance for short periods of a few weeks. Lesser doses of mercury are probably harmful when long continued.

Dr. Harry Reeves Olliver, San Francisco: I have had one case of lung syphilis, in a young man 34 years old. He had been treated for six years for tuberculosis of the lungs. He had been sent to different climates. He had had hemorrhages, but no tubercle bacilli were ever found in the sputum. About six months ago he came to me to see if I could find any tubercle bacilli. He was very despondent. When in the laboratory I questioned him; he was asked if he had ever had syphilis. He smiled and revealed a perfect set of Hutchinson's teeth. The Wassermann reaction was positive. He was placed on mercury and the improvement was rapid. The radiographic plates showed pulmonary lesions. At this time salvarsan came into use and the patient was given injections, beginning them on January 8. The improvement that followed was remarkable. He gained 19 pounds in weight in three weeks; his gain was steady. The day after his first injection of salvarsan he did, however, have a hemorrhage. So far as I can determine he is now in perfect health. Subsequent *x*-ray examinations of the thorax have shown that the shadows have markedly decreased in size. This man had a sister with large glands over her body and I suggested that an examination of her blood be made. The Wassermann reaction was positive and I gave her salvarsan; within two weeks the enlarged glands had entirely disappeared, and she quickly gained in weight.

The mother of these two individuals was in bed with a ery pronounced myocarditis. Her blood also gave a positive Wassermann reaction. On questioning her I learned that her usband had died with evidences of a brain tumor. I think hat the history in this case was complete.

I have seen four cases of nephritis in which a very large ercentage of albumin and granular and hyaline casts in the rine, general anasarca, ascites, etc., were present, and these atients all made a good recovery under the use of mercury nd salvarsan. The first patient was to me of particular nterest. She was a young woman with general anasarca, scites, 1 per cent. albumin and with a tumor in the pelvis. placed her on mercury and Epsom salts. The albumin ropped to 0.1 of 1 per cent. and the casts rapidly disappeared nd she greatly improved. She was operated on by Dr. George B. Somers and an ovarian cyst was removed. Ether was the nesthetic used. After the operation she had considerable ain in the back and legs; this was supposed to have been due o this tumor. After the removal of the tumor, however, the ains continued. She was a frail woman and I hesitated to ive her salvarsan. The pain continued so severe, with no elief in spite of the mercurial rubs, that I decided at last o give her salvarsan. Four-tenths of a gram was given and ithin twenty-four hours she had no pain; it is not three eeks since the injection was given and she has not had any ain since. The patient has remained well and gained in eight.

The second case was one that appeared in the medical linic with sciatica which had persisted for fourteen years. here was a positive Wassermann reaction. The use of sal- arsan entirely cured her in a few days.

With regard to what has been said about the dosage of mer- ury I agree entirely, the best and most lasting results being hereby obtained. As to the saturation guide, I think we hould give the full dose for twenty days and then make a assermann reaction test. If this is negative we have prob- bly reached the saturation point. We should then keep the ose of mercury at this point; but if there is any indication hat there is not enough mercury given, the dose should of ourse be increased until the Wassermann reaction is negative.

In regard to salvarsan, the resulting reaction depends on e amount of infection before salvarsan was introduced. If patient has but a mild infection, the quicker will he become egatived after the salvarsan injection. The more positive the action before the introduction of salvarsan, the longer will take for him to become negative to the Wassermann reac- on test. I think this is explained by the fact that a large umber of spirochetes are killed and thrown into the circula- on where their endotoxins give rise to the formation of anti- dies. Consequently the more spirochetes present, the stronger ill be the reaction and the longer the time required for their imination from the blood.

Dr. Harvey G. Parker, Portland, Ore.: It is interesting to te the large sums of money advised to be spent in Wasser- ann tests during the treatment of lues, one of the speakers entioning sufficient to count into the hundreds of dollars, at 25 per test; it seems to me the essential thing is to treat e patient very thoroughly and when satisfied that this has en done, after waiting a period of three months without treat- ent, try the Wassermann test; if negative, later try another. he more frequently early Wassermanns are disregarded and l effort placed on saturating treatment, the better permanent sults we will get in treatment. In line with some of the ses reported of long standing hidden syphilis, undiagnosed, wish to report a case. A patient came to the coast under e advice of his physician who pronounced him tuberculous. e had a severe cough, loss of weight, rapid breathing, and t expectorated very little; he wandered about from place to ace and finally, quite at the end of his resources, he arrived Portland. He gave a history of a soft chancre eighteen ars previously, and was satisfied that there had been no fection since. On general principles among the things sorted to to give relief from the severe cough was protoiodid mercury; he got some relief but fell dead in a lodging use about this time. Post-mortem revealed a gumma of the ch of the aorta with the right lung also involved. The giv- g way of the arch caused death. In regard to some of the skin eruptions following the use of salvarsan, I have noticed two erythematous eruptions of a bullous type appearing after the injection, one after the second dose of the drug and aggravated after the third. In another case, on the third day after injection, there developed an itching, oozing eruption, somewhat like psoriasis in appearance as far as color and elevation go, in spots from a dollar to a half in size; at the end of three weeks under astringents it disappeared. I have given salvarsan in several cases in which there was an apparent idiosyncrasy against mercury; also in cases in which mercurial treatment had been long and carelessly used with practically no results, getting gratifying and rapid results with, so far, no bad results. I heartily speak for the intramuscular injection of salvarsan, especially in old cases, but always in conjunction with proper mercurial treatment.

Dr. William Litterer, Nashville, Tenn.: I take issue with the statement that salvarsan produced no reactions in cases other than syphilis. I have observed the use of salvarsan in five cases of pellagra, and in three marked reactions were obtained. In one the reaction was very severe, the temperature going to 104 F. while in the other two the temperature reached 102 F. All gave negative clinical history as to syphilis as well as a negative Wassermann. I have also used salvarsan intravenously in two cases of sarcoma; in one only was there a slight reaction. The patient vomited twice the next day while the temperature was 100 F. The Wassermann test was negative. In two cases of psoriasis, salvarsan was given intravenously with the result that in one case the temperature went to 99.8 F. two days after its administration. The Wassermann test was negative. In the pellagra cases good results followed its administration in one case only. In all of the others the general nutrition was improved, but there was no permanent improvement. I should like to report a unique case, which I believe to be one in which Ehrlich's "therapia sterilisans magna" was attained. This patient gave a typical clinical history of chancre on the penis. *Spirochetæ pallidæ* were found in large numbers three days after the appearance of the primary lesion. The Wassermann was negative. The chancre was excised and the spirochetes were demonstrated in the tissues by the Levaditi stain. After the method of Iversen, an intravenous injection (0.5 gm. salvarsan) was given, followed four days later by another (0.5 gm.) intravenous, and five days later an intramuscular injection (0.6 gm.) by Lesser's method was given. No other antisyphilitic treatment was instituted. The patient felt perfectly well in every respect. Wassermann tests were made every month for ten months with negative results. Three weeks ago this patient developed another chancre on the penis, which came nineteen days after a suspicious intercourse. The chancre was typical in every respect and numerous spirochetes were found in the lesion. One intravenous of salvarsan caused its disappearance in two weeks. To my mind this is a case in which the first three doses of salvarsan produced a complete sterilization of all the spirochetes in the body. Ten months elapsed without the slightest symptoms and repeated negative Wassermann tests were always recorded. The appearance of the second chancre is a probable demonstration of an instance of Ehrlich's "therapia sterilisans magna."

Dr. George H. Aiken, Fresno, Cal.: I should like to say something from the standpoint of the general practitioner. I have been treating syphilis for over thirty years and have had a large number of cases. I feel somewhat humiliated in being told that I have really never cured a patient. I rise especially to ask the gentleman who says that no patient is ever cured to listen to the recital of this case: A young man 20 or 25 years old, having been treated for this disease for two years, marries a healthy young woman, who bears four or six children. These children grow up healthy and strong, they never develop any local or constitutional evidences of syphilis, and they are under observation constantly for over twenty years. What should be our conclusion in this case? Was this patient not cured?

Dr. William W. Graves, St. Louis: If there is anything the medical profession of this country is united on, it is the belief in the curability of syphilis; yet recent serologic investigation and more accurate clinical observations indicate that many individuals whom we have considered cured have not been cured at all, and this is true whether from our recognized specific or from the much lauded salvarsan. Aside from accurate clinical studies of the syphilitic, similar studies of his wife and his progeny further show the inadequacy of our therapy. During the last five years I have made what I have called comparative clinical studies of families in which the fathers were syphilitics; likewise of families in which the fathers were free from syphilis. These studies have shown what is everywhere recognized, that healthy parents beget offspring, as a rule, quite equal to themselves in physical and mental endowments. "A chip off the old block" is expressive of our expectation of the offspring of healthy parents. My studies of families in which the fathers were syphilitic have shown: first, the wives, like the husbands, are rarely free from some of the more subtle manifestations of syphilis, such as pupillary anomalies, sensory loss, arterial changes, pallor, alterations in reflexes, etc.; second, the offspring rarely compare favorably with either parent or with each other. These studies have further shown the infrequency of the heretofore recognized signs of congenital or so-called hereditary syphilis, such as Hutchinson's teeth, interstitial keratitis, deafness without otitis, joint, skin and mucous membrane affections. Now the absence of these signs is one of the main props to our belief in the curability of syphilis. When such signs fail in the progeny, we point to them as living examples of the triumphs of our therapy in the parents. Similar comparative clinical studies of a few families in which the fathers are tabetics or paretics or known syphilitics will prove to anyone who will take the time to make such studies the inadequacy of our therapy, and, at the same time, the evil effects of syphilis on the progeny. I wish to indorse all that has been said by Dr. Butler. We must look the issue squarely in the face and not be afraid to look more closely at the progeny and to make clinical studies of them and of their mothers. We consent to a syphilitic's marriage three, four or five years after his infection, provided he has had adequate treatment and no recent manifestations; yet no man can say when a syphilitic has had adequate treatment nor when he is cured. The repeated use of the Wassermann reaction indicates that not more than 35 per cent. are apparently cured, and more accurate studies of the syphilitic, his wife and progeny will show that he is seldom, if ever, cured. It is safe to say that not more than 10 per cent. of syphilitics who apply to the medical profession for treatment receive what is considered adequate treatment; so that Nature must take care of the 90 per cent., and comparative studies of families will show that she does it almost as well as we do. These studies have caused me to admire Nature's resources in the care of syphilitics and at the same time to believe that our hope for a cure lies neither in mercury nor salvarsan, but in prevention.

Dr. B. H. Orndorff, Chicago: I wish to relate the experience I have had with salvarsan. In a series of nearly 100 cases of syphilis intravenous injections of salvarsan were given and without any unfavorable symptoms. In nearly all of the cases the Wassermann reaction test was positive. I also gave salvarsan in three cases of leukemia. The first was a case of myeloid leukemia, with 450,000 white cells. The full dose was given. There were no beneficial or deleterious effects for about three months following the injection; then the patient had trouble with the auditory apparatus. This patient died one month later when he was totally deaf. The second case was one of lymphatic leukemia with 600,000 cells of the mononuclear type. Three weeks following the injection of salvarsan, this patient died, having slight auditory disturbances. The third case was one of chronic lymphatic leukemia; the white cells were less than 200,000. No advantageous nor deleterious results followed the injection of salvarsan.

Dr. L. S. Schmitt, San Francisco: The discussion has been somewhat apart from the subject of my paper, the laboratory diagnosis of syphilis. By using laboratory methods, particularly the dark-field condenser, one can corroborate the point made by Dr. Graves that the injection of salvarsan reduces the contagious condition of the initial lesion, and of the secondary syphilids within twenty-four hours. With regard to the point brought up by Dr. Butler, it is difficult to tell when a patient with syphilis is cured. In the examination of the serums of the offspring of syphilitics I have found positive reactions in a number when there were no clinical manifestation in the parents. In syphilis, with a return of the reaction one can anticipate a return of the clinical symptoms. To bring out a point made by Dr. Graves and Dr. Butler, I have in mind a patient who without doubt had syphilis; the Wassermann reaction made shortly before death was positive. The history brought out the fact that the primary sore dated back forty-one years before his death.

Dr. Frank Billings, Chicago: Visceral syphilis is very prevalent in the large cities, but is not much found in the country towns. There is no doubt that any man who has access to the big hospitals will find many cases of visceral syphilis, cases that have not been discovered previously. Dr. Hoover mistakes me when he states that I said I had never met with a case of pulmonary syphilis. I did say, however, that I had never seen cases that were called in the literature "interstitial forms of pneumonia of the syphilitic type." Such cases I have not seen. I believe Dr. Graves' statement is true, that probably a very small portion of people applying for treatment are properly treated. Therefore, late syphilitic lesions are presented to us. How many of you have cases of locomotor ataxia come for treatment and in taking the history you find that the patients have not had adequate treatment? How many of you have found locomotor ataxia develop among your own patients? I have practiced medicine over thirty years and I have seen many patients with visceral and nervous syphilis who have not been cured. Perhaps I have not cured these patients. Can any of you say that your malarial patients are cured? Yet I do not want our old friends and patients to believe that one suffering from syphilis will be condemned to an eternal attack of this disease. I believe enough in drugs to feel that mercury will absolutely cure syphilis. If I can keep patients long enough under observation, I believe I can prevent further signs of the disease appearing. I have had some experience with salvarsan chiefly in late syphilis. I have given salvarsan to thirty-three patients. I have repeated the dose in several patients. One patient received four doses. Three patients each received two doses. The results from the use of salvarsan have not been as good as from the use of mercury in my hands. In patients suffering from locomotor ataxia salvarsan seems to have an analgesic effect. Those suffering from the crises seem to be relieved in a few hours after receiving this agent. I recall one man who came from Milwaukee with a very severe neuritis of the brachial plexus; he had been confined to his bed for many months; the Wassermann reaction was positive. This patient was entirely relieved of his pain in eighteen hours and he was able to use his hand again within one week after the injection. I have seen many instances which show the analgesic effect of salvarsan. I believe in the use of mercury. As to what form of mercury to use I believe that is, to a certain extent, a matter of individual choice. During the last few years I have come to resort to the intramuscular method; I feel that I can command the dosage better in this way than in any other. I can keep my patients better under command. I think the value of mercury is greatly enhanced when the patient is absolutely at rest; this applies to any case of syphilis, whether primary or late. Mercury should be pushed to the point of saturation; this means at least to the point of salivation. I give large doses—as much as one-half a grain of corrosive sublimate; by repeating this again and again we conserve the best interests of our patients. I look on the iodids not as a specific in any sense, but as a helpful means of driving out the waste material. When we meet with gumma, for instance, the administration of the iodids will clear it up quickly as a rule, and without intervention from mercury.

Ointment Bases.—W. T. Corlett, in the *Cleveland Medical Journal*, calls attention to the importance of adapting the base of an ointment to the disease for which it is prescribed. If an ointment is intended as a vehicle for an internal remedy, the base should be absorbable, such as lanolin or lard. On the other hand, if the remedy is to act locally, a non-absorbable base should be chosen, such as petrolatum. In conclusion the author criticizes some of the ready-made ointments, especially those "made in Germany," which have been devised to replace the time-honored ointments of the pharmacopeia.

THE USE OF SALVARSAN*

J. O. HIRSCHFELDER, M.D.
SAN FRANCISCO

The preparation which is the subject of inquiry differs from most of the weapons given us in our combat with disease in that its discovery was not due to a lucky accident but was rather the result of a carefully worked out method of investigation.

Believing that for each specific parasite a specific curative drug could be found, Ehrlich set out to find a substance which should be parasitotropic to the *Spirochæta pallida* (that is, should enter into combination with the pathogenic organism), rather than organotropic (that is, capable of combining with the cells of the human body). The direction which his search should take in syphilis had already been indicated by the work with atoxyl that had been done by Uhlenhuth, who had found that that substance permanently cured the syphilis of rabbits. In the clinical use of atoxyl, its effects on the body had been found so dangerous that its employment had been nearly abandoned, but the efficacy of arsenic in the destruction of the spirochetes had been so firmly established that the problem with which Ehrlich had to deal was clearly defined. It was to find a preparation of arsenic which would enter into combination with the *Spirochæta pallida* without affecting the body. With a skill and patience that will ever serve as a model of scientific work, Ehrlich, aided by a number of assistants, engaged in his task and solved the problem to his satisfaction in the discovery of salvarsan. After numerous experiments on animals proving the efficacy of the remedy in experimental syphilis and its harmlessness for the animals treated, he distributed about 20,000 doses of the remedy gratuitously among scientific clinicians throughout the world, and when he received confirmation of his claims from these sources he gave his treatment to the world. The enthusiasm with which the new remedy was welcomed reminded one of the days following the announcement of the discovery of tuberculin by Koch, but unfortunately its extensive employment did not confirm completely the hope that in it we had a remedy, a single dose of which would completely annihilate the parasite of syphilis and cure all the symptoms it produced.

Hata, working with Ehrlich, investigated the mode of action of the drug *in vitro* by mixing solutions with blood containing spirilla diluted thirty to forty times with physiologic salt solution, and examining the solution after one hour to determine the motility of the parasites. Non-motility was considered to indicate their destruction. It was found that comparatively small doses of salvarsan sufficed to destroy the spirilla completely. The next step was the investigation of its effects on syphilis of rabbits, and here the results were most brilliant. It was found that doses of 10 mg. per kilo weight of the animal administered intravenously sufficed to destroy all of the spirochetes in the body, to remove every symptom of the disease and to prevent its recurrence.

These results have been confirmed by others so that there can be no question of their correctness. Hata found that this dose was one-seventh of the maximal dose which the rabbit would tolerate. The work that had been done in Ehrlich's laboratory showed that microorganisms readily develop immunity to some drugs which act on them. For example, if mice infected with trypanosomes receive an efficient dose of trypan-red, they are cured by one injection. If a dose slightly less than that necessary to destroy the trypanosomes be given, the latter disappear from the circulation for a while and then return. By repeating this treatment, a strain of trypanosomes was produced that was resistant to the largest dose of trypan-red that could be used and this resistance was transmitted to the trypanosomes for several generations. The same was found true of atoxyl.

Dr. Margarete Margulies found that trypanosomes could readily be made resistant to salvarsan, but that this resistance never occurred in the case of *Spirochæta pallida*; that after numerous injections of small doses, the vulnerability of *Spirochæta pallida* to efficient quantities remained unchanged.

DESCRIPTION

As is well known, salvarsan is dispensed as a light yellow powder in sealed glass capsules free from air, but containing the vapor of wood alcohol to preserve it from oxidation.

Salvarsan, dioxydiamidoarsenobenzol, is an acid substance which combines with alkalies to form monobasic and dibasic salts. It dissolves freely in water, forming a clear yellow solution. On the addition of a small quantity of alkali, it is precipitated as the neutral salt, which on further addition of alkali becomes dissolved as a basic salt. Using sodium hydroxyl, we have successively formed the monosodium and then the disodium compound. As has been shown by Michaelis, in whichever form the substance is introduced into the blood its solubility is never more than 0.001 per cent. and he believes that its relatively low toxicity is due to this slight solubility in the blood.

Salvarsan has been used in doses up to 1 gm. without serious effects. It has been calculated from the average animal dose (including that given the monkey) that a human being might be given 5 or 6 gm. at one injection without fatal results, but the actual test has not yet been made.

After about a year's trial of the new remedy, all observers, including Ehrlich himself, unite in believing that the hope Ehrlich expressed when he presented it to the medical world that a single dose would sterilize the body, destroying every spirochete present, is an illusive one. In a certain number of cases its effects have been magical, the symptoms of syphilis have rapidly disappeared and the spirochetes that had been present before in large numbers were no longer to be found. This is especially apt to be the case in the early stages. In by far the larger number of cases, however, such results were not observed. Indurations and glandular enlargements were found to diminish but slowly and to require repeated administration of the drug. Some cases were found to be absolutely uninfluenced by salvarsan, so much so that some authors have claimed that its efficiency is not greater than that of mercury.

ADMINISTRATION

In the administration of salvarsan three methods may be used: (1) intramuscular, (2) subcutaneous, (3) intravenous.

Numerous modifications of the details of administration have been suggested by various observers, but the most important ones are the following:

Wechselmann and Lange[1] dissolve the dose in sodium hydrate and precipitate by neutralizing accurately with glacial acetic acid. This neutral mixture is used for injection intramuscularly or subcutaneously.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Wechselmann and Lange: Deutsch. med. Wchnschr., July 28, 1910.

A slight improvement has been made in this method by sedimenting, pouring off the supernatant fluid and mixing the deposit with physiologic salt solution. Alt advised the use of an alkaline solution of salvarsan, the alkalinity being as slight as possible and the entire mixture not to exceed 30 c.c. for intramuscular injections.

Others, especially Michaelis, recommend still smaller quantities of solvent, not over 10 c.c., claiming that the pain produced is thereby diminished.

Some observers prefer the suspension of the neutral base in paraffin or other oil and believe that pain may thereby be avoided.

When the solution is used, stress is laid on avoiding excess of alkali. This may readily be done by adding not quite sufficient alkali for complete solution and then filtering through a sterile filter-paper.

In the intramuscular injection the gluteal region is usually selected. It is well to see that no blood flows through the needle before injecting the salvarsan. The injection should be made slowly and care should be taken that none of the fluid escape into the surrounding tissues.

Both the intramuscular and the subcutaneous forms of administration are followed by pain and induration. If the neutral substance be used, the initial pain is usually less than when the alkaline is employed, but the succeeding pain, according to most observers, is quite as intense.

With both intramuscular and subcutaneous injections, infiltrations set in which may last several weeks. These are accompanied by varying degrees of pain and some fever.

In the majority of cases the pain is so severe as to necessitate the use of morphin for several days. In addition to these local symptoms there is often headache, nausea, vomiting and diarrhea.

Intravenous injections of salvarsan should always be made with a perfectly clear, sterile, alkaline solution. Inasmuch as small particles of glass are always present from the breaking of the capsule, it is necessary that the solution be filtered. The intravenous introduction of the solution offers no difficulties whatsoever, if care be taken that the needle enters the vein and does not pass through its walls into the adjacent tissue. This is made evident by the free flow of blood through the needle, which must be observed before passing the solution through it. It is well to dilute the solution to 250 c.c. or 300 c.c. and to warm it up to about 110 F., for in flowing through the tubes it becomes cooled.

The caliber of the needle used should be sufficient to permit this quantity to flow into the vein in about fifteen minutes. Thus employed, the intravenous injection gives rise to absolutely no local symptoms. It occasionally, but by no means always, happens that the patient experiences some headache, slight fever with chill, severe sweating and more or less gastro-intestinal disturbance.

PHYSIOLOGIC ACTION

When salvarsan is injected intravenously, it rapidly appears in the urine. Aberlin[2] has described an easy method of demonstrating its presence. If a few drops of urine acidulated with hydrochloric acid, to 7 or 8 c.c. to which 3 or 4 drops of a 0.5 per cent. solution of sodium nitrite has been added, be mixed with 5 or 6 c.c. of a 10 per cent. solution of resorcin made alkaline with sodium carbonate, a red color develops. He has found salvarsan in the urine by this method two hours after its intravenous injection. Heuser[3] has found arsenic in the urine three months after intravenous and nine months after intramuscular administration. Bornstein,[4] experimenting on animals, found that a large quantity of the salvarsan injected intravenously did not remain free in the blood, but was deposited in the liver, spleen and kidneys with smaller quantities in other organs. He confirmed these findings on a man who had died from intercurrent infection fourteen days after an intravenous injection. He also found arsenic in the placenta of a woman who had received salvarsan.

When salvarsan is injected intramuscularly or subcutaneously, a considerable portion of it enters into relation with the tissues and forms a deposit of some combination of arsenic which may be present for a very long period.

The reports concerning the effects of salvarsan on the Wassermann reaction vary. In a number of cases, within a short time after its administration, the reaction, which was positive before, became permanently negative. In a far larger number of cases the negative phase lasted but a short time and was followed by a positive Wassermann. In some cases absolutely no effect was produced and in some instances a negative Wassermann reaction became positive. In the latter case there was undoubtedly development of antibodies from destruction of the spirochetes present.

A number of unpleasant effects of salvarsan besides the local pain, the fever, sweating, headache and gastrointestinal disturbances have been observed. Some of these have been transitory, like the Herxheimer skin reaction, whereas others have been permanent. Surprisingly few fatalities have been recorded, when we consider the large number of patients who have been treated and the severe pathologic conditions that have been present in many of the individuals who have taken the treatment. Experience has confirmed the wisdom of the advice given by Ehrlich that it should not be used in severe cerebral disease, in arteriosclerosis and cardiac affections. It has also been advised that it should not be used in putrid bronchitis, in severe diabetes or in any condition in which the body has become much enfeebled.

Inasmuch as optic atrophy had been frequently observed after the use of atoxyl, it was deemed wise to consider the possibility of a similar result from salvarsan. Experience has not confirmed this fear. Optic atrophy has not been observed as having resulted from its use unless other arsenic preparations had been previously employed. Ehrlich distinctly advises against the employment of the drug when atoxyl, arsacetin or other arsenic preparations have previously been given.

A certain number of cases of affection of the brain and of the optic, acoustic and other cranial nerves had been observed after the use of salvarsan and had been looked on by various observers as a direct effect of the remedy. Dr. J. Benario,[5] however, reports from Ehrlich's institute the results of the study in this regard of the details of 14,000 cases in which salvarsan was used. Among these but 126 patients were found to have presented nervous symptoms, and of these nine were transitory, like the Herxheimer skin reaction that had been observed. Only a very small number (4.2 per cent.) of these were in the primary stage, but by far the largest number (88 per cent.) occurred during the early second-ry stage before the ninth month. Of these symptoms early all developed within four months from the time f injection. Benario agrees with Ehrlich that these ymptoms are not toxic, but that they are produced by yphilitic affections due to the action of spirochetes hich had escaped, and calls attention to the fact that hey usually occur in the early secondary stage, in which n extensive dispersion of spirochetes is observed. Alt[6] ays that wherever syphilitic new formations or tissue hanges are present, salvarsan produces a localized yperemia with accumulation of leukocytes, a kind of nflammation. The arguments in favor of the syphilitic ather than the toxic origin of these nerve affections are:

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[2] Aberlin: München. med. Wchnschr., May 9, 1911.

[3] Heuser: Med. Klin., April 9, 1911.

[4] Bornstein: Deutsch. med. Wchnschr., Jan. 19, 1911.

[5] Benario: München. med. Wchnschr., April 4, 1911.

1. The long period elapsing between injection and the ervous manifestations.
2. The nature of the pathologic process which, as is est shown in the optic nerve, is an irritation and nflammation and not a degeneration as with other rsenic preparations.
3. The fact that they occur almost exclusively in the arly stages of syphilis.
4. They have never been known to occur in non-yphilitic patients treated with salvarsan.
5. Their curability with salvarsan or other anti-yphilitic remedies.
6. The fact that they occur almost only after small oses of salvarsan.
7. The fact that precisely the same symptoms occur fter mercurial treatment.

Before the discovery of salvarsan Naunyn had already bserved that 20 per cent. of the cases of cerebral syph-is occurred during the first year after infection, and Iauriac in 1890 reported similar observations. He stimated that one-third of the cases he had observed ccurred during the first year. Careful statistics seem show that cerebral symptoms are no more frequent nce the use of salvarsan than before. Cerebral symp-ms are more apt to occur in extragenital chancres and ost frequently in the cephalic forms. Hoffman and hrmann have found spirochetes in the lymph-spaces of erves, and it seems plausible that under such conditions ese should pass directly into the cerebral structures. has been observed that the first sign of cerebral syph-is is severe headache, indicating the invasion of the ain by the spirochetes, and this fact may be considered guide to further vigorous treatment after the use of lvarsan in such cases. The nerves most frequently volved are the opticus, the acusticus, and less fre-ently the orbital nerves. These nerves run in firm nals in which the spirochetes may escape the circulat-g salvarsan, and in which slight syphilitic lesions or condary hyperemia may give rise to evident effects rough compression of the nerves.

An interesting observation was made by Ehrmann, ho found toxic action on the acoustic nerve two months ter an intramuscular injection of salvarsan. A gan-enous focus had developed which he excised. There llowed improvement of the aural symptoms. In 5.69 n. of the broken-down material he found 3.2 mg. of senic and he believes that the toxic effect was due to me modification of the drug in the muscular tissue. .

A small number of cases of inquiry to the kidney llowing the intramuscular injection of salvarsan have en reported by Geronne, Jadassohn, Scholz, Mohr and hers. In some of the instances the effects were merely ansitory, consisting of suppression of urine, followed the excretion of small quantities containing albumin and casts, whereas in others true hemorrhagic parenchymatous nephritis resulted. These observations seem to indicate that salvarsan undergoes modification in the muscular tissue, giving it toxic properties.

In the parasyphilitic lesions like tabes dorsalis, the effects of salvarsan have not been brilliant. In some cases improvement has been observed, but as a rule the results are negative. Possibly further observations and combinations with other remedies may lead to a change of opinion. Still it is quite doubtful that a destruction of the spirochetes will remove the degeneration of the nerve tissue which causes the symptoms of the disease.

It has been found that it is not safe to give infants with hereditary syphilis the salvarsan directly, as the immense quantities of the endotoxins which develop from the spirochetes killed are apt to be fatal in their effects. According to Taege, the milk of syphilitic women who have received salvarsan, however, is distinctly curative for such infants. Although Taege found no arsenic in such milk, the contrary observation was made by Scholz of Koenigsberg, so we are in doubt whether its curative effect be due to the arsenic or to the antibodies in the milk.

Jesionek[7] does not agree with Taege and Duhot in their observations. He found arsenic in the milk of syphilitic women who had received intravenous injections of salvarsan, using 100 c.c. of the milk in making the test.

A goat injected intravenously with 0.4 gm. salvarsan gave the arsenic reaction in the milk for a number of days, but the quantity was variable, being greater on the fifth than on the second day. Jesionek observed a violent eruption of fresh syphilids in two infants whose mothers had received intravenous injections of salvarsan. He believes that in the milk of the mother there was arsenic, syphilitic endotoxins as well as antibodies, and that the organism of the infant was overwhelmed with endotoxins from the mother and also with those derived from the spirochetes destroyed in the body of the child by the arsenic in the milk. He obtained better results by feeding a syphilitic child with the milk of a goat that had received an injection of salvarsan, and points out that we are by no means called on to accept the advice of Taege and Duhot that the infant should be fed with the milk of a syphilitic mother or wet-nurse who has been treated with salvarsan, but that on the other hand it may be found to be more advantageous to administer the remedy to goats or cows and to feed the child with milk from such animals. He suggests that the arsenic may undergo some modification in the body of the animal rendering it harmless, and that possibly other preparations of arsenic may have the same effect. These observations open up a large and promising field of exploration.

The attempt has been made to use the serum of human beings treated with salvarsan as a remedy for syphilis. Marinesco[8] injected a few patients with such serum, but his results were disappointing.

IN OTHER DISEASES

Besides being a specific for the treatment of syphilis, salvarsan probably destroys other forms of spirilla. This has been undoubtedly proved to be true in relapsing fever, in which the administration of a single dose intravenously has been followed by complete cure in a large number of cases, as was first shown by Iverson.[9]

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[6] Alt: Deutsch. med. Wchnschr., 1910, No. 10.

[7] Jesionek: Munchen. med. Wchnschr., May 30, 1911.

[8] Marinesco: Riforma med., Jan. 1, 1911.

[9] Iverson: München. med. Wchnschr., Aug. 16, 1910.

In frambesia similar but not such striking results have been observed. Rost[10] treated eighteen patients with intramuscular injections of oleaginous emulsion. Nine were cured in from six days to six weeks; three were markedly improved; two showed signs of the disease in the nose only after the treatment; three improved somewhat and then remained stationary and one improved and then relapsed.

Nichols[11] reports from the Rochefeller Institute that rabbits inoculated with spirochetes of yaws from a colored soldier from the Philippines were cured by a single dose of salvarsan, the spirochetes disappearing in twenty-four hours and the lesions in two or three days.

Several patients with Vincent's angina have been cured by salvarsan. It has also been used in leprosy, but without any very decided effect.

In tertian malaria intravenous injection has sometimes, but by no means always, been followed by cure, with disappearance of the parasites. The quartan and the estivo-autumnal forms are far more resistant.

Salvarsan has also been successfully employed in the treatment of filaria.

EFFECTIVENESS OF SALVARSAN

Although nearly all writers unite in ascribing remarkable curative powers to salvarsan, the larger majority do not believe that it alone suffices invariably to eradicate syphilis. Inasmuch as many of the syphilitic foci are devoid of blood-vessels, and many of the smaller vessels are thrombosed, or are the seat of endovascular changes, it can readily be understood how many of the spirochetes might escape the circulating salvarsan. It is probable on this account that only in the early, primary stages of syphilis do we usually observe the brilliant effects that were obtained in experimental syphilis of animals. It has been found that if salvarsan be injected in the primary stage, especially if the lesion be excised or if an injection of a solution of mercury bichlorid be made into the tissue under the chancre, secondaries will not appear. In the later stages apparent cures are frequently followed by relapses, so that various clinicians have used different methods of combating the disease.

Lesser,[12] for example, advises that the administration of salvarsan should be guided by the Wassermann reaction and that patients should be considered cured only when that reaction is permanently negative. He believes that we should strive to tone up the organs with repeated small doses to produce antibodies rather than to attempt to kill the spirochetes at one dose. He believes that the large doses have a toxic effect and impair this function rather than stimulate it in the various organs. His method has been to give 0.1 gm. of salvarsan suspended in oil of sweet almonds weekly until the Wassermann reaction is negative.

Spiethoff advises intravenous injection followed in four days by subcutaneous injection, and a month later by a second intravenous administration. Kromayer[13] found the best results from intramuscular injections of 0.2 gm. suspended in paraffin oil given every other day until six doses had been taken, followed by a course of mercury. Whereas he had observed 32 per cent. of relapses in a large number of patients whom he had formerly treated with single large intravenous injections, after the chronic treatment with salvarsan alone, in 100 cases but 4 per cent. of relapses occurred, and in the same number of patients treated by his combination of salvarsan and mercury no relapse occurred.

Benario advises, as Ehrlich suggests, that first a vigorous intravenous injection be given, followed by forced mercurial treatment, succeeded by further intravenous injection of salvarsan.

Gennerich treated twenty-six patients in the primary stage with salvarsan and mercury and in twenty-two no secondary symptoms occurred within six months.

Whether the beneficial effects of weekly repeated injections of small doses of salvarsan recommended by Kromayer and Isaac, either with or without mercury, will be confirmed by experience remains to be seen. Benario advises abstinence from alcohol and tobacco during the treatment, as these predispose to cerebral affection, and urges that at the first sign of cerebral involvement indicated by headache, vertigo, buzzing in the ears or disturbance of vision, vigorous measures should be resorted to.

CONCLUSIONS

In summing up the results of the observations thus far made with salvarsan, the following conclusions may be stated:

1. In salvarsan we have one of our most powerful weapons in the treatment of syphilis.
2. In the early stages of the disease it exerts its greatest influence.
3. As a rule a single injection will not suffice to cure.
4. It is best used in combination with mercury.
5. It should not be employed after other arsenic preparations have been used.
6. It should be avoided in severe affections of the brain or heart, in putrid bronchitis, in severe diabetes and in all conditions of decrepitude.
7. It is of service in various diseases due to spirillæ.

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THE INFLUENCE OF TREATMENT ON THE WASSERMANN REACTION IN SYPHILIS *

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In the light of our present knowledge, the treatment of syphilis without the certain information to be gained by means of the Wassermann reaction is more or les uncertain, and the same may be said for the diagnosis in many of its obscure and protean manifestations, conditions which were up to the last few years the subject of therapeutic diagnosis and guesswork.

For the past two years we have treated and kept unde observation a series of patients in the military service at Vancouver Barracks, Washington. The clinical work was performed separately from the laboratory work; in fact, the former was done by Reasoner at Vancouver Barracks, and the latter by Matson at Portland, Oregon In this manner it is believed that the personal element was largely eliminated.

In this series we have used various methods of treatment and followed closely over sixty cases of syphili running all the way from initial lesions to cases of eigh years' standing. In addition to this we have performe over 1,550 Wassermann reactions on the 1,200 enlisted men of the post. This information has been compiled by a card-index system and constitutes a part of the hospital records, and in a number of cases has proved an invaluable aid. Under recent regulations of the Surgeon-General's office a case of syphilis once established is not lost sight of, but a record of the case follows the soldier through all reenlistments and transfers until he is pronounced cured.

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[10] Rost: München. med. Wchnschr., May 23, 1911.
[11] Nichols: The Journal A. M. A., July 16, 1910.
[12] Lesser: Berl. klin. Wchnschr., Jan. 23, 1911.
[13] Kromayer: Deutsch. med. Wchnschr., Dec. 8, 1910.

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While our predilection was for the injection method of mercurial medication, yet it was deemed advisable to carry on a certain number by inunction and oral medication. An added value pertains to this series, due to the fact that under military rule it is possible to compel the treatment along the lines laid down, and also from the fact that we do not so easily lose sight of our patients. Wassermann reactions were performed at varying intervals from two weeks to several months apart. We have felt that "the proper treatment of a patient with syphilis does not consist merely in administering a definite quantity of mercury or potassium iodid, but in giving sufficient to acomplish a destruction of the organism and prevent their propagation as may be determined by the Wassermann test."

Empiricism has established the rule of from two to three years' medication. Before the days of the Wassermann reaction this was accepted as proper, but we now know that this method of treating may be not only inefficient, but often dangerous. It is probable that some cases do not require such long continued medication, and true that many patients are not cured at the end of this period, as the frequency of ataxia, paresis, cardiovascular diseases and other manifestations of latent lues attest. If a patient is discharged as cured after a certain prescribed course of treatment without the Wassermann test he is done a great injustice, since even years may elapse before a return of manifestations. The disease may then be so firmly established that recovery cannot take place. So throughout an endeavor was made to use this reaction as an index to treatment. Three years' experiment with the bichlorid was not entirely satisfactory and after some preliminary experiment with it and the various other forms, the following formula was adopted:

℞
Hydrargyri iodidi rubri .... 2.
Potassii iodidi .... .324
Olei gossypii seminis .... 100.

Triturate the first two constituents together, first dry, then in the presence of a small amount of the oil; then add the remaining amount of the oil.

Sig.—Inject twenty drops one to three times weekly into the buttocks.

It is true that this causes some pain, which is of course a great objection in private practice, and as much of an objection in the military service, unless we can feel assured that we will obtain a corresponding advantage. In our preliminary work it seemed to give us a slightly quicker action than the insoluble salts, and with less danger of cumulative action, there was no hesitancy in pushing the treatment when circumstances required it. We had two abscesses by this method during a short time that an inexperienced substitute was attending to the injections. Following several weeks' experience with mercurial oil we had five abscesses, despite all aseptic precautions. None of the patients treated by the injections was salivated, though in several the treatment was pushed. In a large number of the cases the secondaries did not appear or were so slight as scarcely to be noticeable. With the exception of the seven cases noted above, none of the men was incapacitated from duty. The average time to obtain a negative reaction in cases of not over a year's standing was only slightly over two months.

Three cases were treated by inunction and the time required to obtain a negative reaction was slightly under that required by the injection series. However, from a study of the cases we are not inclined to believe that there would be very much difference in a larger series. This method has certain advantages and disadvantages which are obvious, and should not be lost sight of.

The results obtained by oral administration were not so satisfactory. The time required to obtain a negative reaction was longer, there was a greater amount of digestive derangement, anemia and loss of weight, and the secondary manifestations were more apt to appear and always more difficult to relieve. One case of headache which could not be controlled was shortly relieved when treatment was changed to the injections.

We have proved to our satisfaction that potassium iodid does not affect the Wassermann reaction.

Since our entire series was composed of either old cases, in patients who had received more or less of a routine treatment, or of recent ones, none of them the type of far-gone cases seen in dispensary practice, fairly good results would be expected by any accepted treatment.

The fact was forced on our attention that those who were addicted to the use of alcoholics developed secondaries which were difficult to bring under control and the time required for a negative reaction increased, or perhaps only a partial reaction was obtained. In two cases the secondaries developed and remained though a negative reaction was obtained. It is not well to make promises to a syphilitic who is addicted to the excessive use of alcoholics.

During the summer of 1910, as a result of target practice held away from the post, the Tacoma Military Tournament, the maneuvers and the forest fire service, in all of which a larger part of this command participated, engaging in very strenuous labor, and exposed to extremes of heat and cold, it was impossible to keep up our rather paternal treatment for about four months. As a result of this all of the patients under treatment for less than nine months lapsed back to + or + — or trace. Those under treatment for over a year remained negative, or in some cases became + — (partial-positive). In all of these relapses it was noted that those addicted to the use of alcoholics were in the lead.

Treatment was resumed in most of the cases the last of October and continued until the middle of December, 1910, when in anticipation of the use of salvarsan the mercurial treatment was, with two exceptions, suspended. Since that time we have, with the exception of some recent cases, relied entirely on the salvarsan in order that we might better come to a conclusion as to its worth. We have felt justified in doing this, as the military patients will not be lost sight of any any returning manifestations can then be treated accordingly. In all there were thirty intramuscular and fifty-nine intravenous injections given to sixty-five patients. In forty-four cases the first injection of salvarsan has been given at the following intervals after the appearance of the initial lesion:

One at three days, one at seven days, two at nine days, and one at eleven days; six at from one to six months; nine from six to twelve months; ten from one to two years; six from two to three years; six from three to eight years; two doubtful. Of these cases the earliest positive Wassermann reaction was obtained three days after the appearance of the initial lesion.

The following notes were made on incubation periods of fifty cases:

Six cases average sixteen days, of which two were at fourteen days; twenty-two between twenty and thirty days, average twenty-two days; six cases between thirty and thirty-five days, average thirty-one days; in three cases the statement given us was that the period of incubation was 40 days each. There were ten mixed infections whose period cannot of course be given. There were six extragenital lesions, two on the ala of the nose, two on the lip, one on the cheek and one on the tonsil. The origin of the infection can be traced in three of these.

In twenty-seven intramuscular injections there was one abscess which occurred in a woman who went to her home following the injection and on the third day, in spite of directions to the contrary, rode quite a distance in a wagon over rough roads. After an interval of three months the abscess is still discharging. The average time in hospital for twenty-four of the cases was five and one-half days and all were retained until they felt able to do duty.

Two cases of urticaria appeared during the intravenous injection, involving the entire body and lasted two hours each. One patient showed a temperature of 102.5 F., which was the highest noted. No relation could be observed between the severity of the bodily reaction and the results produced, and this series has not yet proved that any relation exists between the severity of the case and the amount of the reaction.

Following the intravenous injection, about three-fourths have had a noticeable reaction of greater or less severity, and practically the same number following the intramuscular.

The intravenous injection of alkaline solution has many advantages over any other form of administration in as much as it requires less time and is easier. We have not found 0.5 to 0.6 gm. to be an adult overdose, given either intramuscularly or intravenously, and ordinarily the dosage has varied between those limits.

There were eight patients who gave a negative Wassermann at the time of the injection. It is rather interesting to follow the Wassermann record afterward. In these cases we assume that the organisms were not present in sufficient numbers to produce a reaction, but the injection of the salvarsan accomplished the destruction of organisms sufficient to produce antibodies which manifested themselves as a + or + — Wassermann, which remained for a time and then disappeared.

From an examination of nearly ten thousand specimens of blood we have formulated the following conclusions:

1. In suspected syphilis (untreated) a negative reaction during the first week of the primary sore is of no value (reactive substances have not formed in sufficient quantities to elicit the reaction).

A negative reaction in untreated cases after the fourth or fifth week of a suspected primary sore, or in cases of suspected secondary or tertiary manifestations, speaks strongly against syphilis, but the test should be repeated. Some cases of malignant syphilis run their course Wassermann-negative because there has been no attempt on the part of the individual to respond with antibody formation. The reaction is often absent in mild forms of infection and in latent cases because an insufficient number of spirochetes are present to elicit a stimulus necessary for the formation of reactive substances. The reaction in many of these cases, especially alcoholics, fluctuates between a negative and a positive, and unless repeated tests are made the positive reactions escape our observation. We have often observed in cases of this type that the reaction may appear for the first time after aneffieient course of treatment, but it soon disappears and may remain absent. This is to be looked on as a favorable sign, because it shows that the body has reacted to the substances liberated from the bodies of the killed spirochetes.

A positive Wassermann reaction is a sign of syphilis which is active, irrespective of clinical manifestations. It may mean changes in the internal organs without recognizable external signs or symptoms. The test, however, in the presence of a negative history should be repeated as a precaution against technical errors.

2. We have been able to show that effective treatment will convert a positive into a negative reaction, but the reaction usually recurs during the course of a few months if treatment is suspended. A constant positive reaction in spite of energetic treatment is not to be regarded as favorable if occurring after the first year or two, and it is thought that many of these patients are undoubtedly candidates for paresis and ataxia.

We have often observed that while the treatment was energetic a permanent — could not be obtained, this being especially the case in alcoholics. A disappearance of the reaction was also noted when patients were persuaded to give up their intemperance.

The interpretation of a partial reaction is at times exceedingly difficult, and the decision must often depend on a consideration of clinical data. It has been our habit in all cases presenting partial reactions to make repeated examinations, and if the reaction is constant, a disappearance or intensification will often follow the administration of mercury or salvarsan, thus proving to our satisfaction its specificity.

Our task of interpreting a partial reaction has been much easier since we have adopted the use of specific and non-specific antigen in full and half quantities.

The behavior of the Wassermann reaction following the injection of salvarsan is illustrated by the following reaction types:

Type 1.—Reaction positive or strongly positive; remains so in spite of all treatment; illustrated by the following case:

Case 1.—Mr. G., aged 30, civilian, single, contemplated marriage; initial lesion three years previously, and lasted six weeks; came on two weeks after intercourse; swelling of glands of neck and groin, and cutaneous manifestations; took seven months' treatment in an advertising institute, after which he had one year of inunctions and eight months of potassium arsenite; treatment discontinued five weeks before Wassermann. Result + + +. Since that time he has had both intramuscular and intravenous injections of salvarsan and a course of mercurial injections but without any effect on the reaction; has had no external manifestations for two years; probably a candidate for paresis.

Type 2.—Reaction positive, or strongly positive; goes down to partial positive or negative and then returns to original. This type is illustrated by the following case:

Case 2.—Male, aged 30, single; initial lesion appeared Jan. 3, 1910; received eight months' treatment, but following intermission there was a return of the + Wassermann. Following intramuscular and intravenous injections the Wassermann became negative in twenty-three days and remained so until the end of 130 days when it became positive again.

Type 3.—Reaction positive, or strongly positive; goes to negative and remains there; illustrated by the following case:

TABLE SHOWING THE INFLUENCE OF TREATMENT ON THE WASSERMANN REACTION IN SYPHILIS

Case Number	Age (years)	Duration of Disease (years)	Time Observed (years)	Reactions Before Infection	Mercurial Treatment (years)	Number of Reactions	Time Observed Under Salvarsan (months)	Manifestations at Administration	Injections †	Reaction at Injection	Repeated Negative Reaction (days)	Relapse in Reaction (days)	Relapse in Manifestations	Series
6	25	1 2/12	1 1/12	None	8/12	7	1½	None	M	+—	7	...	..	Military
35	22	1 4/12	1 4/12	None	1	7	5½	Slight mucous; relieved.......	V-V-V	+	7	80	—	Military
36	24	2 9/12	1 5/12	None	8/12	5	5½	None	V-V	+	12	80	+	Military
9	24	5	7/12	None	7/12	6	7½	Nasal tertiary; relieved.......	M	+	12	...	..	Civilian
10	26	4	1 6/12	None	1 2/12	8	½	None	M	+	13	...	..	Military
2	30	7/12	7/12	None	2/12 Late	10	7½	None	M-V	+	13	...	..	Military
Twenty to thirty days *														
5	28	5/12	5/12	—	2/12 Late	7	1½	None	M-V	+	23	...	..	Military
13	32	5/12	4/12	—	45 days	12	3⅓	None	M	+	23	...	..	Military
16	30	1 plus.	8/12	None	8/12	13	6½	None	M-V	+	23	130	+	Military
Thirty to forty days *														
23	27	2 6/12	1 8/12	None	1 8/12 irregular	7	4	Relieved; macular eruptions; slight mucous.	M-V	—	30	110	+	Military
24	24	1 1/12	9/12	—	9/12	7	5½	None	M-V	+	30	...	..	Military
28	29	1 1/12	8/12	—	8/12	7	4½	Slight mucous; relieved.......	V	+	38	...	..	Military
37	30	3 (days)	......	—	......	8	5½	Initial lesion cured...........	V-V	+	33	...	..	Military
Forty to fifty days *														
19	30	7 or 8	6/12	None	6/12	5	5	Tertiary bone; relieved........	M	+	40	...	..	Civilian
22	20	5/12	......	—	......	7	4½	Slight mucous; relieved.......	M	+	45	...	..	Military
25	22	2	2/12	None	2/12 Early	11	4	None	M	—	40	...	..	Military
40	24	9 (days)	......	—	......	5	2	Initial lesion; cured...........	V	+	40	...	..	Military
46	24	9 (days)	......	—	......	5	2	Initial lesion; cured...........	V	+—	40	...	..	Military
41	26	2 5/12	1	None	8/12	5	2½	Spastic paraplegia; improved..	V-M	+—	42	...	..	Civilian
Fifty to sixty days *														
34	29	3	1 7/12	None	1 7/12	7	2½	None	V	+—	50	90	+	Military
Sixty to seventy days *														
15	23	1 2/12	9/12	None	9/12	11	7½	Enlarged glands; cured........	V	—	60	...	..	Military
21	36	5/12	3/12	—	3/12	10	6½	None	V	+	60	...	..	Military
38	24	4/12	3/12	—	......	6	5	Induration; cured	V	+	60	75	+	Military
3	26	6/12	3/12	—	2/12	15	7½	None	V	+	68	...	..	Military
31	27	1	7/12	None	5/12	8	6	Glands enlarged; cured........	V-V	—	60	...	..	Military
Eighty to ninety days *														
4	29	5/12	5/12	—	3/12	9	7½	Relieved; macular eruptions; slight mucous.	M-V	—	80	135	+	Military
20	23	11 (days)	......	None	......	9	7	Initial lesion; cured..........	M-V	—	86	210	..	Military
30	31	4	2/12	None	Irregular	5	7	None	V	—	90	...	..	Military
14	26	3/12	3/12	—	2/12	12	6	Marked macular; relieved......	M	+—	90	...	..	Military
29	25	6	3/12	None	Irregular	4	6½	None	V	+	90	...	..	Military
18	22	5	2/12	None	Irregular	9	5	None	M-V	+	120 Trace	Never negative		Military
No positive appeared—														
32	24	7 (days)	......	—	......	7	4	Initial lesion	V-M	—	Never became positive			Military
Remained negative throughout—														
26	25	1 5/12	1 1/12	None	1 1/12	5	4	None	V	—	Remained negative.			Military
Remained partial positive throughout—														
47	61	30	2/12	None	Irregular	5	2	Headaches, etc.; relieved......	V-V	+—	Remained partial, +			Civilian
Cases lost by transfer, discharge, etc.—														
1	33	1 6/12	1 2/12	None	1 2/12	8	1½	Headache, mucous; relieved....	M-V	—	No recurrences. 45 days			Military
7	24	6/12	3/12	—	1/12	6	4	Voice hoarse; relieved.........	M	+	No recurrences 20 days, but +			Military
11	27	1	8/12	None	8/12	7	1½	None	M	+	No recurrences 45 days, but +			Military
12	22	1 2/12	9/12	None	9/12	6	1½	None	M	+—	Lost in 20 days +			Military
27	27	8/12	6/12	None	6/12	4	1	None	V	+	Lost in 20 days +			Military
39	22	9 (days)	......	None	......	3	1	Initial lesion	V	+	20 days; not seen afterward			Military

* Lines twenty to thirty days, etc., indicate time required after administration of salvarsan for production of negative Wassermann reaction. † M = Intramuscular; V = intravenous.

Case 3.—Male, aged 26, single; initial lesion Sept. 10, 1910; chancre on right side of upper lip, the result of kissing a prostitute; mucous patches in mouth and throat; enlarged glands. Following intramuscular injection the patient developed a negative reaction in sixty days, which has remained negative for six months.

Type 4.—Remains partial positive throughout; illustrated by the following case:

Case 4.—Male, aged 61, married, no children; initial lesion was contracted in 1881; rather indefinite history of secondaries shortly afterward. Treatment was irregular. During the year previous he had taken systematic injections of salicylate of mercury; complained of constant headache and pains in right side of body; reaction ±. Following intravenous injection of 0.5 gm. salvarsan April 19, 1911, the patient had a mild reaction and in two weeks was relieved of the above manifestations. Forty-one days after the first injection the patient was given a similar one which produced a more noticeable febrile reaction. The patient continued to improve in general condition, appetite, etc. The reaction remained +— as at first.

Type 5.—The reaction is negative and remains so throughout; illustrated by the following two rather unusual cases:

Case 5.—Male, aged 25, single; initial lesion appeared Sept. 20, 1909; mucous patches and macular eruption; about nine months' treatment by injections; reaction negative at the time salvarsan was given; an intravenous dose of 0.55 gm. was followed by strong bodily reaction; reaction had remained negative for six months.

Case 6.—Male, aged 24, contracted two characteristic lesions on penis Feb. 20, 1911, thirty-five days after exposure. Seven days after the appearance of the lesion the patient was given 0.6 gm. intravenously. In four days both lesions had almost disappeared, but the striking feature is that in twelve days they returned again as at first. The patient was then given an intramuscular injection of 0.6 gm., after which the lesions again left in about ten days and had not returned in almost four months, during which time the reaction remained negative.

Type 6.—The reaction is negative at the time of injection of salvarsan but goes up to partial positive or positive and then returns to negative. There were eight cases in this class, which is illustrated by the following cases:

Case 7.—Syphilis contracted in July, 1909, had been thoroughly treated at the start, and though the patient suffered from a mild headache and a slight sore throat (supposed to be due to alcoholics), yet a positive reaction was never obtained during the year he was under observation. The headache and sore throat were relieved in thirty-six hours and did not return. Six days after the first injection the reaction lapsed to partial positive and in thirteen more days back to negative, where it remained. The intramuscular dose was 0.6 gm., the intravenous 0.5 gm.

Case 8.—The reaction fluctuated between positive and negative. The disease had been contracted five months previously and was thoroughly treated for three months. The reaction was negative at time of injection, became partial positive in six days and negative again in thirteen days; it was again partial positive at the end of twenty-four days. It then became negative, in which condition it had remained for four months. The patient was given intramuscularly 0.6 gm. and gained 12 pounds in one month.

Case 9.—Syphilis contracted March, 1909, and treated; reaction negative at time of injection; remained partial positive for forty-five days afterward and then returned to negative, in which condition it had remained for four and one-half months. The dose intramuscularly was 0.6 gm. The patient gained 5 pounds in three weeks.

Case 10.—Contracted February, 1910; extragenital lesion on cheek; treatment thorough; reaction negative at time of injection; partial positive for one month afterward, since which time for five months it had remained negative.

An especial value pertains to most of the recent cases, due to the fact that during the Wassermann survey of the enlisted personnel, we had obtained reactions before the disease was contracted. Thus of the entire series we have negative reactions obtained on sixteen men who afterward contracted syphilis.

The following histories are presented of four patients who were injected at very short intervals after the appearance of the initial lesion. Of these four, negative reactions were obtained from all before the disease was contracted.

Case 11.—Patient aged 30, single; characteristic initial lesion appeared on penis after intercourse with same woman two and five weeks before. A point of particular interest is that the *reaction was positive three days after the lesion first appeared*, at which time an intravenous injection of 0.55 gm. salvarsan was given. The lesion disappeared at the end of eight days. At the end of twenty-eight days the Wassermann had become minus partial positive; in five days more it became negative and had remained so for four months. A second intravenous injection of 0.6 gm. was given forty days after the first. The patient gained 5 pounds in one month.

Case 12.—Male, aged 24, single; previously described under Type 5. The patient had a double lesion thirty-five days after exposure which disappeared four days after intravenous injection of 0.6 gm. salvarsan, but returned in twelve days, and again left in ten days following intramuscular injection of 0.6 gm., and did not return. During the four months this patient was under observation, we were able to obtain nothing but negative reactions.

Case 13.—Male, aged 24, single. Characteristic lesion appeared April 14, 1911, one month after intercourse with a prostitute. Reaction five days after lesion was partial positive. A 0.6 gm. intravenous injection of salvarsan was given nine days after the lesion appeared. The induration left in twelve days and the Wassermann became negative in thirty days and remained so to the time of this report. The patient gained 3 pounds in one month.

Case 14.—Male, aged 23, single. Characteristic lesion appeared on penis Jan. 24, 1911, between three and four weeks after intercourse with a prostitute. Six days afterward the Wassermann was negative. A 0.6 gm. intramuscular injection of salvarsan was given eleven days after appearance of lesion and strong bodily reaction followed. The lesion was gone ten days after injection. Eight days after injection the reaction became +— and remained so until March 19, at which time an intravenous injection of 0.6 gm. was given with no bodily reaction. The reaction had now been negative for three months at the time of this report, and the patient had gained 5 pounds in one month.

These patients will be followed closely and an attempt made to cure them by salvarsan alone. Case 32 seems to offer some prospect of a cure.

CONCLUSIONS

1. The Wassermann reaction not only reveals the nature of the disease, if syphilis, but it serves as a guide for individualizing treatment.

2. It has shown the necessity of more energetic and individual treatment than has been the custom heretofore. Fully half of the patients discharged as cured are only half way to their goal and in reality are latent syphilitics.

3. The early administration of mercury may cause a disappearance of manifestations, with little influence on the spirochetes, the organisms remaining latent for years, and under favorable conditions renewing their activity with reappearance of manifestations.

4. A positive reaction may be made to disappear by energetic, specific treatment, and this sustains the conclusion that a positive reaction means active syphilis, even though there be no other evidence, and speaks for renewal of treatment. Patients who have been well treated give negative reactions, whereas those poorly treated give positive reactions even years later. The

number of inunctions or injections of mercury or salvarsan injections necessary to convert a positive into a negative reaction varies with each patient and should be controlled by the blood examination. A positive reaction in tabes is little affected by treatment.

5. If mercury is used, systematic and consecutive treatment is necessary and this should be begun early, and during the first year no lapses of over one month permitted or much that has gained will be lost.

6. The use of alcohol has a bad effect on syphilis, predisposing to secondary and later manifestations, and, to a certain extent, nullifying the treatment.

7. In patients recently treated by mercury, and giving a positive reaction, the time required for a negative Wassermann with salvarsan may be much reduced. In very recent cases, or older cases not under the influence of mercury, there may be no shortening of the time.

8. In cases of a mercury-produced Wassermann negative at the time of injection, the reaction will generally revert to + —, or in some cases to +, and then at varying intervals go back to —, from which subsequent injections may not change it. This is suggested as a possible diagnostic procedure in cases in which the question of a cure is open to doubt and it is not desired to suspend treatment if the infection still persists.

9. The intravenous method is preferred to others as being easier, more efficacious, less painful and less time being required by the patient.

10. At least two injections should be given and more if indicated and these injections should be given about a month apart.

11. An otherwise healthy adult will take from 0.5 to 0.6 gm. intravenously without untoward effect.

12. Unless one is prepared to maintain a very thorough watch over the patient, the salvarsan treatment should be reenforced with mercurial medication, and in any event better results will be obtained thereby.

13. In syphilis the tonic effect of salvarsan is far beyond that of any other drug at our disposal. Its effect on the weight, strength, appetite, mental and general condition approach the marvelous.

14. Whether or not salvarsan will cure syphilis remains to be seen, but it must be admitted that it will do some things that mercury will not do, and therefore must have a place in our therapeutics, most especially in those cases in which mercury is not well tolerated.

15. Up to the time of this report there had been no recurrences of manifestations, but in those under observation for seven months the reaction has returned to + or + — in 22 per cent. In those under observation for four months 10 per cent. of the reactions have lapsed as before stated.

The Open Field of Internal Medicine.—In its rational development internal medicine is the laggard among the medical sciences, having always been centuries behind such branches as surgery and anatomy. This is natural, since the data of the latter are superficial and obvious, while those of internal medicine are deep-seated, obscure and inaccessible, and allow much play for theory or imagination. Moreover, internal medicine lacks the spectacular appeal which is exerted, for example, by surgery. Yet though its data are inaccessible, its problems difficult, its therapeutic possibilities limited, the greater the difficulties the greater is the glory of surmounting them, and it is evident that internal medicine has at last entered on a career in honor and efficiency second to none.—Nichols in *Popular Science Monthly*.

EIGHT MONTHS' EXPERIENCE WITH SALVARSAN AT THE NEW YORK SKIN AND CANCER HOSPITAL *

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A few months ago we expressed some opinions on the value of salvarsan, based in part on our own experience and in part on that of others. Our present communication is a detailed account of work that has been done during the past eight months, and the conclusions drawn are based entirely on our own experience.

The greater part of our observations have been made at the New York Skin and Cancer Hospital in the service of Dr. George Henry Fox. At the time of writing, 128 injections have been given to 100 selected patients. The first ten patients were treated by the subcutaneous method (Wechselmann), after which intramuscular injections of an alkaline solution (Lesser method) were tried in twenty cases. Later, the intravenous method was employed in sixty-nine cases and intramuscular injections of an oily suspension in twenty-nine cases. The treatment was repeated in twenty-one of our patients, three of them receiving three, and two receiving four separate injections.

We have been fortunate in being able to follow a large proportion of the cases both clinically and serologically. Shortly before completing our report, we had personally observed or received letters from eighty-five of our patients. Of the remaining fifteen cases, ten had been under observation for at least a month.

Three patients with primary lesions were treated before the appearance of any general manifestations. They were unfortunately not seen at an early enough period to attempt to abort a general infection, as at the time of treatment the Wassermann reaction had already become positive.

Our early opinions regarding some of the cutaneous lesions of syphilis have not materially changed as a result of further experience. The macular syphilids have not disappeared with any surprising rapidity, and the papular syphilids have generally proved pretty resistant to treatment. Gummatous lesions have generally yielded to salvarsan in a most satisfactory manner, while mucous patches and condylomata have regularly disappeared in a most surprisingly short time.

In four cases (68, 74, 58 and 77) of late syphilis of the palms and soles, lesions which are notoriously resistant to mercury, the results of single injections of salvarsan have been extremely gratifying. One of these patients (68) had suffered from an extensive syphilid of the sole for twelve years, in spite of a good deal of treatment with mercury by several competent syphilologists. One month after a single intramuscular injection, the eruption had completely disappeared. In the other cases, the lesions had existed for three years, two years and two months respectively and disappeared in an equally satisfactory manner. Indeed, in one case a verrucous syphilid of the palms entirely cleared up in one week after an intravenous injection.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Owing to lack of space, several pages of tables detailing the cases are here omitted. They are included in the Transactions of the Section and in the authors' reprints. A copy of the latter will be sent by the authors or by THE JOURNAL on receipt of a stamped, directed envelope.

Four of the patients suffering from early syphilis presented an iritis which disappeared at the end of three weeks. In one case the iritis became more severe after treatment and on the fourth day had involved the other eye. A most excellent result was obtained in a case (57) of syphilitic neuroretinitis in a patient who had been infected a year and a half previously. Before injection her vision (examined by Dr. H. H. Tyson) was 20/100 in the right and 20/70 in the left eye. At the end of sixteen days there was a decided clearing of the fundus and she could read 20/30 minus with both eyes. One week later the fundus was practically normal in appearance and the vision was 20/20 minus in the right and 20/30 minus in the left eye.

Headaches occurring in both the early and late stages of syphilis were generally very favorably affected by salvarsan. Pains accompanying early manifestations, those associated with gummatous lesions and especially with periostitis, also yielded very satisfactorily.

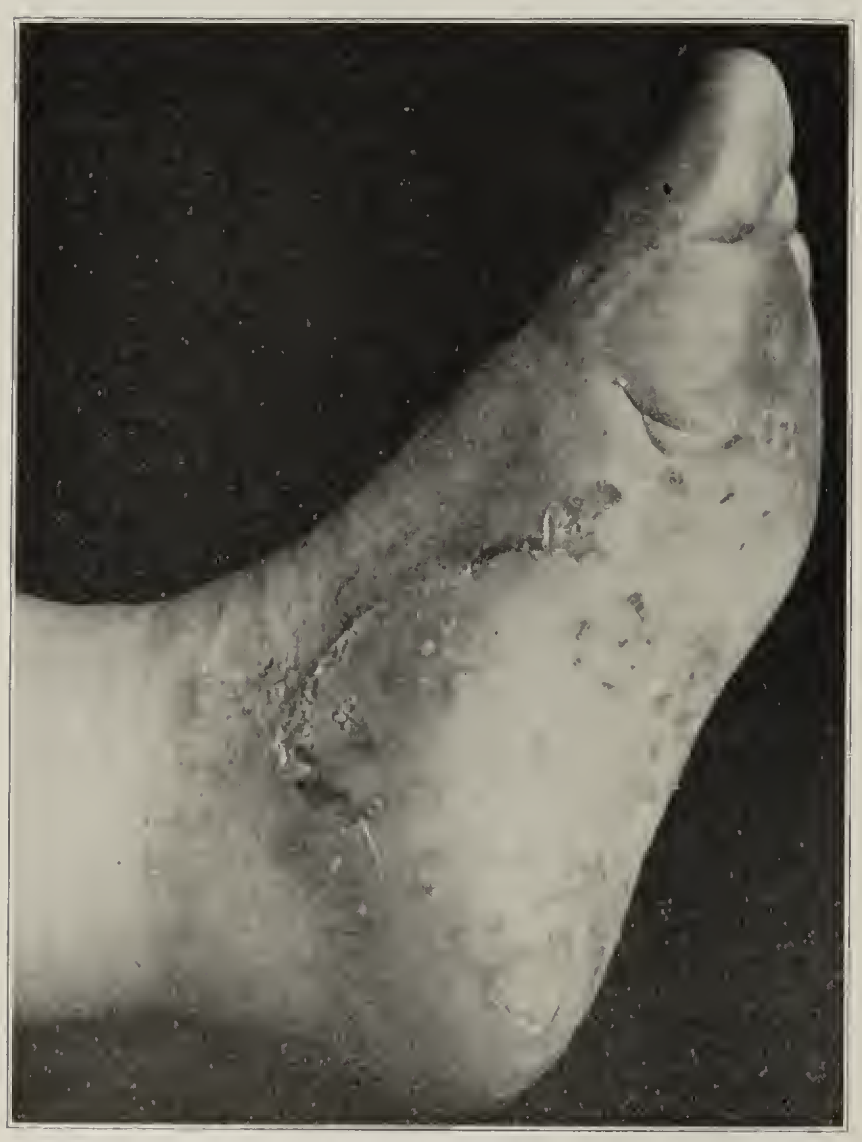
Fig. 1.—Tuberculo-squamous syphilid of twelve years' duration.

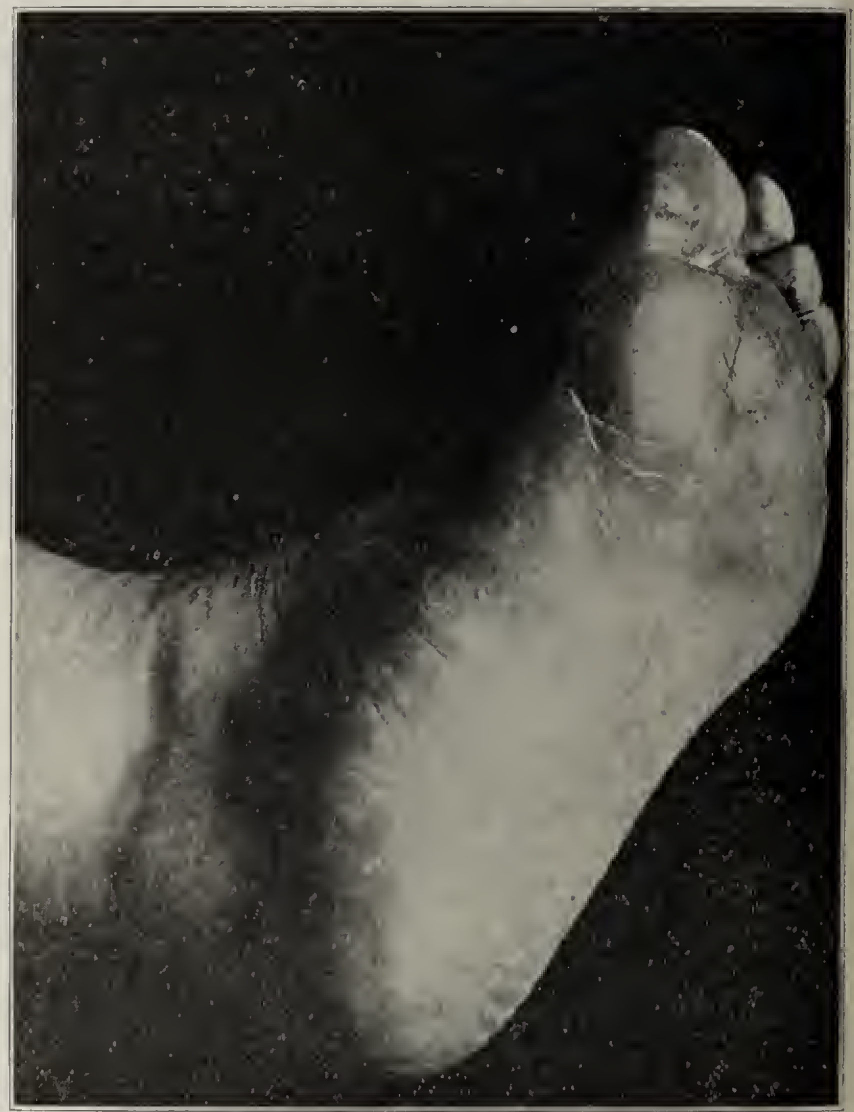
Fig. 2.—Same as Fig. 1, one month after one intramuscular injection.

One patient suffering from incipient tabes was treated without any benefit. In one case of hereditary syphilis the result was excellent, in another moderately good. In a case of leukoplakia of the mouth no improvement was obtained. In a case of extensive leukoplakia of the tongue, there was a temporary lessening in the thickness of the patches, without any diminution in their extent.

The all-important question of the permanence of the action of salvarsan can hardly be fairly discussed until a period of several years at least has elapsed. It must be said, however, that the number of relapses in our cases has been somewhat less than would have been expected as a result of our earlier experience. One of our patients relapsed repeatedly after four different injections, comprising all of the four methods of administration that we have used. Three patients relapsed after one injection and four cases after two injections had been given. Three patients relapsed or remained stationary after the first, but responded favorably to a second injection. The patients in whom failures, or at least unfavorable results were obtained, included the case of tabes and a case (16) in which the diagnosis was in some doubt (gummatous vs. varicose ulcers). In addition, a case of gummatous ulceration of the leg showed no response to treatment at the end of three weeks, while the results in three others (38, 43 and 87) must be considered unsatisfactory. In all there were fifteen cases in which either relapse or unsatisfactory results were observed.

Many of the patients in whom excellent results were obtained by salvarsan had been previously treated by mercury without success. It is probable, however, that most of these cases at least would have yielded in a satisfactory manner to mercury if its administration had been sufficiently vigorous and thorough. An example of the very rare cases in which mercury cannot be tolerated in any form was shown by a case (83) of extensive gummatous ulceration of the palate. For eighteen months an experienced syphilologist had attempted to treat this patient by injections, inunctions and internal administration of mercury. Small doses had proved of no avail and large doses had been followed by necrosis of portions of the gums. We spoke of this case in our first communication[1] as one in which a "disappointing relapse" had occurred; we now report that the ulcerations healed entirely after a second injection and that no further relapse had occurred at the end of seven months.

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[1] Fox and Trimble: The Journal A. M. A., March 4, 1911, p. 650.

The Wassermann test was made in every case before treatment and subsequently as often as circumstances permitted. More than 400 examinations were made in the course of eight months. The original Wassermann method was followed, using as antigen a reliable alcoholic extract of syphilitic liver.

The results of the Wassermann reaction may be conveniently considered in two groups, those of patients who received one and those of patients who received two or more injections. Of the patients who were treated by a single injection, seventy-one showed a positive Wassermann reaction before treatment. Of these cases, twenty-eight became negative at an average period of about six weeks. In these the reaction later became positive in two, weakly positive in three cases and faintly positive in one case. The twenty-two cases which remained negative (30 per cent.) were followed, on an average, two and a half months; some of them for six and eight months. Of the remaining forty-three cases, ten showed a temporary and twenty a final weakening in the reaction. n eleven cases the reaction remained the same. In two ases it became stronger.

Of the cases in which two or more injections were iven, twenty were positive before treatment. Of these our became negative in periods varying from five to ine weeks. One of these later again became positive. f the remaining fifteen cases five showed a temporary nd eight a final weakening in the reaction, while eight emained the same. The total number of cases which mained negative after either single or multiple injecions was twenty-five (27 per cent.).

In all except five of the cases ophthalmoscopic examiation of the fundus was made, although we have for me time considered that such an examination was an nnecessary precaution. Routine examinations of the rine were made before and after injection and showed transitory albuminuria in a few cases.

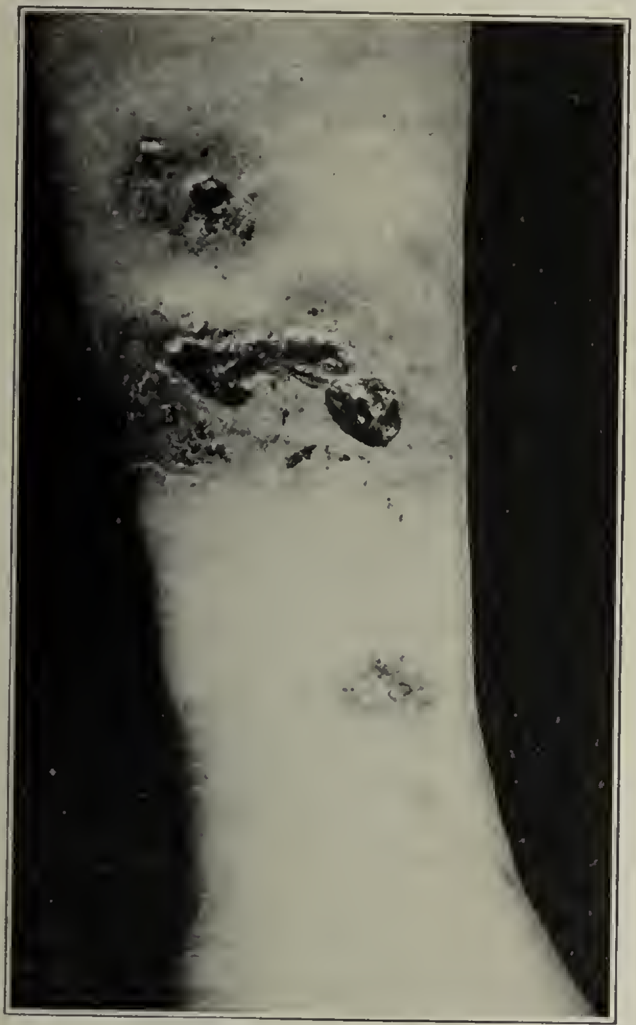

Fig. 3.—Gummatous ulceration of six months' duration.

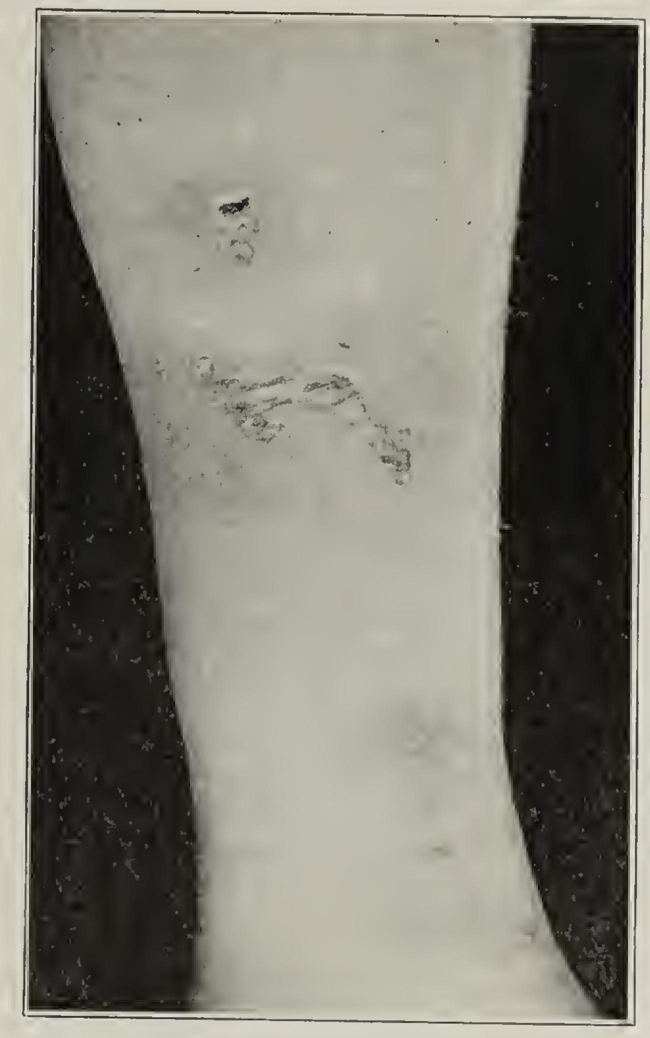

Fig. 4.—The lesions shown in Figure 3, view ten days after one intramuscular injection.

At the beginning of our experiments every patient was required to remain in bed for three days after treatment. More recently the patients receiving intramuscular injections of oily suspension have been allowed to go home after treatment and advised to keep as quiet as possible for several days. Patients receiving intravenous injections have been required to remain in bed only for twelve, or in some cases four or five hours.

There have fortunately been no serious ill effects from salvarsan up to the time of writing. Deafness appeared in one case three months after treatment, but was found on aural examination to be due to acute catarrhal otitis media. The patient presented a chronic rhinitis and pharyngitis and had also suffered from a discharge from the opposite ear before the administration of salvarsan. Another patient (68) who had complained of smarting of the eyes and blurring of vision, showed no abnormal changes in the fundus on ophthalmoscopic examination.

Among the general effects of salvarsan should be mentioned a marked improvement in general health that was noted in quite a number of cases. Seventeen of our patients showed a decided gain in weight, one of them gaining 23 pounds in the course of seven months. In three cases, however, there was a loss of from 15 to 18 pounds, which had not been regained in two of the cases at the end of three months.

After subcutaneous and intramuscular (Lesser) injections the temperature rose as a rule on the second day and lasted from one to three days. In five cases there was no reaction whatever, while in the others the height of the temperature ranged from 99 to 102.6. After intravenous injections the temperature rose as a rule within a few hours, its height varying from 99 to 103 degrees.

No temperatures were taken after most of the oily injections, the patients being allowed to go home immediately after the treatment.

Among the general symptoms noted after intravenous injections were chills or chilly sensations in twenty-seven cases, vomiting in twenty-five, headaches in fourteen cases. One patient complained of dizziness, another of diarrhea for a day, and two suffered from sleeplessness for several days. In twenty-eight cases there were no symptoms whatever. Two patients who had shown a marked reaction after the first injection showed no symptoms after the second had been given.

The local effects of intramuscular injections of alkaline suspensions included pain, induration and lameness, which were very severe in nine cases, moderate in five and slight in five cases. The discomfort in some of the cases was severe enough to warrant the use of morphin. After intramuscular injections of oily suspensions the local effects were severe in ten, moderate in eleven and slight in eight cases. In the worst cases the patients were obliged to remain in bed for a week or more, and even at the end of several months they complained of some stiffness about the buttocks and thighs. Necrosis occurred in two cases (3 and 4) after subcutaneous injections, in one case (10) after the intramuscular injection of an alkaline solution, and in two cases (70 and 88) after intramuscular injections of oily suspensions. At the time of writing nine of the ten patients that had been treated by the subcutaneous method still presented the characteristic indurations between the scapulæ; the tenth case had been early lost to observation.

Among the interesting by-effects that were observed may be mentioned a case (85) in which a herpes zoster appeared on the trunk ten days after the injection. A general toxic erythema occurred in two cases (41 and 68) on the seventh and ninth days respectively after treatment, lasting three days and accompanied by febrile symptoms. In one case the temperature rose on the first day to 104.

Treatment with salvarsan had no disturbing effect on pregnancy in one of our cases (21) which was followed from the sixth month to full term, and in another case which could only be followed for a month.

Disturbances in menstruation were noted in twelve cases after treatment. In two of the cases the irregularities were possibly due to the menopause. In another case the cessation of the flow was probably due to pregnancy. In one case the menstrual periods became more regular, while in the others they became more irregular after injection, being delayed in one case for seven and a half months.

One patient with nodular leprosy was experimentally treated with an intramuscular injection. In our first report we stated that this patient had been prostrated by the treatment and that no benefit had resulted from the injection. A change occurred, however, a month later when numerous ulcerating lesions of the face healed entirely. Two weeks later there was a partial relapse. No change in the solid nodular lesions was noted. A small dose of salvarsan was later given intravenously without producing any improvement or indeed any reaction whatsoever.

Two patients (17 and 90) who were treated for syphilis also presented complicating lesions of psoriasis. In one case the eruption was practically well at the end of three and a half months. In the other case, in which (according to the patient's statement) the eruption had existed for forty years, there was a complete disappearance of the psoriatic patches at the end of six weeks and at the end of three months no relapse had occurred.

In giving intravenous injections we have employed the gravity method in all of our cases except the first, in which the more complicated Schreiber apparatus was tried. We have had practically no difficulty and no bad results. For most of the injections we have used our own model of the gravity apparatus described elsewhere.[2] In this communication we recommended the Schreiber form of needle having a 17 or 18 bore and a bevel that was not too long. Our experience with some of the short beveled and dull needles has led us to modify our views. We are now convinced that the most suitable needle is of the Schreiber type, having an 18 bore (Stubbs) and a bevel of about 3 or 4 mm., that is, not too sharp and not too dull. For diluting the salvarsan we use only sterile distilled water and dispense entirely with the salt solution. This may be the cause of the appearance of small nodules in the vein in eight out of sixty-nine injections. In two cases they were present at the last time of observation, the fourth and tenth weeks respectively after treatment. In the others they had disappeared in from one to four weeks. The simplicity of using water instead of salt solution is an advantage that in our opinion more than compensates for the appearance of some of these harmless nodules.

CONCLUSIONS

1. Salvarsan is a powerful symptomatic remedy for the treatment of syphilis.
2. It acts with greatest rapidity on lesions of the mucous membranes.
3. It is of decided value in obstinate palmar and plantar syphilids.
4. The permanence of its action cannot be determined until a number of years have elapsed.
5. Salvarsan should be used in conjunction with mercury and cannot entirely replace this valuable remedy, except in a few selected cases.
6. The effect of salvarsan on the Wassermann reaction is less favorable than on the clinical manifestations of syphilis.
7. Its effect on the Wassermann reaction is in general analogous to that of mercury.
8. The intramuscular and intravenous methods of administration are probably of equal efficiency.
9. The intravenous method is the one of choice where rapidity of action and the comfort of the patient are factors to be considered.

For the greater part of the material we are indebted to Dr. George Henry Fox. We also wish to express our thanks to Dr. Robert G. Reese for the ophthalmoscopic examinations and to Dr. George T. Jackson and Dr. John A. Fordyce, from whose clinics a few of the cases were obtained.

616 Madison Avenue—39 East Twenty-Eighth Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. HIRSCHFELDER, FOX AND TRIMBLE, AND MATSON AND REASONER

Dr. D. W. Montgomery, San Francisco: The interesting statement made by Dr. Hirschfelder in regard to the toxic effect of salvarsan being in many cases due to decomposition after intramuscular or subcutaneous injections, is very important, and constitutes a weighty reason for giving it intravenously. We do not know what these decompositions are, but we do know that there is an enormous amount of arsenic put under the skin or into the muscles, and we also know that any decomposition would likely work detrimentally to the patient.

The statement, however, in regard to cephalic chancre being particularly apt to be followed by syphilis of the brain, I am iot inclined to accept. I do not believe that chancres in this egion are any more likely to be followed by syphilis of the rain than infection in other regions. Another interesting tatement was made in regard to the milk of syphilitic mothrs suckling syphilitic infants being curative of the syphilis n the infant. That is true. Why it is so is hard to tell. It s doubtful if the small amount of arsenic found in the naternal milk is enough to account for it. In testing for rsenic one must always bear in mind that it can be found nywhere. I suppose there is not a suit of clothes in this oom that does not contain it. So that the mere finding of rsenic in the milk, except in large quantity, would not account or the curative action of salvarsan in the infant. I saw an nfant in Frankfort a short time ago under Theodore Sachs. t was getting well without receiving any arsenic or salvarsan, r any other drug directly, but simply from suckling a mother vho had received a gluteal injection of salvarsan. I have no ersonal experience with salvarsan in anything else than yphilis, and I have never seen it given in anything else xcepting in a few cases of leprosy. One of these lepers I nderstand did excellently. Dr. Fox, I think, is correct in aying that the macular and papular syphilids do not disapear with very astonishing rapidity. Such eruptions do disppear rapidly with mercury and I do not know that they ade away any more rapidly with salvarsan. But gummata, vhen the patient is treated with salvarsan, often disappear vith remarkable rapidity. The late palmar and plantar yphilids are particularly amenable to treatment with salvaran, and it is a matter for congratulation that they do, as nder the old modes of treatment they were among the most ntractable eruptions, and we often had to resort to intense reatment, such as calomel injections. That salvarsan does avorably influence the late palmar and plantar syphilids is ust what one might expect, as arsenic is strongly epithelioropic. The same can be said of leukoplakia, and it is very nteresting that Dr. Fox found that it reduced the thickening n this intractable disease.

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[2] Fox and Trimble: Med. Rec., March 18, 1911, lxxix, p. 469.

Dr. H. R. Olliver, San Francisco: Some cases of optic trophy which have shown deleterious effects from a first njection of salvarsan, improve and the patients often recover nder a second injection. The first injection causes a roundell infiltration, whereas the second injection causes reabsorpion and the case is bettered. In regard to nephritis after the njection of salvarsan, I have seen a large number of cases n which there were casts and albumin occurring after the njection, but in those cases the casts invariably were waxy, asts which it would be impossible for the salvarsan to have aused. The lapse of one or two days after an injection is ot sufficient to permit the formation of waxy casts in the rine. In the other cases in which there was transitory lbuminuria there were no casts present. The crises in parayphilitic cases are acted on remarkably. I have seen patients n agony, who in twenty-four hours were entirely relieved of heir pain. It is well known that all infants that are born yphilitic should suckle a mother who has been injected with alvarsan or a syphilitic wet-nurse who has been treated. In ddition to this it is well to use about 0.015 of salvarsan very eight days as an intravenous injection in these cases, ecause if we use larger doses it may liberate so many spirohetes from the internal organs of these infants (which iterally teem with these organisms) as to cause an overvhelming of the economy and deleterious results. In leprosy he cases which have been improved by the salvarsan have nvariably shown a positive Wassermann reaction. In primary yphilis I have never been so fortunate as to get a Wassermann reaction before the tenth to the sixteenth day after the nitial lesion. I cannot really conceive how we would get t until we get a systemic infection; that is, we would not have enough antibodies formed in so short a time as to be able to get a Wassermann reaction. I have seen one case of malignant syphilis in which I have done three or four Wasserman reactions with negative results. The patient became very emaciated, was then given salvarsan and in six days his blood gave a triple plus Wassermann reaction and he has rapidly improved. The time of the disappearance of the reaction after the administration of salvarsan corresponds quite directly to the strength of the Wassermann reaction before the salvarsan is given. That is, if the patient has a triple plus Wassermann, as we understand it, before the injection, it takes that patient from two to three months to become negative. The patient with double plus before the injection takes one or two months. When he has single plus or partial Wassermann, it takes about one month to become negative. The reaction is reverse to that of mercury. With the mercurial treatment we may have a negative reaction caused by mercury without the patient being well, and if we take him off of mercury he gradually increases his reaction until it becomes thoroughly positive again, whereas with salvarsan it may become positive, and gradually comes down until it becomes negative.

Dr. M. H. Fussell, Philadelphia: To the ordinary everyday clinician the administration of so large an amount of liquid into a vein is rather a terrible affair, but it must be, and in my own experience has been, practically without any danger. Yet there are dangers in these intravenous injections. I think Dr. Hirschfelder spoke of two to which I wish to call particular attention. It is true that these accidents ought not to occur. That they do occur I think proves that we should be extremely careful either in perfecting our own technic, if we ourselves administer the salvarsan intravenously, or that we should have an expert to do it for us. The latter plan I always follow. However, I have seen both of the accidents occur that Dr. Hirschfelder spoke of—one the induration about the point of injection into the vein. In this particular instance there was not only an induration about the vein but there was a distinct and marked phlebitis of the entire vein; the man's arm was swollen to twice or three times its normal size and for three or four weeks he was extremely ill. That was an accident which should not occur, but it did occur as a direct result of the injection. If it had been given by an expert I presume it would not have occurred. Another one, a frightful affair, is the hemiplegia or sudden death after injection. There is one case in Philadelphia, which did not occur in my own work, in which a man had a sudden collapse, a hemiplegia and finally a recovery. It seems to me some blood must have been in the tube before the injection of salvarsan was begun. This can easily be prevented by allowing the solution to flow through the tube at the time it is injected into the vein. I saw such an accident occur in the hands of a resident of mine after an ordinary phlebotomy. I had told him to give an intravenous saline solution. He bled the man with the tube through which he was to inject the saline solution. The man was bleeding at the time he attached his tube, and instantly the man was dead. I presume he had a cerebral thrombosis. That these things can occur is certain and we should remember that it is no light job to put numbers of centimeters of liquids into a vein. I want to call attention to the apparatus Dr. MacKinney of Philadelphia uses for the purpose. His tube is in a sort of vacuum bottle and it retains the heat very well. I would like to ask Dr. Fox if he has any explanation for the disappearance of the psoriasis and if he has used salvarsan in psoriasis alone.

Dr. L. Duncan Bulkley, New York: I have watched many cases in my service in the New York Skin and Cancer Hospital with a great deal of interest, and photographs have confirmed the remarkable results in some cases which I have not observed personally. Really it is a wonderful remedy, but the point is whether for practicing physicians this is going to take the place of our ordinary treatment, what its true value is in relation to other proper therapeutics. I endorse what has been said concerning the Wassermann test. The Wassermann test should be used wherever possible; in doubtful cases it is certainly invaluable as an index to treatment. I think it might well be made a legal requirement before marriage. It would be of immense value in stamping out the disease if every patient who has had syphilis were required to have his cure demonstrated by the repeated application of the Wassermann test.

I have heard a great many other discussions on salvarsan in various scientific societies, with the exhibition of many dozens of cases in process of cure, and have seen bad results from subcutaneous and muscular injections. I have seen one case of terrific phlebitis from an intravenous injection, which required a surgical operation for removal of the vein. The patient was not under my care at the time but came to me afterward. Almost all who write or speak say, evidently with good reason, that some mercurial treatment must follow the use of salvarsan. I have not accepted the salvarsan treatment as the best in private practice, but I am waiting to know further results. As yet, with proper other treatment, I do not see the need of salvarsan in private cases. I have used it in hospital practice and get surprising results, but I do not advise my young men to rush into it. It may be peculiarly serviceable in certain cases in future, but I doubt if it will ever largely supplant other accepted treatment. It should be used by an expert. There is also a grave danger in regard to the salvarsan treatment, lest patients think that they have been cured of syphilis by one or two injections and then neglect treatment and have relapses of a serious nature. The quacks have taken it up and are charging large amounts for injections of something called salvarsan. The victims have it administered and then go away and think they are cured. If they get the real article from a regular physician there is still danger of relapses or, rather, later manifestations of the disease.

Dr. W. P. Murray, Caliente, Nev.: It seems that there is quite a scare in the minds of many lest something foreign get into the veins during the administration of salvarsan. As to the blood regurgitating back into the tube, I believe the point is well taken by the speaker who preceded me. Many physicians have a fear of allowing a few bubbles of air to gain access to the system. I have seen as much as 1 to 3 c.c. of atmospheric air gain access to the venous system without causing ill effect. Never in my practice have I seen ill effect from a few bubbles of air in the administration of any solution whatever. Again, in reference to the normal salt solution, I find that the only use we can make of it is to ascertain whether we have the needle in the vein or not. I suppose some better physicians than I still resort to cutting the vein and inserting the needle and then allowing the salvarsan to flow into the vein. I have found it entirely unnecessary, as, by having the patient clench the fist so that the veins stand out, it is a very simple matter to pick up the vein. The only use of normal salt solution is to tell whether or not we are in the vein. When we have a sharp needle and insert it obliquely and release the flow from the normal salt solution, and it begins to balloon up the solution is not entering the vein, but if it flows along and there is no ballooning or swelling it is in the vein. To do that is sometimes a difficult matter. In the administration of salvarsan I have yet the first time to see the fluid escape extravenously without producing a slough. I have known it to occur after the most careful aseptic precautions. In reference to the intramuscular administration, I have my first case yet to see in which it did not produce inflammation and sloughing. Never, when proper precaution is taken as to asepsis, have I seen a slough after the intravenous method.

Dr. J. O. Hirschfelder, San Francisco: In reply to Dr. Montgomery's criticism of the presumed presence of arsenic in the milk and the claim that he makes that arsenic is found everywhere, I would say that the Homeopathic Association might consider such presence, but I doubt whether one will be able to find arsenic in milk in demonstrable quantities, provided one uses arsenic-free tests in the examination, unless one uses enormous quantities of milk—probably 2 or 3 liters. I cannot speak from knowledge that these large quantities would show even traces of arsenic. In quantities like 100 c.c. I do not think that arsenic has ever been found in normal milk. In the human milk of syphilitic individuals who have received salvarsan the arsenic has been found in very appreciable quantities, so that in making the test the presence of arsenic was very plain indeed; likewise with goats which had received a small quantity of salvarsan. Then we are not to forget in speaking of the milk of syphilitics who have received salvarsan, that it contains large quantities of endotoxins, as well as antibodies that have been set free. The fact that, in the experience of some, syphilitic infants that have been treated with this milk have become violently ill is probably due to the immense quantity of endotoxins that are set free and cannot be formed into antibodies in the body of the infant. Consequently, I think that we should not forget the advice that was given to administer salvarsan to cows and goats and to feed the infants with the milk derived from these animals. I want to thank Dr. Fussell for the suggestion that he has made in regard to the coagulation of the blood in the tube inserted into the vein and the possible production of emboli by coaguli. I am sure that can occur. If the simple precaution is taken to allow the blood to flow freely through the tube before the salvarsan is introduced I think there will be no difficulty. I have had no trouble in making the salvarsan injections. In answer to Dr. Murray, as well, I would state that in very fat people it is sometimes impossible to find the vein at the elbow no matter how thoroughly you may apply your tourniquet, without laying bare the vein by a little incision, but in those cases I have always taken the vein at the wrist where it always stands out prominently. There is rarely sufficient accumulation of fat at this point to interfere with the finding of the vein and the introduction of the needle. In answer to Dr. Fussell, if 300 c.c. are allowed to flow into the tube in fifteen minutes that would be 0.33 c.c. per second. This quantity is rapidly disposed of by the circulating blood. In order to be cautious, I have my mixture heated to 110 F., but I think I do it out of respect to the figure rather than as the result of experience of any ill effects from using the solution at a lower temperature.

Dr. Howard Fox, New York: The fluctuations in the Wassermann reaction occurring after injections of salvarsan cannot, I think, be ascribed to faulty technic. Such changes are shown in a marked degree in a table published by Zieler. They were also noted in some of our own cases, the reaction changing from positive to negative, or vice versa, within a week. They are certainly not seen with such frequency after mercurial treatment.

Dr. Matson spoke of the intravenous injections as being more efficient than the intramuscular injections of salvarsan. While the intravenous method is undoubtedly quicker, we are not prepared to say that its action is more efficient than the intramuscular method. This is a question of greatest importance, as it is plainly impossible to administer salvarsan in every case by the intravenous method. The drug cannot fulfil its greatest usefulness, unless it can be given in office and dispensary practice, just as injections of salicylate of mercury are given.

In reply to Dr. Fussell, I would say there are three signs by which infiltration of the tissues can be avoided when giving intravenous injections. The most important of these is pain at the point of injection, the patient being instructed to tell the moment he feels a sharp, stinging pain at the point of the insertion of the needle. It is therefore apparent why salvarsan should never be administered intravenously under a general anesthetic. In the second place, the nurse or assistant should see that the fluid is running steadily from the glass container, and finally, the operator should watch for the presence of swelling at the insertion of the needle. This is not as important as the other signs, because the infiltration may take place behind the needle and not be visible at once to the operator. It may be said that a very small amount of infiltration in the cellular tissue will do no harm.

In answer to Dr. Fussell's question about psoriasis I would say that I have treated only two cases, the psoriatic lesions in these cases being incidentally present. The action on psoriasis is probably due to the arsenic, which has a stimulating effect on the epithelial layers of the skin.

I agree with Dr. Bulkley, who warns against our depending entirely on salvarsan. It should merely be considered as one of our means of combating a very serious disease and should be used in combination with the older well-known remedies. I also think that Dr. Murray is right regarding the bogey of getting air bubbles into the vein. I have seen small air bubbles enter the vein without producing the slightest ill effects.

Dr. Ray W. Matson, Portland, Ore.: I believe for the initial cases that the intravenous method of administration ould accomplish more nearly than any other the so-called *erapia sterilisans magna* of Ehrlich, since the salvarsan is ken up by the vascular system and permeates the whole dy in the course of a few seconds or minutes. There is a sibility of destroying all of the spirochetes contained in the dy in a very short period of time. For subsequent injections think the intramuscular is theoretically better because the ug is absorbed and eliminated very slowly. In this way exerts a continuous action. First, we have what might be rmed the fatal blow, followed by the continuous action of the emical. As to our method of giving salvarsan, of course must be remembered that our patients have been in excelnt shape to begin with, men in the prime of life. I have d absolutely no difficulty in regard to reaction. One patient th myocarditis complained of excruciating pain while the ection was being given, and it was so severe that I had to continue the method after giving the third injection. Capn Pearson of the Army Medical Corps devised the scheme applying the tourniquet and distending the ins after freezing the vein with carbon dioxid. e introduction of the needle is very much sier because the vein is fixed absolutely to the in. Regarding the length of time required for nverting a negative to a positive reaction folving the administration of salvarsan, I cannot ree with Dr. Oliver in every respect. I have n the strongest positive Wassermann conted to a negative one in the space of three eks following the administration of salvarsan. one case of latent syphilis of twenty years' ration in which the patient complained of ere headache of one and one-half years' duran, he was relieved in two weeks and his Wasmann became negative at the end of three eks following the intramuscular administran of 0.6 gm. of salvarsan.

A NEW ESOPHAGOSCOPE

A PRELIMINARY COMMUNICATION

RICHARD LEWISOHN, M.D.
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The principle on which all esophagoscopes e been constructed up to the present time been seriously defective, as no attempt been made to adapt the instrument to the tomic conditions in the upper part of the nentary tract. In the normal position, oral cavity joins the upper esophagus at ight angle, and the only method hitherto vogue to overcome this rectangular junc n has been to extend the head forcibly and to approximate a straight line from the th to the cardia. This feature applies to the simple straight tube and to the ted instrument, and is the explanation of unpopularity of esophagoscopy.

have constructed an instrument intended to over e this objection. As the accompanying illustrations w, my instrument is built on a rectangular plan ilar to the gastroscope models of Poirier and Eckn, although it differs from these in one essential ticular. Their esophagus tube was a jointed one, le mine is a telescope formed by six small tubes ch fit into one another. Each tube is 5 cm. long. the diameter varies from 9 to 14 mm. The image ransferred at the rectangular junction by a mirror, le another perforated mirror in the eye-piece is used the purposes of light reflection (Fig. 1).

t is beyond the scope of this preliminary report to a detailed description of the minute mechanism of the instrument. I would like to emphasize, however, that the construction is such that the entire instrument can be taken apart for the purposes of thorough cleansing.

The instrument is introduced with the telescope closed (Fig. 2). Then, by means of a spring, under the guidance of the eye (Fig. 1), the telescopic tubes are separated and thus pushed down into the esophagus. As no pressure is made on the tubes until they lie in the axis of the esophagus, the danger of injuring the posterior wall of the organ, which is ever present in all the other models, is entirely obviated.

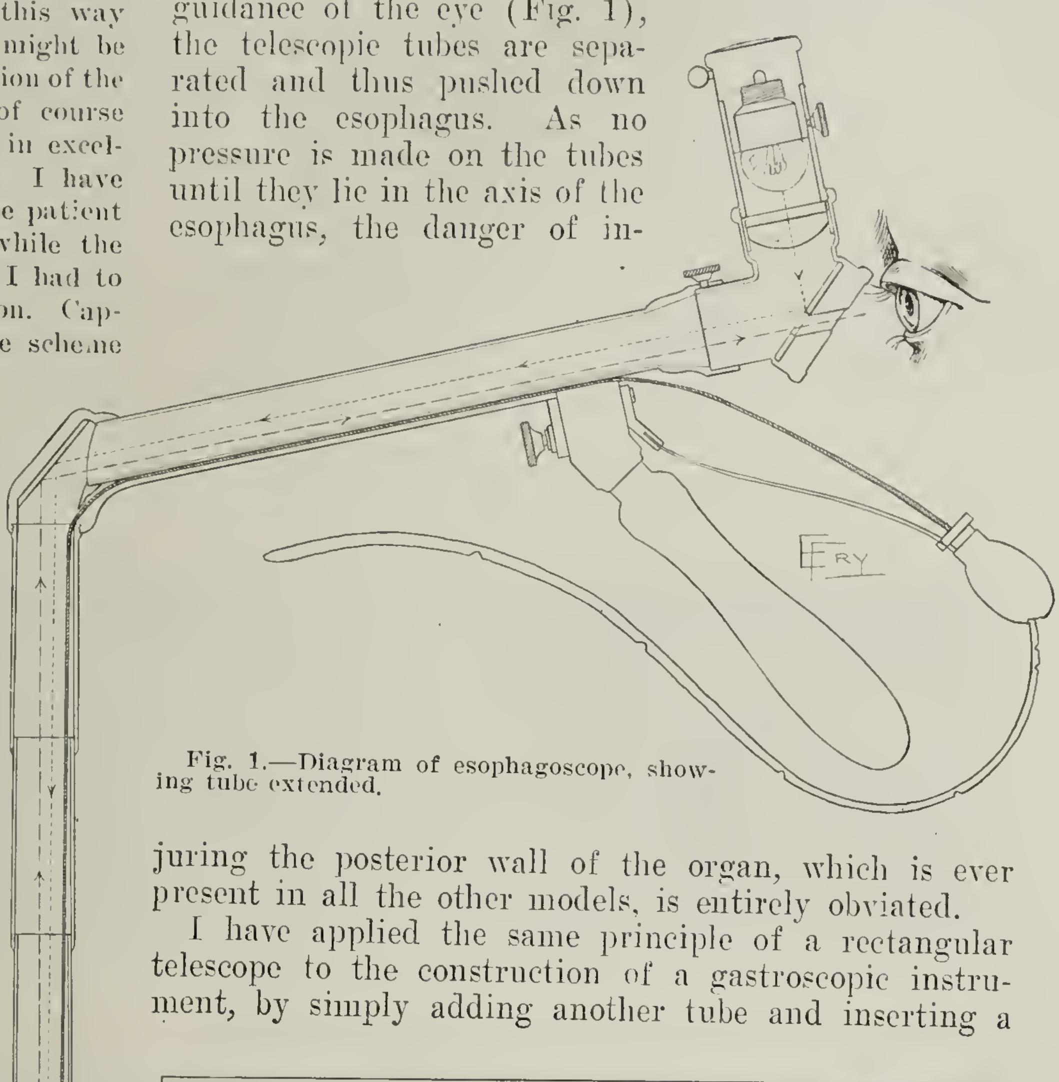

Fig. 1.—Diagram of esophagoscope, showing tube extended.

I have applied the same principle of a rectangular telescope to the construction of a gastroscopic instrument, by simply adding another tube and inserting a cystoscopic optical and illuminating system. For the time being, however, I have confined my practical tests to the esophagoscope.

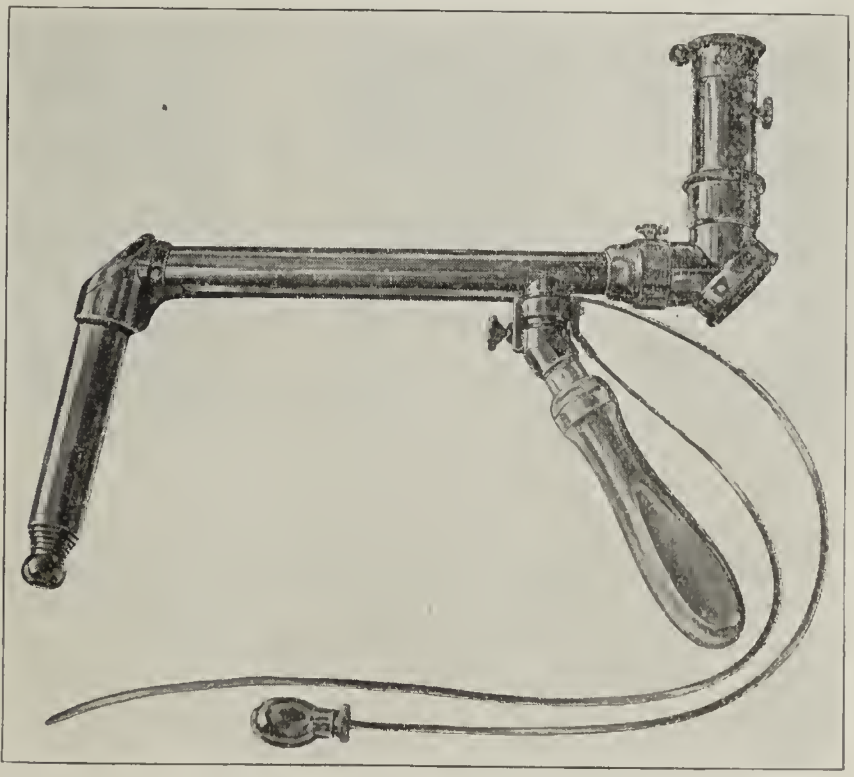

Fig. 2.—General view of esophagoscope with telescoping tube closed

I have tried the esophagoscope in a considerable number of cases. After some experience with the instrument, the introduction should be easily learned. The instrument is inserted with the patient in an upright sitting posture. Cocainization of the pharynx is advisable, but I have already introduced the instrument without even local anesthesia. The introduction is well tolerated. I have not yet had sufficient opportunities in pathologic cases to show conclusive results as to the merits of the instrument, but it appears to me that this new principle is a decided advance in this field of work and offers a promising future.

1 West Eighty-Fifth Street.

A NEW METHOD IN OPERATING FOR ECTROPION

A. EDWARD DAVIS, M.D.
NEW YORK

The object of the present paper is to present a new principle in operating for ectropion, which is applicable, either singly or in conjunction with other methods, in all forms of atonic ectropion, and in all cases of cicatricial ectropion in which the tarsus itself is not destroyed.

I say a new principle: it is new so far as I have been able to find out by consulting the literature at my command and by talking with my confrères. However, when we consider that Antillus devised an operation for this deformity fifteen centuries ago, and that operations and modifications innumerable have been practiced since then, it would be small wonder if this principle had not been hit on before.

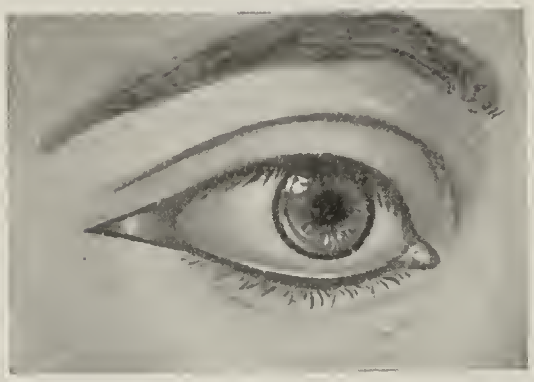

Fig. 1.—This and the following five figures show the author's operation for ectropion. Canthotomy, the first step.

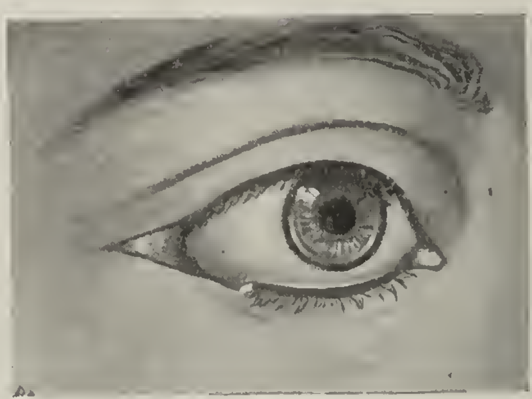

Fig. 2.—Tarsorrhaphy.

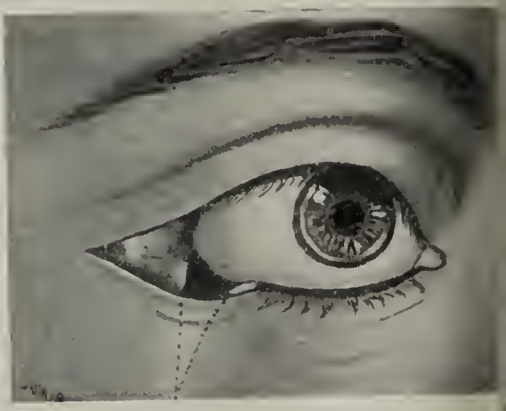

Fig. 3.—Triangular piece of tarsus
moved.

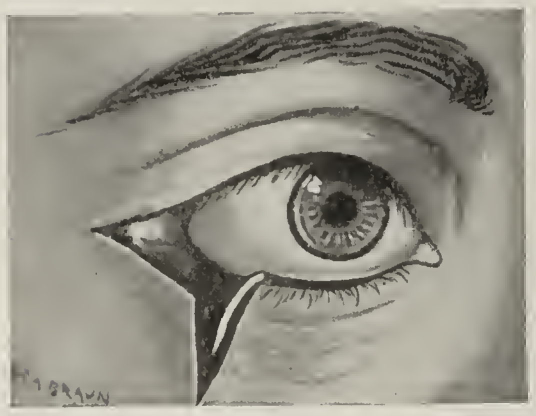

Fig. 4.—Triangular piece of skin removed.

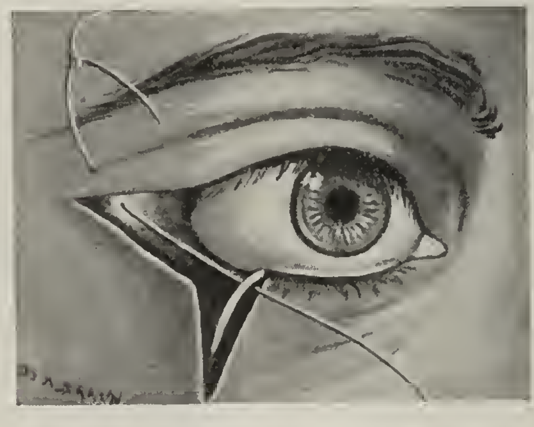

Fig. 5.—Insertion of anchoring suture.

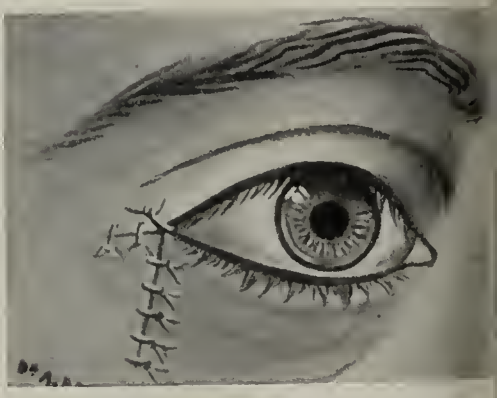

Fig. 6.—Completed operation.

The principle consists in shortening the tarsus at the temporal extremity, and then *attaching this extremity to the periosteum* of the temporal border of the orbit, on a level slightly above the lid commissure if the lower lid is affected, and below the commissure if the upper lid is in fault. The operation is performed as follows:

ATONIC ECTROPION

1. A canthotomy is performed extending to and slightly beyond the orbital margin, exposing the periosteum.

2. The edge of the lid including the cilia is pared off to a slightly greater extent than the piece of tarsus to be removed.

3. The skin and orbicular muscle are separated from the external canthal ligament and the outer end of the tarsus.

4. A triangular piece of the tarsus, more or less extensiv
according to the extent of the ectropion and lengthening
the lid border, is excised. In case of redundancy of the ski
a triangular piece of skin equal to that of the removed tars
is removed.

5. A No. 6 silk suture is placed through the outer extremit
of the shortened tarsus near the margin, the needle bein
passed from without inward; then the needle is carri
through the periosteum of the rim of the orbit (slightly abo
the commissure if the lower lid is being operated on, an
slightly below if the upper lid is being corrected); the need
is brought out and continued through the skin from the und
surface outward. The suture is tied in a single knot.
enough tarsus has not been removed to correct the deformit
the suture is loosened, a little more of the tarsus excised, a
the anchoring suture reapplied as before.

The skin wound is closed with fine silk sutures. A d
gauze dressing is put on and a bandage applied. The sk
sutures should be removed on the third or fourth day, whi
the anchoring suture, which can be reached on the skin su
face, where it is brought out on purpose, should not be r
moved until the seventh day.

In cases of excessive atonic ectropion and in many ca
of cicatrical ectropion, instead of a piece of skin being
from the lid itself, a triangular piece may be removed beyo
the external canthus, as in the Dieffenbach-Szymanowski op
ation. Then the undermined skin from the lid is slid o
and sewed in position, just as in that operation. It suppo
the cartilage which has been anchored to the periosteum, a
the combined operation is very effective and is advised
marked cases of ectropion.

CICATRICIAL ECTROPION

This principle of anchoring the tarsus to the p
osteum applies in many cases of cicatricial ectropi
in fact in most of the cases in which the tarsus its
has not been destroyed. Even when the skin must
replaced by a flap or a skin graft, if the tarsus is fi
freed and the outer extremity anchored to the perioste
of the rim of the orbit, the result, as a rule, is satisf
tory. The first case in which I used this method w
one of very extensive cicatricial ectropion; one that h

had six operations, and which I report, as the result was most satisfactory and has remained so for fifteen months.

History.—Helen C., aged 17, in good general health, fell on a stove when 9 months of age and burned the left side of face and forehead, which caused marked cicatricial ectropion of the upper and lower lids.

Examination.—There was mechanical ptosis of the upper lid, due to a thick and broad pedicle flap from the forehead, with slight entropion of this thick lid at the outer extremity; complete ectropion of the lower lid, scar tissue binding the lid to the periosteum. There was extensive scar tissue extending an inch from the external canthus, up and down and toward the temple. The eye diverged 20 degrees and there was constant epiphora.

Operation and Results.—Dec. 1, 1909, under ether anesthesia, I operated as follows: Beginning at the external canthus an incision was made outward and slightly upward beyond the rim of the orbit, exposing the periosteum. A second incision, double the length of the first, extending directly downward from the external canthus was next made, and the ends of these two incisions joined by a third, as in the Szymanowski method. This triangular piece of scar tissue was excised. The outer edge of the lid, including the cilia, was pared to the extent of about one-fourth inch. Next, the skin and muscle were undermined, separating them from the periosteum far down on the cheek and from the tarsus up to its free border, but not from the free border. Incidentally the tarsus itself was freed from the periosteum of the cheek. A triangular piece of the tarsus, one-fifth inch long on the free border, was excised, a No. 6 silk suture was placed as described in step 5. On the fourth day the skin sutures were removed and on the seventh the deep anchoring suture. The result, to tell the truth, was much better than expected. The ectropion was completely relieved and has remained so to date, and there is no epiphora at all.

A few weeks afterward, I removed a strip from the upper lid, relieving the ptosis almost entirely, and a little later I performed an advancement on the left internal rectus muscle with tenotomy of the left external rectus, getting a perfect cosmetic result. Though the patient has not single binocular vision, the amblyopia being very pronounced in the left eye.

In the few cases of atonic ectropion in which I have tried this operation in its simplest form, that is, by removing a small piece of tarsus and anchoring the outer extremity to the periosteum, removing no skin and only a few cilia, the result has proved entirely satisfactory in every case.

50 West Thirty-Seventh Street.

THE ETIOLOGY OF PELLAGRA

K. H. BEALL, M.D.
FORT WORTH, TEX.

The rapid increase in pellagra in some sections of our country should give rise to a conservative alarm, and any suggestions as to a possible etiologic factor should be made public, for not until the etiologic factor, or its method of transmission, is discovered, can any rational steps be taken toward the prevention of the disease. That there is great reason for a conservative alarm is apparent when we consider these facts: that the number of cases is increasing rapidly; that people in all walks of life are affected; that absolutely nothing is known as to how the disease is acquired, and that no certain hope can be offered to its victims.

Because of our absolute lack of knowledge of how pellagra is acquired, and taking into consideration the rapidity of its increase, it appears to me a greater menace to a certain section of this country than syphilis or tuberculosis. We know what pellagra did in Italy; we know, but few realize, what it is doing in the affected area, but no one knows but that in this country it may have found an even riper field than it found in Italy. We do know that the field is ripe.

Sambon has advanced the theory that pellagra is transmitted by the buffalo gnat (genus *Simulium*), and asserts that it occurs especially among people who live near running streams. Roberts[1] has applied this theory to Georgia and from evidence which he has accumulated has concluded that Sambon may be correct, and states that Georgia and Italy are similar in regard to conditions which Sambon believes predispose to pellagra. I have procured evidence on this point in fifty-four cases occurring in Texas, and find that of the patients but four lived near a stream or less than one-fourth mile, nine lived from one-fourth to one-half mile, while forty-one lived at least one mile; two lived eight miles, four ten miles, one twelve miles, one fifty miles and one sixty miles from any over-ground collection of water; a general average of over four miles.

Texas has country which it does not take a vivid imagination to compare with the green valleys of Georgia or Italy, but there are also regions where a running stream does not exist for miles, and in these places pellagra is prevalent. In spite of a drought for the last three years, during which there were few running streams in Texas except a few of the large rivers, pellagra has increased markedly.

In an investigation of the pellagra situation lately made for the State Board of Health of Texas, an inquiry as to the sex of the patients has led to some startling findings. Females are either more susceptible to the disease or, when attacked, are less resistant to its ravages; or else they are more exposed to the causative agent than are males; for out of 189 deaths reported to the state health officer, 153 were of females and only thirty-six were of males. I cannot believe that they are more susceptible, for this would be contrary to medical experience; nor can I, for a like reason, believe them less resistant. I am therefore forced to the belief that they are more exposed. Another interesting fact is this: of the thirty-six males there were only seven between the ages of 20 and 50; in other words, only seven of the age at which the time spent in the home is the least.

These two observations have led me *near* to a conviction that the etiologic factor of pellagra is some thing or condition which exists in the home or "around the house," for in no other way can I explain the greater number of cases in females and in those males who, because of their age, spend most of the time at home. In Italy, where the women share to a greater extent the labor of the fields, the number of cases in females, while still greater than in males, by no means shows such preponderance as exists here. I am going to suggest, however, with great trepidation, that the agent may be active in the daytime only, for were it not so, those who spend little of the day at home, but most of the night, would not show such immunity as seems to exist.

My desire in making this publication is to bring out further statistics on this point, and if further statistics show that in this country there is such a constant disparity between the number of cases in males and females, and that there is a comparative immunity among males during the time of life in which the time spent in the home is the least, the reason for these facts must be explained, and with this explanation will come the solution of what students of the disease must agree is yet a riddle, the question of the cause of pellagra.

109 East Seventh Street.

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1. The Journal A. M. A., June 10, 1911, p. 1713.

PELLAGROUS SYMPTOMS PRODUCED EXPERIMENTALLY IN FOWLS BY FEEDING MAIZE SPOILED BY INOCULATION WITH A SPECIFIC BACTERIUM

PRELIMINARY NOTE *

C. C. BASS, M.D.
NEW ORLEANS

For nearly three years I have been collecting cultures of bacteria from sources supposed to be in some way or another connected with pellagra. The chief sources have been the stools of pellagra patients and corn-meal or bread supposed to have been the food of pellagra patients at the time of their intoxication. Nine of these cultures thought to be the most promising were selected for the following experiment. All of these cultures were isolated by plating the suspected material on media containing only corn-meal, water and sufficient purified agar to make solid media.

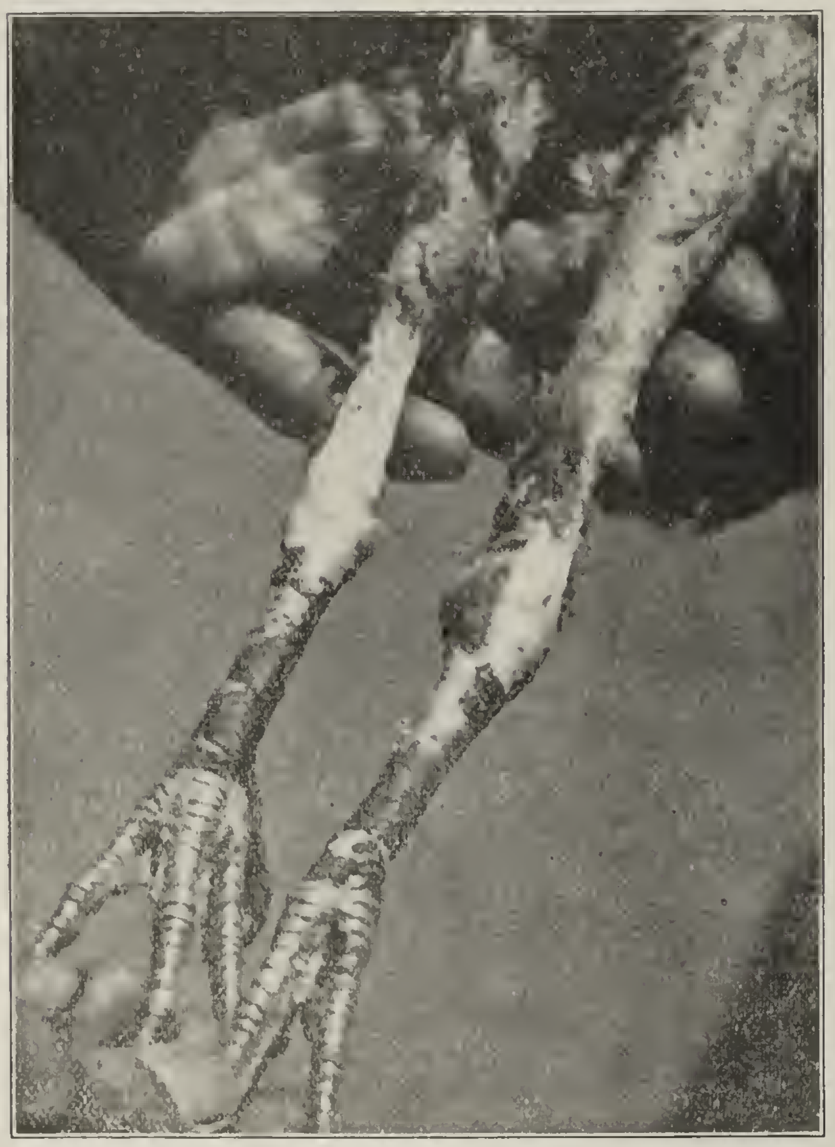

Fig. 1.—Legs of a fowl showing pellagrous symptoms produced by feeding maize spoiled by inoculation with a specific bacterium.

Corn, too green to shell, was "shucked" and dried in the sun until it could be shelled. After shelling, the grain was again dried in the sun until it could be ground into meal with a hand grist mill. It was ground and the meal at once put into large bottles, moistened with water and sterilized in the autoclave. That the sterilization was complete is shown by the fact that a bottle of this meal has remained sweet and sterile for over three months. Bottles of this sterile meal were inoculated with each of the nine pure cultures referred to, incubated at 37 C. for three days and the feeding was then begun. Chickens, 2½ to 3½ months old, were selected. The spoiled meal was stirred into water, strained through coarse gauze and this fluid containing considerable fine meal was fed through a tube once a day. The dose given was the extract of about 10 to 20 gm. of meal a day. These chickens were given as much unpolished rice as they would eat all the time for thirty-eight days, after which their diet was changed to a good quality of cracked corn.

One fowl, No. 5a, fed on meal spoiled with Culture 5, has developed a condition very closely resembling pellagra in man. None of the others has developed such symptoms.

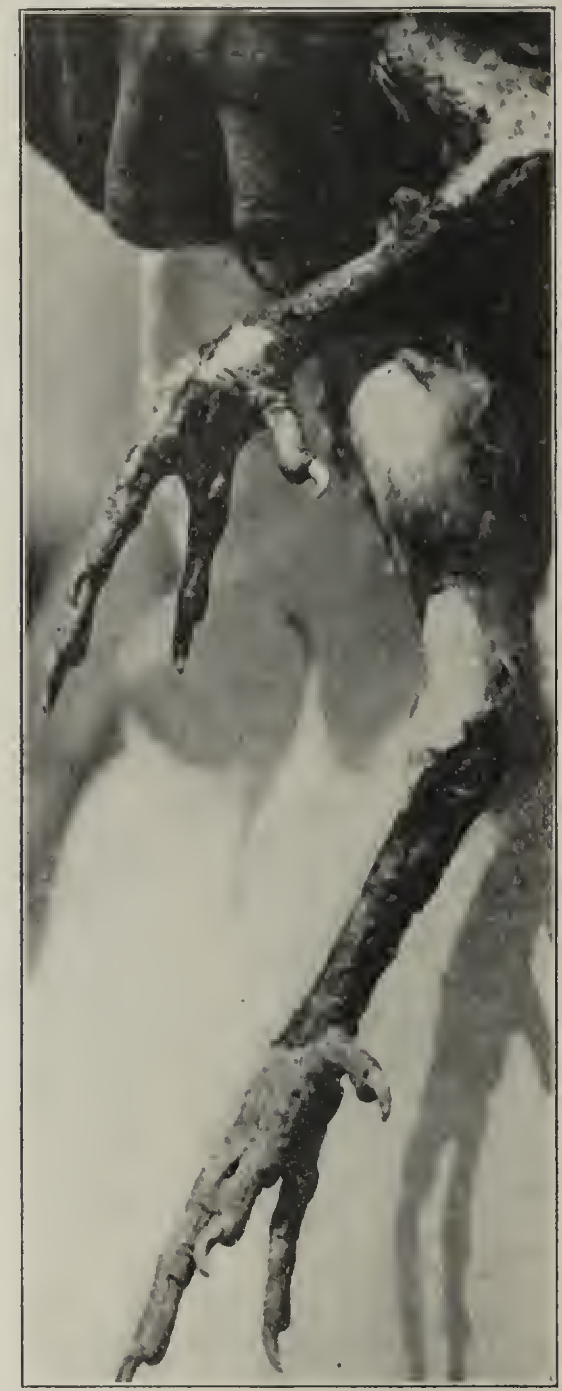

Fig. 2.—Legs of another fowl manifesting similar symptoms to those of fowl in Figure 1.

The fowl has had several attacks of diarrhea and has become very weak and emaciated. On the eighty-eighth day of the experiment, the legs below the knees were noticed to be red, inflamed, and bloody fluid was oozing through little cracks in the scaly skin. The skin became a dark brown color and on the seventh day began to show evidence of shedding around the edges in front. Five days after the lesions were first noticed the fowl was placed in a dark room and the spoiled meal discontinued. The shedding of this skin has progressed slowly and at the end of fourteen days the upper half of the legs in front had completely shed, when the fowl was sacrificed

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* From the Laboratory of Clinical Medicine, Medical Department, Tulane University.

for permanent preservation. The skin where the lesions have shed has a lighter color than the normal and appears somewhat atrophied. The accompanying illustrations (Figs. 1 and 2) show the location of the lesions which consist of dark brown skin, loosened around the edges and shedding off. I am kindly permitted by Drs. Creighton Wellman and Isadore Dyer to quote them as saying these lesions resemble very much the lesions of pellagra in man and are unlike anything they have seen in fowls.

Experiments are now under way for the purpose of reproducing the disease in a much larger number of fowls and also in mammals. Other experiments are being conducted with a hope of determining whether this culture will produce a similar condition when grown on other material than corn, such as rice, wheat, potatoes, nutrient agar, etc. In the event other experimental cases confirm the present indications, the culture will be described promptly according to the descriptive chart of the Society of American Bacteriologists.

741 Carondelet Street.

EPIDEMIC POLIOMYELITIS

ELEVENTH NOTE: RELATION OF THE VIRUS TO THE TONSILS, BLOOD AND CEREBROSPINAL FLUID; RACES OF THE VIRUS

SIMON FLEXNER, M.D., and PAUL F. CLARK, Ph.D.
NEW YORK

GENERAL DISTRIBUTION OF THE VIRUS

The virus of poliomyelitis has been detected in very few instances outside the central nervous system, including the intervertebral ganglia (Flexner and Clark), of affected human beings and monkeys. Until within a few months, the only other site in which the virus had been demonstrated in human poliomyelitis was the mesenteric glands (Flexner and Lewis); and just recently it has been found in the tonsils and pharyngeal mucosa, but not in the cervical lymph-nodes or spleen, in another acutely fatal case (Levaditi and Pastia). The virus has been detected in a larger number of situations in monkeys experimentally infected. Besides the spinal cord and brain and the intervertebral ganglia (Flexner and Clark), it has been demonstrated in the nasal and pharyngeal mucosa (Flexner and Lewis, and others), regional lymph-nodes after a subcutaneous inoculation (Flexner and Lewis), mesenteric nodes (Römer and Joseph, Leiner and Wiesner), salivary glands (Landsteiner and Levaditi, Leiner and Wiesner), and in the cervical and prevertebral lymph-nodes (Leiner and Wiesner). Of these, the only location in which the virus appears to occur with any constancy is the nasopharyngeal mucosa.

RELATION OF THE VIRUS TO THE TONSILS

The portal of entry of the virus in human beings has still to be ascertained. Certain experimental results have indicated that the virus may both enter and leave the central nervous system by way of the nasal or nasopharyngeal mucosa (Flexner and Lewis).

During the past summer, epidemic poliomyelitis prevailed to some extent in and about Greater New York, and many cases were therefore studied at the Hospital of the Rockefeller Institute and other local hospitals. Several autopsies, which provided various organs and tissues for inoculation, were secured at the Rockefeller Institute Hospital and the Smith Infirmary. The tonsils were obtained in five cases in condition suitable for inoculation. The first inoculation was made with Berkefeld filtrates, but without success. But as the filtrates made from the spinal cord of the same patient gave also no result, the failure was accounted for on the supposition of a faulty method of preparing the material used for inoculation.

Subsequently, the tonsils and attached pharyngeal mucosa were rendered free from bacteria, not by filtration, but by treatment with a 0.5 per cent. solution of phenol (carbolic acid), which had previously been found not to destroy the virus (Flexner and Lewis). Emulsions of tonsils treated in this manner were employed for combined intracerebral and intraperitoneal inoculation of monkeys with the invariable results of setting up, after the usual incubation period, paralysis and the other symptoms and characteristic lesions of poliomyelitis. Hence it can be concluded that the virus exists in the tonsils and pharynx of human beings who succumb to poliomyelitis, as constantly as in monkeys after an intracerebral inoculation.

RELATION OF THE VIRUS TO THE BLOOD AND CEREBROSPINAL FLUID

The virus has not been found in the blood of human beings; and it has been detected in the blood of the monkey, at the height of the acute disease, only when large quantities are withdrawn and injected intravenously in a healthy monkey (25 c.c., Flexner and Lewis). In view of the demonstration of the virus in the tonsils, it was considered desirable to repeat the inoculations of human blood, taken at the height of the acute disease, and with larger quantities. Ten and even 20 c.c. were therefore injected partly intracerebrally and partly intraperitoneally into monkeys, but without producing any result.

The cerebrospinal fluid is devoid of demonstrable virus at the onset of paralysis in human beings and in monkeys. It has been detected in the fluid of monkeys three or four days after an intracerebral inoculation and at a period, therefore, before the onset of the paralysis and during the incubation stage. Cerebrospinal fluid was obtained from two human cases of poliomyelitis during the preparalytic stage of the disease, and with it monkeys were inoculated intracerebrally, but without causing any noticeable effect. This negative result does not indicate that the virus may not be present in the fluid at an earlier period and before any symptoms whatever appear, but it shows that if present there, it tends quickly in human beings, as in monkeys, to leave the fluid and become established in the nervous tissue.

RACES OF THE VIRUS

Previous experimenters have succeeded in implanting only about one-half the human strains of the poliomyelitic virus on monkeys (Römer, Leiner and Wiesner). We have succeeded in implanting on monkeys all the ten strains of human virus with which we have experimented. In order to succeed in all instances, it is necessary to inoculate emulsions of the human spinal cord, and preferably to make double inoculations into the brain and peritoneal cavity. In making the subsequent transfers of the virus, emulsions should again be employed until the human virus becomes adapted to the monkey, when filtrates may be substituted. The adaptation is accomplished apparently more readily and quickly with some strains of virus than with others.

The human strains of the virus not only infect monkeys less readily than do the modified or monkey strains, but the experimental disease produced by them is less severe and less fatal. Many of the monkeys infected with the early generations of the human virus tend to recover either completely or with residual paralyses; while after the strains have once become wholly adapted to the monkey, the paralytic disease appears in a more severe form, and recovery rarely, if ever, takes place. Coincidentally, the degree of infectivity rises, so that exceedingly minute doses of a filtrate are capable of producing constant infection. It is not improbable that the artificially evolved monkey strains of the virus may have lost, in some degree, power to infect human beings.

Sixty-Sixth Street and Avenue A.

ROUTINE MERCURIAL TREATMENT IN SYPHILIS EVEN AFTER INJECTION OF SALVARSAN

J. S. EISENSTAEDT, S.B., M.D.
CHICAGO

Salvarsan does not have the effect at first heralded. It is not the *therapia magna sterilisans* which at one blow effects the destruction of all the spirochetes in the blood-stream. To be sure, in certain cases, but these I believe to be very few, it causes a complete disappearance of symptoms, which seems to be permanent. In certain other cases salvarsan exerts a remarkable influence, but the results are often only temporary. As judged by the effect on the Wassermann reaction, salvarsan is not of and by itself sufficient to produce an enduring serologic cure. The accompanying tabulated results are transcribed, for the greater part, from my protocol of Wassermann reactions done in the First Dermatologic Clinic, Vienna, during last fall. The other cases are all my own, observed and studied in Chicago.

An examination of the accompanying table shows the following results in the various stages of syphilis under observation:

A. Among the five cases of primary lues in which salvarsan was injected, Cases 21 and 23 are especially interesting. In both, Wassermann reactions made as late as the forty-fourth and fiftieth days, respectively, were negative. These patients were both injected shortly after the appearance of the primary lesion, while patients 5 and 20, who were injected late in the primary stage (fourth and fifth week), both showed positive reactions. In Case 27 the reaction, made very early in the disease, was negative. During this time, however, it is usually negative, wholly regardless of treatment.

B. Among twenty cases of secondary lues in which there were macular, maculopapular and large and small papular syphilids, all of a dry nature, positive results are recorded after intervals of from six to ninety-three days following the injection of salvarsan, while in the few cases recorded showing moist lesions or pustular syphilids the disappearance of the Wassermann reaction seems to be much more rapid.

TABLE OF FORTY-SEVEN PATIENTS TREATED WITH SALVARSAN

No.	Diagnosis.	Date of Injection.	Date of Reaction.	Interval in Days.	Result of Reaction:*	Remarks.
1	Cicatrizing gumma.........	10/15...	10/22...	7	+ +	Improvement of lesion.
2	Lues latens..............	9/ 3...	10/22...	48	—	
3	Secondary lues............	9/13...	10/22...	39	+	Small papular syphilid.
4	Secondary lues............	8/31...	10/25...	55	+	Injection preceded by 25 Hg inunctions. On October 25 no signs of lues.
5	Primary lues.............	10/22...	10/25...	3	+	Injection late in primary stage.
6	Lues cerebrospinalis.......	9/17...	10/25...	37	—	
7	Secondary lues............	10/13...	10/27...	14	+ +	Maculopapular syphilid.
8	Lues latens..............	8/18...	10/27...	40	—	
9	Lues latens..............	9/26...	10/27...	31	+	
10	Lues latens..............	10/11...	10/27...	16	+	
11	Secondary lues............	10/ 7...	10/29...	22	+ +	Roseola.
12	Secondary lues............	8/26...	10/29...	63	+ +	Maculopapular syphilid.
13	Secondary lues............	10/11...	10/29...	18	+ +	Roseola.
14	Tertiary lues.............	10/23...	10/29...	6	—	Ulcerating gumma.
15	Secondary lues............	10/23...	10/29...	6	+ +	Roseola present on October 29.
16	Secondary lues............	10/27...	11/ 5...	9	+ +	Roseola still present on November 5.
17	Secondary lues............	10/24...	11/ 5...	12	+ +	Mucous patches on tonsils.
18	Secondary lues............	9/28...	11/ 7...	40	+ +	Large papular syphilid.
19	Secondary lues............	9/28...	11/ 7...	40	+	Maculopapular syphilid.
20	Primary lues.............	10/26...	11/ 7...	12	+ +	Remains of sclerosis at time of injection.
21	Primary lues.............	10/ 1...	11/14...	44	—	Injection early. Reaction has never been positive.
22	Secondary lues............	10/20...	11/14...	16	+ +	Roseola.
23	Primary lues.............	9/24...	11/14...	50	—	Injection early. On November 14 no signs of lues.
24	Secondary lues............	10/24...	11/14...	20	+ +	Large papular syphilid.
25	Primary lues.............	10/29...	11/14...	15	—	Wassermann positive before injection.
26	Lues latens..............	9/24...	11/14...	50	—	
27	Primary lues.............	11/12...	11/15...	3–4	—	Injection very early after appearance of initial sclerosis.
28	Secondary lues............	10/29...	11/15...	17	+ +	Roseola.
29	Secondary lues............	11/10...	11/22...	12	+ ?	Mucous patches on tongue.
30	Secondary lues............	10/24...	11/22...	29	+	Condylomata about anus.
31	Secondary lues............	8/26...	11/22...	87	—	Maculopapular syphilid.
32	Secondary lues............	11/ 3...	11/22...	18	+ +	Papulo-squamous syphilid.
33	Secondary lues............	9/26...	11/22...	56	+ ?	Roseola.
34	Secondary lues............	11/10...	11/22...	12	+ +	Large papular syphilid.
35	Lues latens..............	9/19...	11/22...	63	—	
36	Lues latens..............	10/ 6...	11/22...	46	—	
37	Secondary lues............	9/29...	11/22...	53	+	Squamous syphilid.
38	Secondary lues............	9/13...	11/24...	72	—	Roseola. No signs of lues on November 24.
39	Secondary lues............	9/16...	11/24...	68	—	Roseola. Latent on November 24.
40	Secondary lues............	8/22...	11/24...	94	—	Roseola.
41	Secondary lues............	8/26...	11/24...	90	—	Papular syphilid. Latent on November 24.
42	Secondary lues............	10/21...	11/25...	34	—	
43	Secondary lues............	10/13...	11/25...	41	—	Papulopustular syphilid.
44	Secondary lues............	9/10...	11/25...	75	—	Roseola.
45	Secondary lues............	8/24...	11/25...	92	+ ?	Roseola.
46	Secondary lues............	10/11...	11/25...	45	+	Papulopustular syphilid.
47	Secondary lues............	9/16...	11/25...	68	—	Moist papules about anus.

* The sign + ? means faintly positive.

C. In seven cases of latent lues in which salvarsan as injected, two showed positive reaction, respectively n the thirty-first and sixteenth days after the injection Cases 9 and 10).

D. A case of cerebrospinal lues gave a negative reac- on thirty-seven days after injection (Case 6). Of two ises of tertiary lues, Case 2 gave a positive reaction fter seven days, while Case 14 gave a negative reaction fter six days.

Salvarsan is valuable in selected cases, and more ireful discrimination in the indications for the remedy ill give vastly better results. It is of marked value in iose severe cases of lues which cannot be controlled by iercury alone; for example, in cases of impending erforation of the palate and of excessive mucous mem- rane involvement. Its effect on bone lesions of syph- is is rapid, but unfortunately temporary. I have seen evere cases of luetic periostitis clear up as if by magic, return again within three to eight weeks. Its influ- ice in specific lesions of the central nervous system is ometimes astoundingly rapid and encouraging, but is sually short-lived unless followed or supplemented by iorough mercurial therapy.

Various cases of this temporary benefit have come nder my observation; and of these I will briefly cite vo.

ASE 1.—Mr. C., aged 22, was injected with 0.6 gm. of sal- rsan in oily suspension into the buttocks. He was then holly without symptoms for fourteen weeks, when he con- ilted me, at which time he had a marked maculopapular erup- on of general distribution, general adenopathy, vesperal head- ches, and a large mucous plaque on the left buccal mucosa, ear the angle of the mouth. I started him on vigorous mer- irial treatment, injections of mercury salicylate in oil of same, and his objective symptoms rapidly cleared up. His eneral condition has markedly improved and for the past six eeks he has gained in weight at the rate of 2 pounds a eek.

ASE 2.—Mr. N., aged 56, had luetic disease of the eighth erve, marked by tinnitus and deafness. He had received 0.5 n. of salvarsan intravenously, and very soon noted marked nprovement of symptoms. Ten weeks later he was in the me condition as previous to the injection. He is now also etting treatment identical with Mr. C. (Case 1), except for oderate dosage of potassium iodid, and is making satisfac- ry progress.

These cases merely indicate the points emphasized in e preceding tabulation and show that salvarsan cannot relied on absolutely, or even relatively, by itself to fect a symptomatic cure. Ehrlich,[1] in his last pub- shed statement on the subject, says that certain cases lues uninfluenced by mercury have, after a salvarsan jection, responded promptly and encouragingly to assic mercurial treatment, showing that salvarsan has id some influence on the spirochetes which prepares e way for subsequent mercurial therapy. I believe iat we should look on salvarsan as an adjuvant to ercurial treatment, and accord it a place in our thera- eutics of specific disease, but that we should carefully lect the cases for treatment with it. Also, after hav- g obtained benefit from the preparation, we should ope for the maintenance of this good effect only by e use of classical routine mercurial therapy. In all ents, I make a plea for the use of mercury in lues, hether salvarsan has been used or not; it is a drug on hich we can rely.

32 North State Street.

PELLAGRA TREATED WITH SALVARSAN

REPORT OF NINETEEN CASES

PARKS M. KING, M.D.
AND
A. J. CROWELL, M.D.
CHARLOTTE, N. C.

Since January, 1911, nineteen cases of pellagra have been referred to us. Some of these patients have been treated by us individually; the others we have treated together. For the purpose of this report, we have combined all of these cases.

CASE 1.—January 14, one of us (Crowell) treated his first pellagra patient with salvarsan, giving 0.6 gm. This treatment was given on account of the beneficial effects of arsenic, especially in the form of atoxyl, in the treatment of pellagra, also owing to the analogy between pellagra and the diseases produced by the spirilla. The first manifestation of the disease in this case occurred six months previously. When the patient was first seen, in January, 1911, the symptoms included a marked dermatitis of the hands, forearms and face, the characteristic beefy-red tongue, marked gastro-intestinal symptoms, the diarrhea being very profuse and troublesome. In a few days after the initial dose the patient began to show marked improvement, the eruption disappearing completely in fifteen to twenty days; instead of having twelve to fifteen stools a day he had only one or two normal movements. He returned in the middle of February and received the second dose, and continued to return about every twenty days until he had received five doses of 0.6 gm. of salvarsan. At the present time he has apparently recovered; he has regained his weight and his mental symptoms have entirely disappeared.[1]

No other patients were treated until June 25, when J. F. B. was referred to us by Dr. R. Morrison King of Concord.

CASE 2.—The patient, a man, aged 33, had never been sick until about ten weeks before examination, when he became nauseated, had a bad taste in the mouth, and developed characteristic tongue and diarrhea. The dermatitis of his hands and face first appeared three weeks before coming into the hospital. On June 26 he was given his initial dose of 0.6 gm. of salvarsan. The results were as encouraging as in Case 1. Patient received the second dose on July 5, and the third on the 15th. He was last seen August 1, at which time the eruption and gastro-intestinal symptoms had disappeared and he had practically regained his lost weight.

During August and September Dr. King of Concord referred to us five other cases occurring in his practice.

CASES 3 and 4.—Of these patients, Johnny and Pansy L., aged 6 and 8, respectively, deserve special attention. Both became sick in August, 1910, with bowel trouble. In May, 1911, they began to develop a dermatitis of the arms, legs and face. They were given their initial dose of salvarsan on June 28. Johnny received 0.2 gm. and his sister Pansy 0.3 gm. at intervals of ten days for three doses. They have, so far as can be told, entirely recovered.

CASE 5.—In this patient, Miss P., the first manifestations of the disease appeared during the spring, 1910; patient had quite a marked attack and was very ill all summer, though the case cleared up in the fall and the patient passed a fairly comfortable winter. All the symptoms returned in the spring of 1911, in an aggravated form, however, and when the patient was seen, in the latter part of July, she was in a very enfeebled and desperate condition. The dermatitis had disappeared but the gastro-intestinal symptoms were marked. She was given one dose of salvarsan and showed marked improvement for a few days; then she began gradually to grow worse and died in the latter part of August. The salvarsan was given only once.

Each of the other fourteen patients, with the exception of one who is still under observation, received three doses of 0.6 gm. of salvarsan at intervals of ten days. They all showed pronounced pellagra, the diagnosis having been made only a short while before treatment. Without exception all were apparently recovered when dismissed.

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[1] Ehrlich: Centralbl. f. Bakteriol. Jena, Sept. 4, 1911, p. 94.

[1] This case was orally reported before the Tri-State Medical Society at Raleigh, N. C., February, 1911.

One of these patients gave a history of syphilis three years ago. He was last seen August 16, five weeks after the first treatment, and stated that he was feeling better than he had felt for several years.

All of the patients were treated either at the Presbyterian and St. Peters hospitals or the Charlotte Sanatorium. The intravenous method of administering the drug was employed; the patients usually remained in the hospital for about three days after injection.

The results of this treatment have been very satisfactory with us, and the patients will be watched with great interest to see if there is any return of the symptoms next spring.

It is too early to make any claims at all; however, we hope that our report will be the occasion of an increased trial of this drug in a disease which is rapidly increasing and which yielded but slightly to treatment heretofore.

A CASE OF PELLAGRA

THOMPSON FRAZER, M.S., M.D.
ASHEVILLE, N. C.

The following case of pellagra is of interest in that it was seen practically at the inception of the disease:

History.—R. M., farmer, aged 65, first seen April 14, 1911, at the Asheville Free Dispensary, had been deaf for five years; otherwise his health had been good until within the last two weeks, during which time his appetite has been poor; he had suffered a little with eructations and sour stomach and had lost a little strength. He was given a "stomach mixture." Three days later he appeared with an erythema on the backs of both hands and lower part of forearms and complained of burning and itching in the inflamed area. The distribution of he erythema was symmetrical and "glove-like"; the skin was swollen, infiltrated and of a dull red color, pitting readily, and the redness disappearing temporarily on pressure. On the back of the right hand was a decided bleb. There was nothing abnormal, at this time, about the tongue, except that it was very red and somewhat fissured in the center. The patient's appetite was still poor and, in addition, he complained of being very nervous and irritable. Knee-jerks were absent; no Romberg, no Argyll Robertson pupil. Weight, 121 pounds; normal weight, 130. The patient was seen a week later. The bleb on the right hand had dried up; the hands were much less swollen; the skin was dry and cracking and there was a beginning desquamation. The tongue was decidedly fissured down the center and the margin was stripped of epithelium; he was having five or six movements daily and suffered greatly with sleeplessness.

Course and Treatment.—The patient was given hexamethylenamin, 7½ grains, as well as Fowler's solution, 5 minims (increasing to 25 minims), three times daily. There was little change in his general condition during the next six weeks; the nervousness and insomnia persisted and the diarrhea was but slightly abated, but the dermatitis showed steady improvement and the subjective symptoms, burning and itching, disappeared entirely.

June 20, 1911, a decided improvement was noticed. The skin of the hands was scaling but slightly; the diarrhea was no longer troublesome, although the insomnia continued to distress the patient. The patient had a slight puffiness of the eyelids and somewhat swollen ankles, so that the arsenic was discontinued for a few days.

Sept. 1, 1911, tongue somewhat reddened; dermatitis entirely gone. Insomnia no longer troublesome, weight 126 pounds, appetite good, with no gastric or intestinal symptoms. Patient looks well and says he has never felt better.

DIET AND PELLAGRA

A WARNING AGAINST ILL-ADVISED ATTACKS ON FOODSTUFFS

GEORGE A. ZELLER, M.D.
Superintendent of the Peoria State Hospital
PEORIA, ILL.

The recent editorial on pellagra in The Journal[1] is the first expression, in a medical publication of nation-wide circulation, of an alarm I have felt and often expressed before local, state and national gatherings.

With the admission that "pellagra therefore becomes one of the most, if not the most, important public health problems of the present," there will follow a freer expression of opinion and a disposition to deal openly with a situation which was either wholly ignored or received attention only in afflicted communities.

Some time ago I submitted statistics officially accounting for 7,000 cases of pellagra in this country, and included a map showing its geographical distribution.[2] I was fully convinced at the time that the figures expressed only an infinitesimal fraction of the whole number of cases of pellagra in the United States; but it was realized that, in dealing with a subject about which there was so much skepticism, it was best to remain conservative, especially in print; hence only those cases were included that were officially vouched for by the health officers of the various states. While the statement of the presence of 7,000 cases of a fatal, and hitherto practically unknown, disease may have seemed somewhat extravagant to some, I was not in the least surprised when the subsequent statement came from Georgia of the existence of 50,000 cases in that state alone.

A fearless and impartial investigation will show that this disease has invaded many sections of our country in similar proportions. The opening of a pellagrasorium in Atlanta, Oct. 1, 1911, is but the preliminary step in what is certain to become a far-reaching crusade against this insidious disease, and is only in line with what Italy has been doing for a century. In that country no less than twenty-two sanatoriums for the care of pellagrins are in operation. Sambon, heading a distinguished body of scientists, has just entered on his second expedition for the British Pellagra Commission, financed by Mr. Wellcome of London. His studies on this occasion will be confined to Austria and Tyrol, and he expects to add indisputable substantiation to his theory of the transmissibility of the disease through the medium of the *Simulium reptans*, or sand-fly—a theory advanced by him during his memorable trip to Italy last year.[3] Of all theories yet proposed it is the most tenable and is strictly in line with the proved transmission of yellow fever and malaria by the mosquito, and of other well-known and clearly established insect-borne diseases.

Sambon soon found, on entering the field of activity in Italy, that the Italians, instead of studying pellagra, had really been studying corn, and had accepted certain oincidences as established facts. In certain districts where rural free bakeries and model kitchens were estabished and corn was eliminated, the resultant diminution of pellagra, if any, was ascribed wholly to the withdrawal of the maize, and little or no credit was given o the higher standard of living and the more hygienic urroundings brought about through this public health crusade. He found also that the coincidental appearance of pellagra and the introduction of maize from America was a myth, and that a revival of medical iterature about this time made it possible to associate he two events as cause and effect without other than empirical observation.

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[1] The Journal, Sept. 2, 1911, p. 827.

[2] Zeller, George A.: Internat. Clinics, 1911, i, 1.

[3] Capt. J. F. Siler, Medical Corps, U. S. Army, was with Sambon during his researches in Italy, having been specially detailed for that duty by the Surgeon-General of the U. S. Army at the close of a period of study at the London School of Tropical Medicine. He has been instrumental, through his position as lecturer on tropical diseases of the New York Post-Graduate School of Medicine, in enlisting the support of two public-spirited citizens of New York and Washington, who have voluntarily contributed $15,000 to finance a field expedition to study the disease at close range in a section of our country not yet decided on—presumably, however, one of our southern states. Captain Siler is under orders to proceed to the Philippines for a routine tour of duty and will for that reason be unable to accompany the expedition, but the fact that two great nations are simultaneously sending expeditions into the field emphasizes the importance that attaches to the disease, and justifies the stand recently taken in the editorial columns of The Journal of the American Medical Association.

So fixed, however, does popular prejudice become that he maize theory has tenaciously survived for a century and a half, and has, in the judgment of those who enter he field of study with open minds, done much to retard he true solution of the cause of the disease. Lombroso, himself—the greatest and most persistent advocate of he maize theory of the disease—in his preface to Marie's treatise on pellagra, says:

> It is impossible to estimate at once the harm which has esulted from the many visionary and obscure theories that have been advanced regarding the etiology of pellagra. Had it been a question of purely theoretic import, nothing would have been lost but time and paper and perhaps a little of the repuation of those authorities who have too often been misled by heir chimerical plans of salvation; but in combating pellagra reat sums of money have been misspent through the failure to ttack the true causative factors. The most diverse and untenble hypotheses have been considered in turn. In former times he sun, impure water, insanitary dwellings and even the bsence of salt were regarded as the real causes. The expenses ncurred on the basis of these Quixotic presumptions have been much greater than it would have been to attack at the root he actual causes of the malady. The deception which followed ll these vain attempts not only retarded, but even thwarted, erious and effective investigation.

Thus Lombroso, the master pellagrologist, in his nsistent adherence to a preconceived theory, sounds a note of warning against "visionary and obscure heories."

The harm that might result from the acceptance of nproved theories is two-fold. One of these is purely ommercial, and, in a matter affecting the life and health of a people, is not worthy of consideration, even hough a great industry were to suffer. In a national onference on pellagra in the South, two years ago, I, hailing from the banner corn-producing state of the Union, did not fail to emphasize the fact that the disease ad made its appearance in Illinois and that the people f that state, regardless of their commercial and agriultural interests, felt that if corn were guilty of spreadng disease and death among the people, the sooner that act was established the better.

In this connection, a feeding-experiment of unusual xtent and duration was inaugurated in the Peoria State Hospital. Fifty-six patients subsisted for one year on carefully selected non-corn diet, and fifty-six patients n another group were given an excessive corn diet for similar period. A careful record was kept, and the losest observations were made with reference to the ncidence of pellagra, with the result that at the expiraion of twelve months there were no developments that were in the least conclusive. A few cases of pellagra eveloped in each group, but on the whole the corn-fed patients showed fewer cases than the patients who subisted on the corn-free diet.

The recognition of the disease in Illinois resulted in the creation by the governor of the state of a pellagra commission which, after two years of the most painstaking research on the part of the most efficient scientists, is about to publish its report. This report will deal with our feeding-experiment in detail; it will be exhaustive and thorough, and will prove a valuable contribution to the literature on the subject and will, I believe, make no claims to a final solution of the problem. I am not a member of the commission and am in no way privileged to speak for it; but the point I desire to make is that hasty conclusions are not only unwise and misleading, but may be positively injurious in their effect. It is a well-known fact that nutrition plays an important part in combating wasting diseases of every kind, and a stand that prejudices people against any accepted article of food may cause incalculable harm. The basis of the sanatorium treatment of tuberculosis is eggs, milk and other nutritious foods—in fact, overfeeding. Imagine the harm that would result were someone to suddenly advance the theory that tuberculosis was due to using milk or eggs. Fortunately, the specific cause of tuberculosis is known; hence such a stand is impossible; but in the case of pellagra those theories which attack available foodstuffs—be they corn or cornmeal, vegetable oils, or other substances—may, through depriving the masses of a nutritious diet, so debilitate the system as to lay the foundation of the very disease it is intended to eliminate.

While the overwhelming majority of writers ascribe the cause of pellagra to corn, wisely or unwisely, it is not apparent that the consumption of corn in one form or another has in the least degree diminished in this country. The staple has been too long an article of diet with our people to be discarded merely because the real cause of pellagra has not as yet been scientifically demonstrated.

In the course of an investigation of the relationship of corn and pellagra, two years ago, I induced a couple of scientists to accompany me to the University of Illinois where experiments with corn and the parasites that afflict it have been carried on for forty years. I told these men, who were from a section of the country where little corn is raised, that sixty-five articles of commerce were made from corn. In the presence of President James of the university, I repeated the assertion, asking him to correct me if I had overstated the matter. He promptly replied that corn entered as an ingredient into 135 distinct articles or preparations!

Now comes Dr. Mizell,[4] who, by an ingenious combination of coincidences, associates the consumption of cotton-seed oil with pellagra. I have carefully studied his article and I submit this single quotation as an example of a hasty conclusion and, at the same time, sweeping condemnation of the very essentials of a nutritive diet. He says:

"In conclusion I wish to advise against the use of fats and oils of every kind except castor oil."

Literally construed, this would exclude butter, and, indirectly, even milk; yet would tolerate a product of the *Ricinus communis*, three beans of which have been known to cause the death of an adult by reason of the presence of the poisonous principle ricin. Of course he does not advise the use of castor oil as a diet; but why advocate its administration at all in the face of his embargo on "fats and oils of every kind?" His theory bears the same relationship to a product of the southern states as the maize theory does to the Mississippi and Missouri valleys, and is of importance only in that it strikes at a recognized and necessary article of diet.

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[4] Mizell: Jour.-Rec. Med., 1911, lvii, No. 3, p. 111.

The commercial loss would be of no consequence in either case were the theory proved or even tenable; but the actual and immediate harm that would result, were either item withdrawn as a food, cannot be measured. The government keeps a jealous eye on our food products, and its stamp of approval is universally accepted by the consumer. We found, in seeking a corn diet, that in every instance in which corn products are a part of a preparation, the fact was stated on the label. This is true of cotton-seed oil preparations. While it does not enter into as many articles of diet as corn, cotton-seed oil, in one form or another, has become indispensable in the bakeries, the hotels and the domestic kitchens of the country. To curtail its use or to discard it entirely would drive the consumer, particularly the poor, to seek other and less nutritious food with a resultant decline in physical vigor and its inevitable train of evils.

Pellagra is certainly not due to both corn and cotton-seed oil. One or the other is exempt—probably both. In the meantime, however, people must live, and in order to do so must avail themselves of the standard foods. This is certainly an inopportune time to arouse prejudice against any accepted and wholesome product. In times like these, when a disease new to us is slowly invading our territory, people should not be alarmed by injudicious condemnations of their food-supply. Depression, anxiety, melancholia and insanity are the accompaniments of pellagra. If to antecedent anxiety and depression is added a doubt as to this or that food, the mental symptoms will be aggravated, and the patient suffers correspondingly. In the light of our present knowledge of pellagra, it is safe to advise the public to continue to use the standard food preparations, to keep healthy bodies and to trust to the eminent men now engaged in research work to determine speedily the real cause of the disease.

CHOLECYSTITIS AND CHOLELITHIASIS IN THEIR RELATION TO PREGNANCY[*]

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ETIOLOGY AND ENTRANCE

That the etiology of cholecystitis depends on bacterial infection is the generally accepted opinion; and it is believed that cholelithiasis may result from cholecystitis, and that cholelithiasis, having once become a condition or lesion, may then become a factor in the production of cholecystitis.

While it is generally conceded that the portal circulation is the avenue of entrance, the bacteria may enter the common duct by way of the duodenum; or possibly through the hepatic artery and the lymphatics they may find their way to the biliary tracts. And while normally the liver acts as a toxin filter, yet, when overtaxed, its filtration must be but imperfectly accomplished, and the effects of this non-fulfilment of function in so important an organ as the liver are liable to be disastrous.

INFECTION

These etiologic infections may be mixed or simple; if mixed, one organism may prevail to-day and may die out, and another organism take its place to-morrow. Hence, a gall-bladder may at one time contain sterile bile, and at another time not so remote it may contain non-sterile bile; in such instances the primary infection may escape observation. Consequently, diagnosis based on sterility or non-sterility of the bile may be misleading, if not positively erroneous.

Recent bacteriologic studies do not support the former idea that human bile is sterile. While animal bile may be sterile and therefore not a suitable culture medium, demonstrations on human bile seem to indicate that the opposite is the condition that prevails, namely, that human bile has but little antiseptic action, and that it may be used as a medium for certain organisms.

Again, some bacteria are very difficult to detect in human bile by the ordinary culture methods; this furnishes another reason for using caution before accepting the generally expressed opinion that human bile is sterile in its normal condition.

Windsor[1] reports a patient operated on for cholecystitis in whom the bile was sterile, but bacteria (*Streptococcus pyogenes*) were found in an analysis of the gall-stones present. The same author,[2] from an examination of the contents of the gall-bladder in over a hundred cases, concludes that in a large proportion of cases organisms are present in the contents of the gall-bladder whether examined during life or after death—even when the gall-bladder itself shows no signs of disease. Herter[3] also asserts that bacteria are likely to be found in human bile when there is a pathologic condition far remote from the liver, and explains their presence as evidence of terminal infection.

The study of bacteria found in bile, under circumstances such as exist in diseases not referable to the biliary tracts, would in itself furnish an interesting topic, but for the purposes of this particular subject it is sufficient to state that many different bacteria have been found under various conditions in the gall-bladder, both in health and in disease. The following is an incomplete list compiled from the records of various authors: *B. typhosus*, *B. paratyphosus*, *B. coli*, pneumococcus, *Staphylococcus pyogenes aureus et albus;* also streptococci and various diplococci. Blachstein and Welch[4] have demonstrated that the *B. typhosus* has a predilection for the gall-bladder.

It has been demonstrated also that many of these have existed in this locality for years, as evidenced by recent findings in regard to the typhoid bacillus, this particular bacillus apparently surviving for as long a period as twenty-nine years in the gall-bladder; while this bacillus, the *Bacillus coli*, the *Streptococcus pyogenes*, the *Staphylococcus pyogenes aureus*, and others, have been demonstrated in gall-stones, where they have retained their virility for varying periods of time. But while the bacteria mentioned are the ones most frequently found in gall-stones, it would be reasonable to conclude that any bacterium might become a focus for their formation. The composition of gall-stones is a subject that appeals to most physicians, as it furnishes evidences of disease; and if organisms are demonstrated as a component part of gall-stones a strong etiologic factor is thereby made available for diagnostic purposes.

From whatever source these bacteria may come, it is safe to say that if anything hinders their passage through, or their filtration from the liver, their place of fuge and their abiding place from that time on is the all-bladder; and while we do not know the precise func- on of the gall-bladder, we do know that it serves as a eneral rendezvous for these nomads.

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[*] Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Windsor: Quart. Jour. Med., Oxford, 1911, iv, 118.
[2] Windsor: Quart. Jour. Med., Oxford, 1911, iv, 120.
[3] Herter: Med. News, 1903, lxxxiii, 536.
[4] Blachstein and Welch: Bull. Johns Hopkins Hosp., 1891, ii, 96

That there is a difference of opinion as to the real unctioning of the gall-bladder is evidenced by the fol- owing: Mayo[5] writes as follows: "The gall-bladder is nportant as a means of protection, especially to the ancreas, and should not be removed unnecessarily." ehr[6] makes the following statement: "The gall- one operation is practically free from danger and the ss of the gall-bladder causes no appreciable dis- rbance."

While the infecting agent is the primary factor in the tiology of cholecystitis and cholelithiasis, there are econdary factors that must be taken into consideration; ese may be anything that reduces the power of the all-bladder and biliary ducts, or interferes with the free ow of bile.

SYMPTOMATOLOGY

It has been interesting to note the progress in the evelopment of the symptomatology of these two hepatic sions during the last few years; and while heretofore e have been in almost profound ignorance of any true mptoms leading up to their correct diagnosis, we seem ow to be in the possession of some constant symptoms the gastric lesions that occur concomitantly with these epatic changes. And we are becoming familiar with e term "flatulent gall-stone dyspepsia" initiated by the rgeons. While jaundice, the one-time pathognomonic mptom, is now relegated to a less important place in e list of constant diagnostic symptoms, its absence not ffecting greatly the correct diagnosis, its presence is an lditional factor indicating the presence of a toxic gent, or that there is or has been some hindrance to the ormal flow of bile, possibly both. Pruritus usually ecceeds the manifestation of jaundice, pain is often a isleading symptom, while enlargement of liver and nderness on pressure are by no means constant mptoms.

Kehr,[6] after operating on 1,668 patients with gall- ones, writes that only in exceptional cases is it possible state positively the presence of gall-stones; that he ses the history of the case rather than the actual find- gs at the moment, and that when these formations are und at time of operation for something else, it is lways possible to follow the history back to sufficient mptomatology for purposes of diagnosis. I believe at it is to this going back over the history of these atients by our surgeons that we owe the most of the onstant features of these lesions, but they not only ecognized them in patients already brought to the perating table because of other lesions; they also plied this knowledge with gratifying results in the agnosis of these hitherto baffling diseases.

Sherren[7] reports indigestion as a constant symptom r five years or longer in twenty-six out of forty perated on for gall-stones; Rolleston[8] gives indigestion a result of gall-stones; Lichty[9] asserts that 75 per nt. of all gall-bladder cases may be associated with a isturbance of gastric secretions, and that of this 75 per cent. two-thirds have hyperchlorhydria. This writer places some importance on the following as a symptom: A patient with gall-stones may awaken about 3 a. m. with epigastric pain similar to that of nervous dyspepsia. And while he agrees with Rolleston that there may be a small amount or even an absence of hydrochloric acid during an attack he asserts that there is an excessive amount—a hyperchlorhydria—during the interval.

FREQUENCY IN WOMEN

The one fact of primary importance in this study is the fact that gall-stone disease occurs in women three times to its occurrence once in man. Other facts relevant to this are that 90 per cent. of the women who have gall-stones have borne children,[10] and that 90 per cent. of the women who have gall-stones and have borne children identify the beginning of these symptoms of cholelithiasis with some particular pregnancy (Mayo[5]).

The occurrence of gall-stones in infancy or childhood is rare, and it occurs under 20 years of age in but 1 per cent. of all the cases.

Statistics show that 75 per cent. of all cases are to be found in persons over 40 years of age. This statement does not mean anything when we take into consideration the fact that it is the result of the compilation of data obtained during the period when we had no definite symptomatology to guide us in the detection of these hepatic lesions, and proof of their existence was reached in operations for other pathologic conditions, or possibly by discovery, often accidentally, of these formations in the intestinal discharges. In these cases the hepatic lesion or lesions may have been latent for months or years, or if there were expressions of activity they were not recognized as such. Rather might it be said that 75 per cent. of all patients over 40 years of age who are operated on for gall-stones furnish evidence by their history that they have for years been subjects of one or both of these.

Further, I have no doubt that careful detail work done in regard to the history of these cases would eventually lead up to the opinion that in the life of woman the time for the formation of gall-stones is the child-bearing period.

Granted that the child-bearing period is the time in which the initial lesions (the etiologic factors) are posited, wherein lies the causative factor, and what is the connecting link between that factor and pregnancy? Are the changes in normal or physiologic pregnancy sufficient at any time to cause these hepatic lesions?

During the early part of pregnancy there is the factor of disordered nutrition pending final adjustment and adaptation to the new requirements; this is the order in normal pregnancy, and so long as this process of adaptation does not bring about pathologic conditions it remains physiologic, and in due time the new order of living is established, and the old way is adjusted to and lost in the new. During this process of adaptation there is greater functioning to be established in all the organs; through the liver more of the products of metabolism, both anabolic and catabolic, are passing. And it is quite possible that this organ does not all at once meet these new and greater demands, and that many opportunities are offered the increased bacterial procession through the liver to stop in quarters wherein are attractions for them and thus become causative factors in the production of cholecystitis or cholelithiasis.

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[5] Mayo: Innocent Gall-Stones a Myth, THE JOURNAL A. M. A., pril 8, 1911, p. 1023.

[6] Kehr, H.: Cholelithiasis, München. med. Wchnschr., March , 1911; Abstr. in THE JOURNAL A. M. A., April 29, 1911, p. 1305.

[7] Sherren, J.: Diagnosis of Gall-Stones, Lancet, London, April 1911; Abstr. in THE JOURNAL A. M. A., April 29, 1911, p. 1298.

[8] Rolleston: Diseases of the Liver, Gall-Bladder, and Bile- ucts.

[9] Lichty: Diseases of the Gall-Bladder and Biliary Ducts, Am. our. Med. Sc., 1911, cxli, 73

[10] Osler: Principles and Practice of Medicine, Ed. 7, 1910, p. 549.

Goldsborough and Ainley[11] by their demonstrations with phenolsulphonephthalein on renal activity have proved that metabolism in pregnancy and the puerperium show great alterations normally, and that there is a decided difference in metabolism in the non-pregnant and the pregnant condition of the same individual. One particular statement made by them was of great interest in this particular study; namely, in the last month of pregnancy the power to eliminate falls far below that of the non-pregnant individual; while they demonstrate conclusively that throughout the entire period of gestation the normal obstetric patient eliminates more slowly than the normal non-pregnant individual.

From this I would conclude that throughout the entire period of gestation there are changes in metabolism sufficient to furnish etiology for these diseases of the biliary tracts; and that aside from the question of adjustment that must inevitably take place in the early months of pregnancy, the question of elimination during the later months in particular must be considered. In this are involved the changes going on in connection with the growth of the fetus, the placenta with its unique cycle of growth and senility while still within the body of its host, and possibly the internal secretions from the ovaries.

One and all of these, although eventually they become components in the great physiologic life-cycle, yet, pending their final adjustment, may become or furnish sufficient cause for disease.

ICTERUS NEONATORUM

In connection with the question of maternal adaptation, that of the new-born child may be mentioned; the child, immediately on its separation from the maternal circulation, faces a problem of great importance in its adaptation to its new mode of life, and the demands made on it. In this adjustment the liver of the child plays an important part, as is manifested by the great frequency of jaundice in the first week of life; this jaundice is an evidence of an effort at normal physiologic adjustment in which the material furnished is in excess of the working capacity of the organ, and if the liver by overworking is able to handle this excess and to become adjusted before there arises a pathologic condition, the jaundice subsides.

As this condition often results when the child is prematurely born, more evidence is thereby furnished in support of the above theory.

PRESSURE

At all times during the last months of pregnancy a predisposing cause is always present in the form of pressure either directly or indirectly exerted on the liver by the gravid uterus. If, in accordance with the findings of Charcot and Gombault, Naunyn and Sherrington, referred to by Windsor,[12] the bile remains sterile only so long as it flows unhindered through its ducts, and after ligature of the common duct the bile speedily becomes infected, then normal pregnancy at all times furnishes a mechanical factor in pressure that is, in itself, sufficient cause for inflammation of the gall-bladder as well as for the production of gall-stones. And the same factors that in the one case may furnish a cause for the primary occurrence of cholecystitis or cholelithiasis during a pregnancy, may in another instance arouse and throw into activity one or both. It may be a cholelithiasis that has lain dormant a variable length of time until a primary or recurring pregnancy has produced the factors necessary for its arousal.

THE PSYCHIC FACTOR

I am of the opinion that the psychic feature of pregnancy has a great deal to do, both directly and indirectly, with the etiology of these hepatic lesions. In pregnancy the feeling of dread is ever present, and is far-reaching in its influence on the circulation, the respiration, the renal activity, the nervous system *per se,* the nutrition, and no doubt the internal gland-secretion. During the last few years I have proved by the study of 300 cases of child-bearing women that without exception they felt a dread almost beyond words to express; that there is always a fear of death present—a going down into its shadows—every time this function of perpetuation of the race is gone through with. And, however much we as physicians and surgeons may minimize the suffering and the danger, each one of us knows that this view of the patient is true, and however calm and self-reliant the patient may be, apparently, there is always underlying her apparent tranquillity this great fear that overshadows all else. This psychic feature is ever present, through pregnancy, parturition, and the puerperium—and it often manifests itself by means of the increased activity or derangement of the functions of the body.

Crile,[13] in writing on the psychic factor in the etiology of hyperthyroidism, claims that it is stronger in surgery than we have estimated it to be; he assigns to it an important place as a causative factor of hyperthyroidism following either a simple or a radical operation on the thyroid gland, and concludes that it should be given more attention in the consideration of surgical measures. While readily accepting this theory in regard to the importance of the psychic feature of surgery, I am of the opinion that it should be extended to include a consideration of the great and deleterious influence that the psychic feature of pregnancy brings to bear on this ever-present life-problem.

In addition to the indirect effect of emotion during pregnancy, in the production of these hepatic lesions, might be mentioned the direct etiologic factor that it furnishes by its action in depressing the resistance of the patient throughout her entire economy; the liver, no doubt, being primarily affected.

PATHOLOGIC PREGNANCY

The liver has assumed so important a position in the consideration of pregnancy that we are becoming accustomed to think of hepatic lesions as belonging to that condition, as evidenced by our chairman's use of the term "liver diseases of pregnancy" in a paper of recent date.[14] If the liver fails in its office as a toxin filter of the pathologic bacteria referable to mother, fetus, or placenta, these may furnish the infection necessary for the production of cholecystitis or cholelithiasis as a primary lesion, or for its exacerbation if it is present in a latent condition. There is no well-recognized line of demarcation between normal and pathologic pregnancy; anything that may cause hepatic lesions in the one may also cause them in the other; consequently, pressure from tumors, ascites, and other pathologic conditions, as well as pressure from the gravid uterus in normal pregnancy, may act to cause stagnation of bile with its sequelæ of infectious agents and their resultant lesions in the biliary tracts.

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[11] Goldsborough and Ainley: The Journal A. M. A., Dec. 10, 1910.

[12] Gombault, Naunyn, and Sherrington: Referred to by Windsor, Quart. Jour. Med., Oxford, 1911, iv, 113.

[13] Crile: Graves' Disease, The Journal A. M. A., March 4, 1911, p. 638.

[14] Wetherill: Obstetric, Septic and Anesthetic Toxemias, The Journal A. M. A., Aug. 29, 1908, p. 741.

HEART CORRELATION

Sometimes cardiovascular symptoms are manifested simultaneously with the gall-stone attack in pregnancy. This condition is always alarming, and not so very many years—or shall I say months—ago, it was looked on as non-compensating heart-disease, and by its presence furnished cause or excuse for the interruption of pregnancy, with the possible loss of both mother and child.

SYMPTOMS IN PREGNANCY

If cholelithiasis comes on during pregnancy, nausea and digestive disturbances may continue throughout the entire term; jaundice may occur or it may be entirely absent; jaundice at about the sixth month is not unusual, or it may appear as late as the ninth month and continue through parturition and the puerperium.

Pruritus is often a prominent symptom and a difficult one to relieve. Miscarriages are of frequent occurrence, and the prematurely born child may show signs of jaundice. Pain is often a misleading symptom.

Rolleston[15] reports a case of a woman who had never had jaundice at any other time, in whom jaundice appeared in four successive pregnancies at about the sixth month; this was accompanied by great itching. In this patient nausea continued throughout all four pregnancies. The first three infants died of jaundice.

Nason[16] reports a mother who after two normal pregnancies had a miscarriage; then followed a pregnancy with jaundice coming on in the latter part and extending through labor and the puerperium, with the loss of a jaundiced child; this was repeated in a fourth and fifth pregnancy; in the sixth and seventh pregnancies the mother was jaundiced about one month before delivery, but in each case the child was healthy. The eighth, ninth and tenth pregnancies were normal. Nason concludes from this case that there is a definite relationship between the jaundice in mother and the jaundice and ill health of the child, and that the condition was an infective one, the child being infected *in utero.*

TREATMENT

Opinions would no doubt differ as to the treatment of cholecystitis and cholelithiasis during pregnancy; all would doubtless agree that, when this lesion is known to exist, if there are no well-developed manifestations or exacerbations by which the activity of this lesion may be interpreted, as exerting a deleterious effect on pregnancy, the course to pursue would be to let well enough alone. And by medical means the milder symptoms may be met and the patient guided to a safe termination of the period of gestation.

But if there should be recurrence of severe pain referable to these hepatic lesions, or symptoms of gall-stones producing obstruction, or correlation of cardiovascular symptoms, no time should be lost in resorting to surgical measures.

Ochsner[17] says that gall-stones and severe infections of the biliary tract have come to be looked on as purely surgical conditions. Would this statement hold good should these occur primarily, or show exacerbations during pregnancy?

I hope that at the close of this paper one feature of the discussion will be the conditions under which operative measures are advisable or permissible, and to show the results of such operations, and that it is possible, even when cardiac symptoms are present to an alarming extent, to operate on the primary cause, gall-stones, and by their removal to carry the patient on to the end of her term and save both mother and child.

CASE REPORTS

Case 1.—Miss L. H. M., aged 39, occupation housewife, gave a history of periodical attacks of gall-stones for six years. (Diagnosed as such.) During the four years following, the gall-stone lesion remained latent, with some indigestion and jaundice but no decided attacks. All at once there was a strong exacerbation of symptoms; several seizures in quick succession, nausea and vomiting, marked acidity in the intervals, constipation and loss of appetite; the nausea and vomiting with hyperchlorhydria extending throughout several months.

On studying carefully into this case, a diagnosis of pregnancy complicating cholelithiasis was reached, the exacerbation of the latent cholelithiasis acting as a detective in enabling me to make a correct diagnosis at about the fourth month of pregnancy.

Since the birth of the child, four years have elapsed, during which time the patient has had no severe attacks of gall-stones, although the jaundice still persists.

Case 2.—Mrs. S. R., aged 28, occupation housewife. First child was 7 months old when the patient was seized with severe pains in the epigastrium; this pain was temporarily relieved by morphin; pain returned in two days and was then relieved by inhalation of chloroform. On examination of the feces 200 or more gall-stones were found. Seven months after this attack a second child was born. Since then this patient has had one pregnancy, the third child being born one and one-half years after the birth of the second, the period of gestation being normal throughout.

Case 3.—Mrs. W. H., aged 52, no occupation, gave a history of twenty-five years of gastric disturbances, with periods of pain in the right side, accompanied by pain in the epigastrium often, appetite poor at times, ravenous at other times, constipation, complexion swarthy, conjunctivæ strongly tinged with yellow; eleven pregnancies and three miscarriages. Three infants, lost in about the sixth month of pregnancy, were jaundiced.

As the attacks of pain were so frequent in occurrence and as the eleven pregnancies and three miscarriages followed one another in such rapid succession, it had never occurred to the patient that there was any relation between them. Neither had it occurred to the attending physicians, for the case was not correctly diagnosed as gall-stone trouble until at the close of twenty-five or more years of the above symptomatology, when the trouble was finally diagnosed by the finding of gall-stones in the alvine discharges, with toxic jaundice present as a constant symptom. On carefully tracing back through this patient's history there seems to be satisfactory evidence that there was always an exacerbation of the hepatic lesion during her frequent pregnancies. The history of this case is an illustration of the fact that there is difficulty in making a positive diagnosis of cholelithiasis; but it also points to the gastric disturbances manifested by the presence of this lesion, as a constant feature in the symptomatology, which, if properly interpreted, might lead to a positive diagnosis. Further, it intimates at least that there is a close relation between cholelithiasis (and its probable antecedent) and pregnancy.

Case 4.—Mrs. J. M., aged 36, housewife, gave a history of annual attacks of gastric disturbances, pain in epigastrium, nausea, loss of appetite, constipation, a gradual diminution in physical strength, and a general weak condition, rendering the patient unable to perform her regular duties.

There was at the time of examination a slight jaundice, conjunctivæ decidedly tinged, with "liver patches" on forehead. The initial attack came on six years ago when the first child was five months old; this attack continued for four or five weeks, one week of which the patient was confined to her bed. During the attack there were successive exacerbations of pain, and a single large stone was found in the feces. These attacks have been repeated each year, and although they have varied somewhat in severity, yet the general symptomatology has been almost identical. Generally speaking, these attacks are becoming more severe and are lasting longer, ten weeks having elapsed at the time of making the report since the ushering in of the present attack. No gall-stones were observed by the patient since the initial attack, although in following back her history the patient tells of noticing in the last attack about "two dozen small brown objects the size of shot" in the feces; these were irregular in outline.

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[15] Rolleston: Jaundice in Four Successive Pregnancies, Brit. Med. Jour., April 9, 1910.

[16] Nason: Relationship of Jaundice in Mother and Child, Brit. Med. Jour., April 9, 1910.

[17] Ochsner and Percy: A New Clinical Surgery, Ed. 3, 1911, 610.

During these six years this patient had six pregnancies, the children all living and reported as being fairly well nourished but not rugged; in each instance the supply of mother's milk became insufficient at four or five months.

I have tabulated this history as follows: First child born Dec. 14, 1905; first attack, May, 1906. Second child born Dec. 16, 1906; second attack, May, 1907. Third child born Dec. 7, 1907; third attack, May, 1908. Fourth child born Nov. 22, 1908; fourth attack, March or April, 1909. Fifth child born Dec. 29, 1909; fifth attack, March or April, 1910. Sixth child born Jan. 11, 1911; sixth attack, March or May 14, 1911.

In the first, second and third attacks the patient was in the second and third months of pregnancy; in the fourth attack in the first month; in the fifth attack probably in the first few days of pregnancy. In each of these six pregnancies there was intense pruritus, which at times became almost unbearable.

CONCLUSIONS

From a study of this subject in general and from the special study of the cases submitted, the following conclusions may be drawn:

There is a close relation existing between cholecystitis and cholelithiasis and pregnancy.

Physiologic pregnancy furnishes sufficient predisposing cause for the production of these hepatic lesions in its disordered metabolism pending adjustment, changes in elimination of waste products, changes in the rate of elimination, mechanical pressure and in its psychic features.

Pathologic pregnancy, in addition to these factors, furnishes the pathogenic agent direct.

So-called physiologic jaundice in the new-born is an expression of the effort on the part of the liver to adjust itself to its new requirement, and should always be looked on as a serious condition; and when jaundice occurs in the new-born child, following jaundice in the mother, it is reasonable to conclude that this toxic condition was transmitted from the mother to the child *in utero*.

In all probability, much of the "dyspepsia of pregnancy" is from unrecognized hepatic lesions, and preferably those under discussion; at any rate, gastric disturbances in pregnancy, whether designated "morning sickness," "water-brash," "sour stomach," "nausea," or however they may be termed, should always be looked into further than the digestive tract itself and should not be regarded simply as concomitant features of a physiologic pregnancy.

104½ South Clinton Street.

ABSTRACT OF DISCUSSION

Dr. Palmer Findley, Omaha: I should like to ask Dr. Branson to explain why there are so commonly attacks of cholelithiasis in the early months of pregnancy and not in the later stages, and then again, why these attacks often recur in the early puerperium?

Dr. L. H. Branson, Iowa City: I should say that in the early months of pregnancy there is this process of adjustment going on. The system in the later months is already in working order.

RUPTURED PUS-TUBE, A CAUSE OF DIFFUSE SEPTIC PERITONITIS

WITH REPORT OF TWO CASES

A. P. STONER, M.D.
DES MOINES, IA.

Spontaneous rupture of a pus-tube is a rare occurrence, and rupture followed by diffuse septic infection of the peritoneum is still less common. A small quantity of pus frequently escapes through the partially closed fimbriated extremity of an infected tube and may give rise suddenly to renewed pain, with rise of temperature, acceleration of the pulse, etc., but the inflammation remains localized within the pelvis, and the leak is promptly plastered over and securely sealed up with parts of the omentum, bowels, or some of the pelvic viscera. A few days of rest completes the repair process. When, however, a large quantity of infective material suddenly escapes from a distended tube, either through rupture of the wall of the sac proper, or, by the unfolding of the agglutinated fimbriated extremity of the tube, the peritoneum may be entirely unable to cope with it.

In an extensive research of the literature, Bonney[1] found but thirty-one authentic cases of diffuse peritonitis following rupture of a pyosalpinx, recorded up to 1909. Only fourteen, out of forty leading surgeons to whom he wrote concerning their experience with such cases, had ever seen the condition, and but nine of them had had cases of their own. Bonney had one case, which added to thirteen new cases which he collected, brought the number of reported cases up to forty-five in 1909.

Bovee[2] added eleven more cases, including one of his own. Lamouroux[3] has published data of seventy-seven cases, besides one of his own. In a majority of the cases reported, no assignable causes have been mentioned. In a few cases the following exciting causes have been given: (1) straining, (2) lifting, (3) traumatism inflicted during coitus, (4) the use of strong purgatives. In Bovee's case, the attack came on early in the morning during sexual intercourse. The patient experienced a sudden and severe pain at the time. She was first seen by Bovee three days afterward, and was operated on the following day. He reports the right Fallopian tube ruptured. She died fifty-four hours after operation; about seven days after the accident. C. M. Echols[4] reports two cases. In one, the rupture was caused by coitus. The patient experienced a sharp pain in the pelvic region immediately, and became nauseated. The other case was caused by an attempt of the patient to save herself from a fall. Both patients had Neisser infection, and both recovered after the removal of the ruptured tubes and securing of free drainage.

I wish to report two cases of diffuse septic peritonitis, following the sudden evacuation of pus from a pyosalpinx into the free abdominal cavity, which have occurred in my service, the histories of which follow:

Case 1.—Miss T., a very intelligent and prepossessing traveling saleswoman, was seen by me about 2 p. m., June 5, at her hotel in this city. She complained of a very severe pain in the lower abdomen, which she said had come on very suddenly during the morning; no exciting cause being obtainable. Vaginal examination showed the uterus to be slightly enlarged and freely movable; cervix somewhat softened, tenderness throughout the pelvic region, more especially in the right side, but no mass could be outlined. There was a blood-tinged mucopurulent discharge from the uterus, and pus was easily

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1. Bonney: Surg., Gynec. and Obst., November, 1909.
2. Bovee: Surg., Gynec. and Obst., April, 1910.
3. Lamouroux: Arch. gén. de chir., January, 1910, iv, No. 1.
4. Echols, C. M.: Surg., Gynec. and Obst., December, 1910.

expressed from the urethra. The patient grew rapidly worse, and was sent to the hospital at 8 p. m. of the same day. The temperature had risen from 99.5 F., at my first visit, to 102 F., when she was registered at the hospital. The pulse at this time was 120, and the vaginal discharge was distinctly bloody. Smears from the vaginal and urethral discharges showed gonococci in abundance. The patient's suffering was now so great that I was obliged to order morphin and atropin to allay the pain. She was more or less restless but slept at intervals during the night. The following morning she was resting better, but the temperature remained the same, and the pulse was 110. A blood-count at this time showed 18,000 leukocytes. During the night she passed a small clot of blood and particles of membrane which resembled decidua. She stoutly denied, however, any irregularity of the menses—the period was not due at this time—or any knowledge of pregnancy whatsoever. The cervix was much softened, and the evidence of pregnancy was so great that I decided to explore the uterine cavity for the removal of the product of conception if any were found. Accordingly, I had the patient etherized and explored the uterus with a sharp curet, but found it quite empty. She was returned to her bed at 2 o'clock and placed in the half-sitting posture. The following morning she consented to have the abdomen opened. The temperature was 103.6 F., pulse 120, and the expression indicated an extreme condition. A soap-suds enema was administered at 7 a. m., and at 8 a. m. the abdomen was opened, Drs. Minassian and Galloway assisting. When the peritoneum was opened, a thin flocculent pus welled up into the wound; it was found to permeate freely between the intestinal folds throughout the abdomen. Everywhere the intestines were injected and roughened; here and there they were plastered over with yellowish plaques of fibrinous deposits. Owing to the tension within the intestine, it was with some difficulty that the folds were packed off and a complete view of the pelvic adnexa obtained. The appendix was brought up and found to be normal. The right tube was next inspected, and at first sight appeared to be only slightly enlarged and thickened. A closer examination, however, revealed pus exuding from its distal extremity, the fimbria being deeply injected and partially folded on itself. The aperture into the tube readily admitted the little finger. The tube itself was flabby and contained about one-half dram of pus, which was easily expressed through the opening. Only a few recent adhesions were encountered. The left tube was apparently normal, as were both ovaries. The right one showed a recently ruptured Graafian follicle. The diseased tube was tied off close to the uterus and removed, and a large rubber drainage tube surrounded with a cigarette drain was secured with fine gut near the stump and brought out at the ower end of the incision and the wound closed. Much of the us was wiped up with gauze sponges, but no irrigation was used. The operation consumed but a few minutes, and the patient was put to bed in a good condition and immediately urrounded with hot bottles. Proctoclysis was begun immediately and the Fowler position maintained as before the operation. The patient made an uninterrupted recovery and was dismissed from the hospital July 21, two weeks after operaion. She left for her home in an adjoining state six days fterward. Examination of the pus from the abdomen showed he same specific infection as that obtained from the pus in he discharges from the urethra and uterus. The Fallopian ube evidently had become infected from pus in the uterine avity. The fimbriated extremity, being the point of least esistance, gave way as the tube filled with pus. This doubtess occasioned the first sharp pains complained of prior to my first visit. The tube having been opened, doubtless there as more or less pus stripped out at each pelvic examination.

Case 2.—Miss I., an accountant, aged 23, was seen by me n consultation about 4 p. m., October 6, about two hours after he onset of the attack. The patient had just returned from unch and was at her desk, when without warning she was truck with the most excruciating pain in the pelvic region. A hack was called and she was taken to her home. I found er lying on a couch, in great agony from pain in the lower bdomen. There was a cold, clammy sweat, pulse 120, temrature 99 + F. An hypodermic injection of morphin and atropin was administered at once. The following history was obtained from the family physician, who is a skilled practitioner. The patient had contracted gonorrhea six months before; the uterus and tubes had become involved early in the process. Several attacks of localized pelvic peritonitis during this period had been experienced, and she had been confined to her home most of the time, having only recently taken the position she was filling at the time of her attack. She had, however, refused any operative measures. On examination, I found the abdominal muscles fixed and rigid, and there was extreme tenderness all over the abdomen. The uterus was larger than normal and fixed in the pelvis. Any attempt to move it created pain. To the right and behind the cervix a boggy mass about the size of a lemon could be felt. I made a diagnosis of ruptured pus-tube, and immediately advised her being sent to the hospital. The patient was propped up in the semi-sitting posture in the ambulance and taken to Mercy Hospital at once, and was placed in bed in the same position. She refused to submit to immediate operation, but consented on the following morning to have the abdomen opened. Accordingly, at 9 a. m., under ether anesthesia, assisted by Dr. J. M. Mendenhall, and in the presence of Drs. Minassian and Crowley, I opened the abdomen in the median line below the umbilicus, using no elevation of the pelvis during the operation. When the peritoneum was opened, a thin flaky pus welled up into the wound; this pus was found throughout the abdomen, freely bathing the intestinal coils. In the deeper pelvic pouches the pus was decidedly more creamy and thicker in consistency. The intestines, as in the previous case, were deeply injected, and patches of plastic fibrinous exudate were frequently noted. The omentum was adherent to the fundus of the uterus, bladder and broad ligament. The adhesions having been detached, a large tubo-ovarian abscess of the right side was brought into view. It showed a large gaping rent in its wall through which pus was easily expressed. The abscess was so fragile that it was torn into pieces in effecting its removal. The left tube was much enlarged, filled with pus, and bound down in a mass of adhesions. The left ovary was cystic, and was removed with the tube. The appendix was not observed during the operation. Time of operation, twenty-five minutes. A smear of the pus from the abdomen showed the gonococcus. The wound was closed around two large rubber drainage tubes, the ends of which reached into the respective pockets left by the removal of the pus sacs. The patient was returned to her room in good condition, the head of the bed being raised by placing the legs on dining chairs. Hot-water bottles and proctoclysis were ordered immediately. The convalescence was somewhat stormy; the pain was excruciating and required the use of morphin to control it. Catharsis was attempted early, and the bowels were moved by enema on the second day. The drainage tubes were removed on the fourth day. The temperature ranged between 99 and 102 F. until the seventh day, when it advanced to 103 F., and there was renewed pain in the right side. Vaginal examination revealed an accumulation to the right of the cervix. Under ether anesthesia a vaginal incision was made, and a large quantity of pus evacuated. Iodoform gauze was packed into the cavity; it being renewed daily until the discharge was reduced to a minimum. The patient now began to improve rapidly, and was discharged from the hospital October 26, nineteen days after operation.

I regret that cultures were not made of the pus from the abdomen in these cases. It leaves one to conjecture whether other pathogenic germs did not play a part in the infection. At the time the cases were under observation, I was not aware that cases of diffuse peritonitis from such a source were so rare; therefore, the importance of a full examination did not occur to me. It is well known that the soil furnished by the peritoneum is inimical to the growth of the gonococcus. Many observers believe infection of the general peritoneum, from the gonococcus alone, to be impossible. Gonococci thrive and multiply almost exclusively on membranes which are covered with cylindrical epithelium, namely, the urethra, endometrium, the lining of the Fallopian tubes, Bartholin's glands and conjunctiva, their active life even here being comparatively short. Gonorrhea usually runs its course in a few weeks' time, regardless of the kind of treatment given. Purulent accumulations become sterile, active discharges cease, and whatever line of treatment may have been pursued in a given case is given credit for the cure which the system's defensive products have accomplished. Exceptionally, however, cases are observed in which the organisms maintain a pronounced virulency when cultured on a new soil, after months or even years of dormant life. From the character of the adhesions in Case 2, the process must have been of long standing. The pus in both tubes appeared to be old, being without appreciable odor. Case 1 was evidently a recent infection, as was shown by the adnexa being normal in contour, but slightly enlarged and thickened, and the adhesions being light and easily broken up.

From a clinical standpoint, no distinction should be made between leakage on account of incompetent closure of the fimbriated extremity of the tube and that of rupture of the wall proper of the tube. In each case, rupture comes from the constantly increasing pressure from within, which may be supplemented by other forces from without. As shown in my case, the symptoms in the former may appear more slowly, and be more difficult to interpret. The treatment of a case of ruptured pyosalpinx is the same as that for acute diffuse septic peritonitis from any other source. It may be concisely summed up as follows:

1. Put patients with suspected cases in the semisitting posture at once, keeping them in such position until operation. This will tend to limit the infection to the pelvic region, where absorption of the septic products is the least active.
2. Open the abdomen as early as possible; wipe up with gauze pads the accumulation of pus within the abdomen.
3. Find and completely remove the abscess.
4. Secure free drainage.
5. Maintain the Fowler position and start proctoclysis at once.

Therapeutics

ANESTHESIA AND ANESTHETICS

(Continued from page 1617)

CAUSE OF DEATH IN ETHERIZATION

There has been extensive discussion in regard to the occasional deaths which occur during anesthetization. It was formerly taught that death occurred during etherization from paralysis of the respiration; during the administration of chloroform from paralysis of the heart. Later observations and studies seem to show that the cause of death during the administration of ether may be due to paralysis of the heart as well as to paralysis of the respiration, and that in deaths from chloroform the respiration may cease before the heart fails.

It has seemed that a not infrequent cause of these deaths is a condition which has been designated as "status lymphaticus." In this condition there exists an enlargement of the various glandular structures of the body, and often a persistence of the thymus gland. This condition of enlargement of the thymus gland is associated with enlargement of the spleen, enlargement of the glands of the neck as well as of those of the abdomen, enlargement of the follicles at the base of the tongue and in the pharynx, hypertrophied tonsils and adenoids. These various enlargements are often accompanied by a dilated heart and by extreme flaccidity of the heart muscle. In some cases the heart has been found small and the aorta contracted. Other less constant features which may be present are great pallor of the skin, enlargement of the tongue and sometimes enlargement of the thyroid gland.

Among the conditions sometimes associated with status lymphaticus are infantilism, exophthalmic goiter, epilepsy and rickets.

When death occurs associated with this condition, there is usually a sudden failure of the heart and respiration, often before anesthesia is complete and often when the anesthesia is not deep.

Prof. Yandell Henderson ("Primary Heart Failure in Normal Subjects Under Ether," *Surg., Gynec. and Obst.*, August, 1911, p. 161) recalls that the deaths under anesthesia have been usually attributed either to unrecognized heart disease and hypersusceptibility to anesthesia, or to status lymphaticus. He believes that this explanation of these deaths is incorrect and misleading. He attributes them to the condition of so-called "acapnia." He illustrates this condition by saying that "anyone can do the crucial experiment demonstrating this at any time. Force yourself to breathe much more deeply and a little more rapidly than usual for a few seconds or minutes; and when you cease forcing your respiration you will, for a time, stop breathing altogether, or else breathe only occasionally or in a very shallow manner." This phenomenon he explains by saying that it is due to the absence in the blood of carbon dioxid which has been removed from the blood by the rapid breathing, and which is generally recognized by physiologists as being the normal stimulus to the respiratory center. This condition of diminished carbon dioxid in the blood is called "acapnia." He believes that deaths are far more likely to occur during the anesthesia when the patient has struggled violently against it, or when preceding the anesthesia, either on account of nervousness and apprehension, or on account of pain, the patient has breathed more deeply than usual, thus diminishing the amount of carbon dioxid in the blood and producing acapnia.

Anesthetics affect very positively the susceptibility to stimulation of the various organs, especially those of respiration and circulation. During light or intermittent ether anesthesia the susceptibility of the respiratory center to stimulation by carbon dioxid is increased; during full anesthesia it is about normal; but during deep anesthesia the susceptibility to such stimulation is diminished. If, therefore, during the commencement of anesthesia the patient struggles, consequently breathing more deeply, the carbon dioxid in the blood is diminished, so that when deep anesthesia is produced there is likely to be a quick paralysis of the respiration, or of the circulation. The same thing occurs if the patient is allowed to come partially out of the influence of the anesthetic.

It is impossible to predict, in these cases, whether the respiration or the circulation will be the first to suffer, for in some cases one, and in some cases the other, will feel the effect of the large dose of the anesthetic.

It has been generally believed that the presence of the so-called status lymphaticus was the cause of the rather unusually large proportion of cases of death during anesthetization which occurred in the course of operations for the removal of tonsils and adenoids.

Henderson explains these deaths by saying that they are due. not to status lymphaticus, but to the acapnia which accompanies the deep respiratory efforts incidental to the intermittency of anesthetization which generally prevails in these cases, to the light etherization at the commencement of the administration, to nervousness or pain preceding the etherization, or to the fact that the operation is sometimes commenced before the patient has been fully anesthetized.

These two theories offered in explanation of death during the administration of ether and chloroform should certainly put the surgeon and the anesthetist on their guard in two ways. The anesthetist should examine the patient before operation with reference to the presence of enlarged lymphatic nodes and glands in the various parts of the body, and when abnormal conditions of these are found, he should use greater care in regard to the use of an anesthetic. He should, furthermore, in giving the anesthetic use great care to have the patient inhale it without unnecessary excitement. should endeavor to avoid having him antagonize its administration by struggles and resistance. and should endeavor to get him fully under the influence of the anesthetic as quickly as is reasonably possible, should not allow him to come partially out from the influence of the anesthetic, but should maintain him under full, but not too deep, anesthesia until the anesthetic may be entirely withdrawn.

THE TREATMENT OF SUSPENDED RESPIRATION DURING ETHERIZATION

During the administration of ether the most common, and therefore the most important danger to the patient is suspension of respiration. While cases of sudden death during etherization have been reported in which the action of the heart ceased before the respiration or simultaneously with it, it is at present generally believed that ether acts more intensely on the center of respiration, and that paralysis of respiration causes death more frequently than paralysis of the heart.

It cannot be too frequently insisted on that the anesthetist should give his entire, undivided attention to the work which he is doing. This implies that he should be constantly watching the respiration in order to detect he first symptoms of any failure of that function. Every expiration of the patient should be either heard or felt by the anesthetist. To rely on hearing or feeling he respiration is preferable to watching the rise and fall of the chest or of the abdomen, for it is said that hese motions may continue even when the passage of air through the larynx has ceased. A dusky appearance of the lips and ears is also an evidence that respiration s becoming embarrassed, and it should not be disregarded. When the depth and rapidity of respiration changes so that the breathing becomes very rapid and shallow, the anesthetist should be on the alert lest it cease entirely. Often an abnormal rate or depth of respiration is preceded by a single deep inspiration.

While it is the duty of the anesthetist to keep the patient so far under the influence of the anesthetic that he patient will not move any muscle during the operaion, at the same time it must be remembered that ether hould not be pushed beyond this point. The corneal eflex is a most acute test of complete etherization. It s generally the last reflex to disappear before the enters of respiration and circulation become affected. While the cornea should not often be touched with the inger on account of the danger of injury or of infection. f respiration is much disturbed and the anesthetist is uncertain whether paralysis is beginning or whether the respiration is slowed from insufficient anesthesia, which can be a cause for sudden disturbed respiration, he may, with care, gently touch the cornea to note the presence or absence of the palpable reflex. If the reflex is absent and the pupil does not contract with light. the stage of central paralysis is generally developing.

Even when most carefully watched, the stoppage of the respiration is apt to come suddenly. Prompt and immediate action on the part of the anesthetist is urgently demanded. The ether cone should be at once removed, and the tongue should be seized with forceps and drawn forward. If the throat is filled with mucus, it should be gently wiped out with a piece of gauze or sponge held in forceps. Forcible expiration should be induced regularly by pressing on the epigastrium and the lower ribs on each side. The vapor of ammonia may be placed carefully under the nostrils in the hope of exciting the respiration by the reflex irritation of the nasal mucous membrane. Rhythmical pulling of the tongue forward at intervals of four or five seconds for ten or twelve times may start respiration. Alio raising of the feet and legs, or the Trendelenburg position, especially if the pulse is failing, may start respiration.

If the patient does not begin within a minute to respire, artificial respiration should at once be started, either by the method of Sylvester, or by any other reliable method. This subject of artificial respiration was treated at considerable length in The Journal (Sept. 23 and 30, 1911, pp. 1056 and 1132). The movements of artificial respiration should be kept up at regular intervals of four or five seconds until natural respiration has been resumed, or for fifteen minutes after the heart has ceased to beat.

Professor Henderson has so thoroughly proved the inadvisability of inhalations of oxygen from an oxygen tank, that such inhalations should not be given. On the other hand, every hospital operating-room should probably be supplied with a mixture of oxygen and carbonic acid gas as advised by Henderson. Where such a tank is not at hand, an ordinary siphon of carbonated water may be substituted, as so plainly described and recommended by Dr. William Ewart (*Brit. Med. Jour.*, Oct. 7, 1911, p. 805). This method is so simple and the apparatus so cheap to prepare that it would seem that even in a private house the operating-room should contain the apparatus and the patient thus be safeguarded against sudden respiratory failure.

Briefly, Ewart takes two ordinary siphons charged with carbon dioxid gas (one will generally be found sufficient), and with two water bottles properly connected, passes the gas into one and allows the liquid almost entirely to go over into the other. When the second bottle is raised, the water, propelled by siphonage, passes back to the first bottle and forces the carbon dioxid gas, properly mixed with air, into the tube for inhalation by the patient. Reference to Ewart's diagrams and his description will render the method and apparatus perfectly plain.

The only hypodermatic injection that seems advisable in failure of the respiration is that of atropin, and even this may not be absorbed. Of course, it can be of no value for the immediate respiratory failure, but it could be of value if the anesthetic must be continued, to aid in preventing another respiratory failure. Injections of cocain, nitroglycerin and brandy are of doubtful value in respiratory failure. Camphor and caffein injections may have slight value.

(To be continued)

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[*For other information see second page following reading matter*]

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THE CULTIVATION OF THE SPIROCHÆTA PALLIDA

During the past decade remarkable advances have been made in the placing of the pathology of syphilis on a sound basis. In 1903, Metchnikoff and Roux first demonstrated the experimental production of the disease by animal inoculation; two years later Schaudinn and Hoffmann announced the discovery of the *Spirochæta pallida*, since conceded to be the etiologic agent of the disease; and in 1906 Wassermann, Neisser and Bruck published the method of serum diagnosis with which we associate their names.

Schaudinn and Hoffmann gave excellent descriptions of the morphology of the *Spirochæta pallida* and detailed methods of demonstrating the organism in the secretions and in the tissues of syphilitic lesions. Many observers confirmed their observations, but, until this year all attempts to isolate the organism in pure culture, and to determine whether it fulfilled the requirements of Koch's postulates have been unsuccessful.

Schereschewsky[1] was the first to succeed in obtaining cultures of the spirochete. He placed fragments of syphilitic material in tubes of horse-serum solidified by prolonged heating at 60 C., and incubated at 37 under anaerobic conditions. But his success was infrequent, and contaminating organisms were numerous.

In 1910 Mühlens, using a modification of Schereschewsky's medium, obtained a pure culture, as also did Hoffmann in February of this year. The latter, however, did not succeed in producing syphilis in animals with artificially cultivated spirochetes until about a month ago, when he caused a syphilitic dermatitis in rabbits by infecting them with his cultures.

Meanwhile, Noguchi[2] has devised a method of isolating the *Spirochæta pallida* in pure culture and has established the identity of the organisms isolated as the true *Spirochæta pallida* by animal inoculations. Unlike previous investigators, he did not use syphilitic material obtained from man as a constituent of his medium, but employed the testicular tissue of rabbits which had been infected with human material. This method offers two main advantages—first, the ease with which large quantities of tissue containing numerous spirochetes may be obtained at any time; and second, the fact that the tissue is relatively free from contaminating bacteria, especially after passage through several rabbits.

The medium which Noguchi advocates is a "serum water" (sheep, horse or rabbit serum 1 part, distilled water 3 parts), to which a piece of sterile tissue is added; after sterilization this is covered with a thick layer of paraffin oil. The essentials for obtaining the first generation of the *Spirochæta pallida* are: (1) suitable fresh tissue in "serum water"; (2) a slightly alkaline reaction; (3) strictly anaerobic conditions; and (4) a temperature of 35 to 37 C.

Observing the enumerated conditions, Noguchi has grown six strains of the organism and succeeded in growing subcultures of one strain to the twenty-fifth generation. To obtain the spirochetes in pure culture he "grew them through a Berkefeld filter."

With two of the strains isolated he has succeeded in producing typical testicular lesions in rabbits; and Sowade[3] still later has reported positive results in five rabbits which developed constitutional syphilis. With the Blumenthal technic he obtained a positive reaction in several of the syphilitic animals, while the test was always negative in the controls.

Final proof is thus at hand that the *Spirochæta pallida* is the true causative agent of syphilis, and the near future may perhaps give us still better bed-side tests for diagnosis and a more rational specific therapy than we now have.

MAL DES AVIATEURS—AVIATOR'S DISEASE

Almost every occupation has its neurosis, and every new sport adds one to the long list. Thus we have become familiar with the "golfer's wrist," the "tennis elbow," and the "baseball arm" side by side with "writer's cramp." Trades have their dangers and develop new types of disease. The air induces pathologic as well as physiologic effects. Disturbances in physiologic balance experienced at altitudes were described by DaCosta under the name of *mal des montagnes* in the fifteenth century; and the dangers of changes in atmospheric pressure were made memorable by the eventful and fatal balloon ascension of Tissandier and his comrades from Paris in 1875.

The latest accession to the galaxy of maladies is the *mal des aviateurs*. With aviation meets as a daily occurrence, with transcontinental flight now an accomplished feat, and the aeroplane in actual operation as an "engine of war," it is not surprising that the medical aspects of this new vocation should invite the attention of the scientist. Professors Cruchet and Moulinier[1] of Bordeaux, have recorded the observations which they made at one of the large French meets. They point out hat an aeroplane flight calls for a continuous effort, both physical and intellectual, under conditions to which he human organism is not primarily adjusted. An ascent o an altitude of nine thousand feet is accomplished in hirty to forty minutes and succeeded by a return to earth within five to seven minutes. To these speedy scents and almost dazzling descents, forming the peculiar mechanical features of certain types of flight, are added the rapid changes in barometric pressure, the attendant modifications in the composition of the atmosphere, and the sudden alterations in temperature (from 68 F. on the ground to 42 F. at nine thousand feet)—a combination of factors including those to which all workers at high altitudes may be exposed.

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[1] Schereschewsky, J.: Deutsch. med. Wchnschr., 1909, xxxv, 835.

[2] Noguchi, H.: Jour. Exper. Med., 1911, xiv, 99.

[3] Sowade, H.: Deutsch. med. Wchnschr., 1911, xxxvii, 1934.

The data collected are, as yet, too scanty to permit of any elaborate discussion. Certain symptoms are of par-icular interest. During the ascents, shortness of breath may be experienced at relatively low altitudes, accompanied by some acceleration of the pulse. The attendant malaise is not characterized, as a rule, by the intense nausea noticed in mountain climbing; there may be a mild buzzing in the ears, but vertigo has not been eported. Frontal headaches are liable to arise at the ltitude of about 4,500 feet. The sensation of cold becomes intense and the desire to urinate is acute. rregularities in the voluntary muscular movements or eflex activities are also reported—perhaps the expres-ion of the combined effects of cold, accelerated heart-eat, nervous tension, fatigue and other factors.

Descent is usually too rapid to allow an accurate nalysis of the sequence of physiologic events. On land-ng there is an intense sensation of warmth over the m face of the body; the face is flushed; the eyes "sting." Headache is accompanied by an almost invincible desire o sleep. Increased blood-pressure is quite characteristic n landing from high flights, while severe tachycardia ay attend fatiguing exhibitions.

As in the case of mountain-climbing, the altitude at hich different individuals are attacked with malaise aries widely. Cruchet and Moulinier point out the asomotor disturbances, hypertension, headache and rowsiness, especially after landing, as characteristics of he *mal des aviateurs*. They add that probably the xtreme rapidity with which the aviator travels through changing atmospheric environment contributes dis-ress and even danger to variations in atmospheric ressure which divers, for example, would regard as latively slight. Some of the symptoms noted in isson workers find a counterpart in those reported by viators.

THE FACTORS CONCERNED IN MILK SECRETION

The apparently inexplicable variations in functional activity on the part of the mammary glands are among the perplexing problems which beset the physician and physiologist alike. The period is not remote when it was customary to charge the nervous system with every regulatory office of this type. Since Goltz and his pupils demonstrated that normal pregnancy and lactation are still possible after exclusion of the spinal nervous mechanism, and since the possibility of transplanting the mammary glands without complete interruption of their secretory function has been asserted, the dominance of the nervous system in the phenomena of lactation has begun to be questioned.[1]

What sort of stimulus awakens the mammary gland to activity, if the integrity of the nervous system is not a necessary condition? One naturally thinks of those chemical excitants which, under the designation "hormones," are now called on to explain various secretory functions. Secretin, formed in the duodenal mucosa, is carried by the circulation to the pancreas and liver, and occasions an outpouring of the secretions of these glandular organs; or, again, the secretory activities of the kidney can be incited by material derived from the posterior or infundibular portion of the pituitary body. These are typical illustrations of the stimulation of glandular tissues by humoral paths. In searching for hormones which might be the cause of the growth of the mammary gland substance during pregnancy, Miss Lane-Claypon and Professor Starling[2] tested the effect of extracts of placenta, uterus and fetus on virgin animals, with positive results in the case of the rabbit-fetus injections. From their observations it would seem as if the developing fetus gives rise to some chemical substance which enters the maternal circulation and stimulates the dormant mammary glands. In the experiments of Biedl and Königstein[3] also, fetal extracts appeared to start the growth of the glands; but milk was not produced. It is not unlikely that the two phenomena, viz., growth of the mammary tissue and incitement of secretion, are more or less independent reactions with individual causes.

The search for a true galactagogue has received an impetus through further investigations showing that secretion of milk can be initiated independent of pregnancy. In the case of the Blazek sisters—twins living in parabiotic union—milk formed in the breasts of both individuals during the pregnancy of one of them. It must be assumed that the effective hormone was transmitted through humoral channels from the gravid to the non-pregnant sister.[4] The credit of the discovery of hormones which influence milk secretion belongs to the American investigators Drs. Isaac Ott and J. C. Scott.[5] In a study of the influence of extracts of various glands containing so-called internal secretions they found that a substance separated from the posterior part of the hypophysis rapidly and greatly increased the secretion of milk in goats. Corpus luteum, pineal body and thymus also increased the quantity of milk, although the infundibular product was the most powerful galactagogue. The ovary without the corpus luteum had no effect.

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[1] Cruchet and Moulinier: Le mal des aviateurs, Jour. de hysiol. et pathol. gén., 1911, xiii, 387.

[1] Basch: Die Innervation der Milchdrüse, Jahrb. f. Kinderh., 1906, lxiv, 795.

[2] Lane-Claypon and Starling: Proc. Roy. Soc. London, Sec. B., 1906, lxxvii, 505.

[3] Biedl and Königstein: Untersuchungen über d. Brustdrüsenhormon der Gravidität, Ztschr. f. exper. Pathol., 1910, viii, 358.

[4] Basch: Ueber exper. Milchauslösung und Verhalten der Milchabsonderung bei den zusammengewachsenen Schwestern Blazek, Deutsch. med Wchnschr., 1910, xxxvi, 981.

The galactagogue action of pituitary substance and extracts of corpus luteum has been confirmed by Schäfer and Mackenzie.[6] According to these Edinburgh investigators it is not even necessary to employ a lactating animal to demonstrate the galactagogue effects. In one instance they observed a free flow of (serous) fluid from the incised mamma of a virgin cat after injections of pituitary substance. Extracts of involuting uterine mucous membrane, and of mammary gland itself are markedly galactagogue. Drugs, such as pilocarpin, physostigmin and nicotin, which might have been expected to produce some effect on milk secretion, in view of their well-known effects on other glands, exerted no perceptible influence.

Aside from its interest in explanation of the impulse to milk production, this pioneer work is full of suggestive possibilities for the future. The commercial dairyman and the scientific therapeutist alike will watch the further progress of these researches with marked interest.

SO-CALLED BRILL'S DISEASE: AN ACUTE INFECTIOUS DISEASE OF UNKNOWN ORIGIN

In April, 1910, Brill described[7] what he termed "an acute infectious disease of unknown origin," the essential features of which are as follows: A rather sudden onset, accompanied by a chill, or a chilly sensation, followed by body pains, prostration, apathy and severe headache. There is fever which reaches a maximum on the third day, after which it usually maintains a fairly constant level around 103 to 104 F. On the fifth or sixth day, an eruption appears, which Brill considers characteristic, even pathognomonic, of the disease. The lesions are numerous, and consist of discrete maculopapules, 1 to 4 mm. in diameter; the eruption is erythematous in character, and petechiæ are not infrequently present. The distribution may be universal though the lesions are most commonly present on the trunk. The eruption does not appear in crops, but reaches its full efflorescence within twenty-four hours; it remains until defervescence, with which it rapidly disappears.

The disease has a duration of twelve to fourteen days, at the end of which time the fever usually falls by crisis, the headache and apathy rapidly disappear, and a rapid convalescence begins.

According to Brill, the disease, in spite of its many points of similarity to typhoid fever, is not a form of infection with the *Bacillus typhosus* or with any other of the so-called "dysentery group" of organisms. The nature of the rash, the defervescence by crisis, the absence of abdominal complications, the negative blood-cultures and agglutination tests, serve as aids in differential diagnosis.

The resemblance to typhus fever is more striking, and Brill regards the syndrome he describes as a mild abortive type of that disease. But though the skin manifestations in the two conditions are similar, and though there is a critical defervescence in both, there are many points of dissimilarity. Thus, in the syndrome described by Brill, there are no marked nervous symptoms and no history of contagion; there is a mortality of less than 1 per cent., and autumnal prevalence. Further, inoculation experiments, made with the blood and tissues of patients ill with this "infectious disease," have failed to produce the disease, whereas similar experiments in typhus fever, made by Nicolle and by Ricketts, have been successful. In spite of the fact that this experimental evidence seems to negative the identity of the two diseases, Brill believes[8] the syndrome described by him to be the result of infection with an attenuated modification of the virus of typhus fever.

The same opinion is held by Friedman,[9] who describes numerous cases of mild abortive typhus fever which he observed in Russia. These cases, like those described by Brill, had a mild course, were unattended by nervous symptoms, terminated in recovery, and, when occurring under hygienic conditions, were only slightly contagious.

THE CONSERVATION OF THE SOLAR ENERGY IN OUR FOOD-SUPPLY

It is only recently that we have heard warnings of the danger of an inadequate food-supply, but the problem seems to be a serious one and its solution may become more and more insistent. With the strenuous efforts made to conserve human life and with the rapid increase in population and the utilization of all available food sources, the question, according to H. P. Armsby,[10] resolves itself into the problem of the fixation of as much of the solar radiation as possible in the form of crops and also the utilization of the energy which the latter contain with the maximum of efficiency. But a small part of the solar energy stored up in the farmers' crops is directly available for man's use. Rejecting the straw and the bran, only about 30 per cent. of the energy stored in an acre of wheat is directly available for human nutrition, and much the same thing is true of other food crops. Our enormous supply of food-products has hitherto enabled us to disregard this fact and even to export much of our products or to make use of them in the production of meat. But Armsby believes that we are rapidly approaching the economic limit of production of meat from edible grains. Of solar energy stored up in a bushel of corn, only 3 per cent. is recovered in the edible portion of the steer to which it is fed, while in pork this percentage rises to scarcely more than 16, and in milk to 18. Of the solar energy stored in an acre of grain crops, therefore, only an insignificant fraction is recoverable in meat produced from animals fed on the grain. "In other words," says Armsby, "the stockman who feeds his animals on grain is expending energy available for human use as fuel for his animal machines for the sake of recovering a small fraction of it in higher-priced and more palatable products, a process which can hardly fail to remind one of the reputed origin of roast pig."

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[5] Ott and Scott: The Action of Infundibulin on the Mammary Secretion: the Galactagogue Action of the Thymus and Corpus Luteum, Proc. Soc. Exper. Biol. and Med., 1910, viii, 48.

[6] Schäfer and Mackenzie: The Action of Animal Extracts on Milk Secretion, Proc. Roy. Soc. London, Sec. B., 1911, lxxxiv, 16.

[7] Brill, N. E.: Am. Jour. Med. Sc., 1910, cxxxix, 484; abstr. in The Journal A. M. A., April 30, 1910, p. 1477.

[8] Brill: Pathological and Experimental Data Derived from a Further Study of an Acute Infectious Disease of Unknown Etiology, Am. Jour. Med. Sc., 1911, cxlii, 196; abstr. in The Journal A. M. A., Aug. 19, 1911, p. 681.

[9] Friedman, G. A.: Arch. Int. Med., October, 1911, iii, 427.

[10] Armsby, H. P.: Pop. Sci. Month., November, 1911, p. 496.

In the past, speaking broadly, meat production has consisted to a large extent in the exploitation of our food resources, but in the near future we shall have to reverse this attitude and study the conservation of the food-supply. "Not much longer can we continue to take the children's bread and cast it to the brutes." All the edible products which the farmers' acres can yield will be needed for human consumption and the problem will be to render available for human use those products, inedible by man until transmuted into meat, in which so large a share of solar energy is stored. Meat and other animal products will be produced, not as luxuries for the tables of the rich, which they seem to be becoming now, but as a means of conserving energy for human use. The stock-feeding of the future will be a highly artificial process dealing with food-stuffs unfamiliar at present and seeking to utilize to the utmost the energy of every available by-product.

Looking far ahead at the needs of the future in this respect, already experts in agriculture and in animal industries have been studying scientifically the most economical production of meat, and Armsby describes some experiments conducted in the Institute of Animal Nutrition in the Pennsylvania State College which seek in a way similar to the studies of Atwater and Chittenden on human beings to determine the chemical elements and energy of income and outgo per day in food animals. In these studies the respiration apparatus and the calorimeter have been made use of. The questions which the experimenters have endeavored to determine have been how the different feeding stuffs compare with each other as to their content of energy and the proportion available for the animal; the relative efficiency of different types of animals as converters of waste energy into human food; and how the various conditions under which the animals are kept affect their efficiency in this respect. Correct answers to these questions will afford a scientific basis for a rational system of conserving to the utmost the energy which the farmers have been taught by the soil expert, the chemist and the other scientists to accumulate in crops. The question of conservation of the food-supply is one of the most fundamentally important, at least equaling that of the conservative measures looking toward the preservation of mines, forests, water-supplies, etc.

Current Comment

THE PROFITS OF VACCINATION

According to a recent dispatch from Washington, members of state militias can be vaccinated against typhoid at a cost of 12½ cents per man. If the present claims regarding this method are correct, inoculation means immunity from typhoid, hence the more inoculations, the less typhoid. This being the case, if every person in the United States were inoculated, typhoid fever would disappear. The charge is often made by those who oppose sanitary measures, that physicians advocate vaccination on account of the "graft" there is in it. Let us suppose that typhoid vaccination should become universal, that every person in the United States were vaccinated, and that as a result typhoid fever disappeared. How would physicians gain? Let us see. In 1908 there were in the registration area 11,375 deaths from typhoid, or 25.3 per hundred thousand. Assuming that this ratio holds for the entire country, among the 91,109,447 inhabitants of the states, there would be about 23,050 deaths from typhoid. The mortality rate of typhoid varies from 12 to 20 per cent. One death out of every ten cases would be a conservative estimate. This would mean that there are about 230,000 cases of typhoid each year. If the average cost per case for medical services were $50, the total yearly income to the medical profession from typhoid fever would be $11,500,000, or $88.46 per year, for each of the 130,000 physicians in the United States. Now if each man, woman and child were inoculated against typhoid, and if such inoculation were repeated every ten years, and if typhoid disappeared, each physician would lose $88 per year, and the profession as a whole would be out $11,500,000 per year, or $115,000,000 in ten years. But—and here comes the "graft"—physicians would be paid for vaccinating the people! How much? If vaccination for typhoid became as common as vaccination for small-pox, and if physicians did as many free vaccinations as are now being done by school inspectors, health officers and others, they could not receive, on an average, more than 10 cents an individual for vaccination. Even if every man, woman and child were vaccinated, the income to physicians, from vaccinating 91,109,447 people every ten years would only be $9,110,944, or $911,094 each year. This would be an average of $7 per year for each physician. But he would lose $88.46, his present average income from typhoid, so that his net loss through the introduction of vaccination would be $81.46 per year, or $814 in ten years, a total loss to the entire profession of $10,589,800 a year, or $105,898,000 every ten years. Is it any wonder that physicians are accused of graft when such glittering, get-rich-quick prospects are spread before them? This would only duplicate the experience of the medical profession in the one hundred years which have elapsed since Jenner's discovery. It is safe to say that had vaccination never been discovered, physicians would to-day be making $1,000 caring for small-pox patients, where they now make $1 for vaccinations. Yet the ignorant and the thoughtless still talk about the "graft" of vaccination.

A LEGITIMATE EXPRESSION

The treachery of type and the fallibility of the human mind and eye are dangers so ever-present in the consciousness of most editors that, when charged with an error, they are usually almost ready to plead guilty at once, without examination of the indictment. It is all the more a pleasure, therefore, to be able to "stand pat" once in a while. For example, a contemporary thinks that one of our contributors made "a somewhat extraordinary statement" in a recent article.[1] Our contemporary says: "Speaking of a certain type of patient, Dr. Ledbetter avers: 'They are credulous and more or less superstitious and easily imposed on, and are the *legitimate* prey of the unscrupulous.' The italics are our own idea." A bright little idea indeed—those italics—otherwise we might have missed the point. While we do not need to take up the cudgels on Dr. Ledbetter's behalf, a lively interest in the English tongue impels us to remark that the criticism needs a diagram, because the word is here used correctly. "Legitimate" is not limited in its application to the laws made by men; it refers also to natural law—in this case particularly to the laws of psychology. A better word than "legitimate," because more appropriate in this connection, would be "logical" or "natural," but "legitimate" is not incorrect. Our contemporary unintentionally does Dr. Ledbetter injustice, by the way, in saying that he was "speaking of a certain type of patient" when he said: "They are . . . easily imposed on." Dr. Ledbetter provided his plural pronoun with a plural antecedent; he spoke of "individuals of this type." Notwithstanding, we hereby return our best acknowledgments to our contemporary for the flattering evidence that our columns are carefully scanned, and for the effort toward our improvement.

THE MOTE AND THE BEAM

Scarcely a day passes but we receive one or more letters from physicians enclosing some "patent-medicine" advertisements taken from local newspapers and protesting against the disgusting prostitution of the daily press to the "patent-medicine" interests. Such letters are vibrant with indignation and filled with anathemas against the venality and sordidness of the American newspaper. While we fully agree with our correspondents' point of view, we are unable, in a majority of cases, to work ourselves into the same fine frenzy they exhibit. We know that, in too many instances, the writers of such letters are subscribing for, contributing to and in other ways lending their financial and moral influence toward the up-keep of medical journals whose advertising pages reek with frauds just as vicious as those that appear in the yellowest of yellow journals. Physicians who would no more think of violating the ethics of their profession than they would of breaking the law of the land, are supporting medical journals whose only interest in the profession is the money their owners can make out of it. The whole policy of such journals is dictated from the "business office." If medical ethics and advertising contracts clash, so much the worse for ethics. Such publications are *particeps criminis* with those that humbug the profession, and through the profession the public, and their editors salve their consciences with the advertising receipts. Just as long as journals of this kind are subscribed for or contributed to by reputable medical men, just so long will the proprietary evil flourish. The influence of the medical profession on the attitude of newspapers toward medical frauds will continue to be a negligible quantity just so long as the business managers of newspapers can retort that the medical profession itself is standing sponsor for just as big a "bunco game" as any newspaper that ever advertised Peruna or Lydia Pinkham! It is a fact, and one that should make every self-respecting physician blush, that the better class of lay magazines are more particular about the acceptance of advertisements than are the majority of medical journals supported by the profession. And the fault lies with the individual physician! The remedy is evident and as simple as evident: Physicians should not tolerate the presence of such publications in their offices.

CARNEGIE UNIVERSITY—A FRAUD

Elsewhere in this issue[1] some space is devoted to the description of an imposingly-named "school of drugless healing"—Carnegie University. This concern gives diplomas and grants degrees for a cash consideration; moreover, it will grant these degrees and diplomas to individuals even after they have given documentary proof of their unfitness to treat disease. For $50 the degree of "Doctor of Mechanotherapy" and an ornate "diploma" has been offered to one whose ignorance of physiology and anatomy was such that he could not distinguish between the portal circulation and gastric digestion, who did not know the difference between the fornix and the pharynx, and whose idea of histology was that it dealt with the history of anatomy and physiology. Think of it! In most of the states of the union, a man exhibiting this colossal ignorance of the human body is permitted to treat any disease that flesh is heir to—providing he does not use drugs. And almost the only ones who protest against such unchecked malpractice are physicians—who are at once accused of ulterior motives and charged with persecuting "competitors." As such schools exist only for the sale of worthless diplomas and worse than worthless "courses," so also the individuals patronizing them do so for one purpose and one purpose only—that of engaging in an easy and lucrative business. The dominant idea expressed throughout all the catalogues of the various "colleges" of "drugless healing" is the amount of money that can be made by following this trade. For trade it is and a disreputable one at that. These schools are attempting to influence state legislatures to grant them legal recognition. Such recognition once granted, the thousands of sordid ignoramuses who have purchased the degrees offered by these institutions are turned loose to work their will on the sick and the suffering. When will the granting of charters to such worthless and fraudulent institutions cease? The editor of London *Truth* once stated that it seemed easier to start a university in the United States than it was to start a grog-shop in Great Britain. And he might have added: "or in the United States, either." It remains to be seen whether the authorities of Delaware or New York will take action against Carnegie University or its "affiliated" humbug, the National Institute of Mechanotherapy. If the state authorities decide that they have no jurisdiction in the matter, it is to be hoped that the efficient but overworked fraud-order department of the United States Postoffice will take cognizance of this parchment factory.

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[1] Ledbetter, S. L.: Psychology of Refraction, The Journal A. M. A., Oct. 14, 1911, p. 1284.

[1] Propaganda for Reform department, page 1710.

Medical News

ILLINOIS

Certificate Revoked.—The State Board of Health announced at its meeting held in Chicago, October 25, that it had revoked the certificate of Dr. Haldane Cleminson, who is serving a life sentence in the state penitentiary at Joliet, for the murder of his wife.

Personal.—Dr. Simon S. Wilcox, an aged physician of Hutton, fell in his barn, November 3, fracturing two ribs.——Dr. John H. Rice, Clayton, leaves Quincy, December 1, for a trip around the world.——Dr. Hiram J. Smith of the medical staff of the Elgin State Hospital has been appointed assistant superintendent of the Watertown State Hospital.

Isolation Hospital Wanted for Evanston.—At the meeting of the Evanston branch of the Chicago Medical Society and physicians of Evanston and the North Shore, October 27, the forty-six physicians present pledged themselves to assist in the organization of a contagious disease hospital for the use of that territory, to be open to patients from all the north shore towns and as far north as the Cook County line. Drs. Stephen V. Balderston, Evanston; Alice Brown, Winnetka; Rufus B. Stolp, Kenilworth, and George W. Haskins, Wilmette, were appointed temporary officers of the Contagious Disease Hospital Association, and were directed to formulate plans for a permanent organization.

Chicago

Increase in Communicable Diseases.—The *Bulletin of the Department of Health* for this week speaks of the unnecessary deaths from diphtheria in Chicago. During the week ended November 12, there were twenty-one deaths from this cause, and in the previous week twenty-five deaths. The department calls attention to the fact that there is not likely to be a decrease in the mortality from this cause so long as parents persist in neglecting sore throats in their children, and physicians are lax in reporting cases and delay the administration of antitoxin. In view of the fact that the state is now furnishing antitoxin free for those who are unable to pay for it, no child need die from this cause for lack of proper treatment. There are at present thirty-four state free antitoxin stations in Chicago.

INDIANA

District Society Meeting.—At the annual meeting of the Eleventh Indiana District Medical Association, held in Wabash, October 20, Dr. Lorin W. Smith, Wabash, was elected president; Dr. James L. Gilbert, Logansport, secretary-treasurer, and Dr. Godlove G. Eckhardt, Marion, councilor.

Hospital Notes.—At a meeting of the trustees of Indiana University, held in Indianapolis, November 4, a resolution was adopted that the Robert W. Long Memorial Hospital be erected in Military Park, Indianapolis.——Brazil has received funds for a $50,000 hospital; the city is to furnish the site and the building will be erected by Clay County.

Personal.—Dr. John P. Ramsay has been appointed medical director of the Good Samaritan Hospital, Vincennes.——Dr. David Cohen has succeeded Dr. George W. Twomey as a member of the board of health of Jeffersonville.——Dr. Ryan T. Van Pelt, South Bend, who has been seriously ill with septicemia, due to an infected finger, is reported to be improving.

KENTUCKY

Personal.—Dr. Martin W. Steele, Corbin, and not Dr. James R. Steele, as announced in The Journal of November 4, was elected third vice-president of the Kentucky State Medical Association.

Buildings for Incurable Tuberculosis Patients.—The new City Hospital of Louisville has appropriated $25,000 out of the $1,000,000 bond issue recently authorized, for the erection of buildings for the care of incurable patients at the Waverly Hills Sanatorium.

Loses Suit Against County Medical Society.—Dr. Benjamin L. Bradley, Paducah, secured a temporary injunction to prevent the McCracken County Medical Society from expelling him for "ungentlemanly and unprofessional conduct," the alleged conduct being that he had signed with other members of the society a general agreement regarding telephone service and had failed to keep it; the case was then brought up in the circuit court and the injunction dissolved. Later, Dr. Bradley took an appeal to the appellate court, and lost, so the injunction against the society was finally dissolved.

State Board Affairs.—At a recent meeting of the State Board of Health, Prof. E. H. Mark, formerly superintendent of the Louisville Public Schools was appointed state sanitary engineer and chemist. This was decided on the acceptance of the resignation of former State Engineer and Chemist Paul Hansen. It is expected that Prof. Mark will enter on his duties about Jan. 1, 1912.——A communication was received by the board from the Louisville Association for the Study and Prevention of Tuberculosis requesting that the board pass an ordinance prohibiting the use of public drinking-cups. The board expressed its willingness to act favorably on the request made by the association provided the present law compelling railroads to furnish drinking-cups on trains is repealed. The board indorsed a series of bills prepared by the State Association for the Study and Prevention of Tuberculosis which are intended to provide for a State Tuberculosis Sanatorium and for state aid for any county establishing a sanatorium within its limits.——According to statistics furnished by the secretary there are 20,000 cases of tuberculosis in Kentucky, 6,000 persons having died from tuberculosis in the state during the past year.——The report from the committee appointed at the last meeting to inspect the equipment and teaching methods in the Medical Department of the University of Louisville, reported that they found everything in excellent condition.——It was decided that examinations for applicants for licenses to practice medicine will be held at the Armory in Louisville, December 19, 20 and 21.

MARYLAND

Baltimore

Personal.—Dr. Johannes K. Peltekian sailed for Armenia, November 9.——Dr. Charles H. Meddars sustained painful injuries in an automobile accident, November 7.——Dr. Christian Deetjen was again operated on last week, having the last two phalanges of the right forefinger amputated on account of *x*-ray burns.——Dr. Aubrey F. Lawson, intern at Mercy Hospital, has resigned to take up practice at Wildell, W. Va. ——Dr. George Hauer Everhart has returned from Europe. ——Dr. Paul Titus was operated on in St. John's Hospital, November 6, and is said to be doing well.

MASSACHUSETTS

Hospital Notes.—The New England Hospital for Women and Children, Boston, has received as a gift from Miss Alice Stone Blackwell her home in Boutwell Avenue, Dorchester, and will use it as a convalescent home.——The Boston City Hospital Department has raised the salaries of several members of the resident staff.——The Robert Dawson Evans Memorial Hospital, which is to be devoted to clinical research and preventive medicine, is approaching completion. The institution, when finished, will have cost about $125,000.

Tuberculosis in Boston.—The chairman of the trustees of Boston Consumptives' Hospital reports that during the last year 1,573 patients were received at the Day Camp; 10,099 were examined in the out-patient department and 40,000 home visits were made by the doctors and nurses connected with the institution. During the last five years the number of beds available for advanced cases of tuberculosis in Boston, has been increased 366 per cent. At the hospitals in Mattepan 1,124 bed patients have already been treated.

MICHIGAN

Addition to Sanatorium.—Through the efforts of Mrs. John T. Brodhead, Detroit, an addition to the Detroit Tuberculosis Sanatorium has been provided, which contains five rooms with all necessary conveniences for advanced cases of tuberculosis. Plans are said to be under way for another addition to the institution.

New Officers for Society.—At the annual meeting of the Michigan Society for the Prevention and Relief of Tuberculosis, held in Ann Arbor last week, the following officers were elected: president, Dr. Collins H. Johnston, Grand Rapids; vice-presidents, Drs. Guy L. Kiefer, Detroit, and Robert B. Harkness, Houghton; secretary, Miss Carol Walton, Ann Arbor; treasurer, Dr. Henry J. Hartz, Detroit, and directors, Mrs. Caroline Bartlett Crane, Kalamazoo, Dr. Ralph C. Apted, Grand Rapids, Mrs. B. C. Whitney, Detroit, Dr. Victor C. Vaughan, Ann Arbor, Dr. Russell L. Dixon, Grand Rapids, Mrs. Elnore Chamberlain, Hartford, and Mrs. Huntley Russell, Grand Rapids.

NEW YORK

Personal.—Dr. Willis W. Waite, city bacteriologist of Syracuse, has resigned to accept the directorship of Dr. Hugh W. Crouse's clinical laboratory, El Paso, Tex.——Dr. and Mrs. Charles Barber Willis, Huntington, celebrated the fiftieth anniversary of their marriage, October 31.

District Society Meetings.—At the fifth annual meeting of the Seventh District Branch of the Medical Society of the State of New York, held in Rochester, October 19, Corning was named as the next place of meeting. Dr. Herbert B. Smith, Corning, was elected president; Dr. Willard D. Becker, Rochester, vice-president, and Dr. John F. Myers, Sodus, and Dr. Homer J. Knickerbocker, Geneva, were reelected secretary and treasurer, respectively.——The Medical Association of Central New York held its annual meeting in Rochester, October 19, electing Dr. William D. Johnson, Batavia, president; Dr. Louis F. O'Neill, Auburn, vice-president, and reelecting Dr. John J. Buettner, Syracuse, secretary, and Dr. Charles O. Boswell, Rochester, treasurer.

State Sanitary Officers' Meeting.—The New York State Sanitary Officers' Association, made up of the 1,400 health officers of the state, held its third annual meeting in New York City, October 24, 100 members being present. The following officers were elected: president, Dr. Frank Overton, Patchogue; vice-presidents, Drs. Louis M. Brown, Purdy's Station; Louis B. Couch, Nyack, and Orlando J. Hallenback, Canandaigua; secretary, Dr. Montgomery E. Leary, Rochester, and treasurer, Dr. William Stanton, Webster. The association decided to undertake the revision of the sanitary laws of the state with the cooperation of the State Department of Health, and a legislative committee consisting of the president and secretary and five members is to be appointed to take up this task. The sanitary codes of various states will have to be studied and the best points in each adopted, so that the new sanitary code may be as nearly ideal as possible.

New York City

Personal.—Dr. Peter Hughes, surgeon and chief of St. Catherine's Hospital, Brooklyn, was operated on November 1, in New York City, for the removal of a stone from the kidney, and is reported to be progressing favorably toward recovery.——Dr. Simon Flexner of the Rockefeller Institute for research, has been appointed by the Emperor of Germany an honorary member of the Royal Institute for Experimental Therapeutics, Frankfort-on-the-Main.

Montefiore Home.—The directors of this institution held their twenty-seventh annual meeting, November 4, when it was announced that the new buildings of the home, which have cost about $1,500,000, will be completed in about eighteen months. There will be accommodations for 480 patients. During the past year the New York home and the country sanatorium together have cared for 1,109 patients. Mr. and Mrs. Mortimer L. Schiff have given $25,000 toward the building fund, and George Sidenburg has given $25,000 for an operating room.

Harvey Lecture.—The fifth lecture of the seventh course of Harvey Society Lectures will be given at the New York Academy of Medicine, November 25, at 8:30. Prof. W. T. Sedgwick, of the Massachusetts Institute of Technology, will speak on "Illuminating Gas and the Public Health."

Health Department Takes over Milk Station.—The commissioner of health announces that on November 1, the department of health resumed charge of twenty-two of the infants' milk stations formerly conducted by the New York Milk Committee in the Borough of Manhattan. The committee had publicly announced its intention of discontinuing these stations.

Health Department and the Strikers.—Dr. Lederle announces that the health department will not interfere with the strike among the garbage collectors and street cleaners at present. Should the strike be protracted, however, the health department has the power to let contracts for the removal of garbage. Dr. Lederle is of the opinion that no particular danger can result from the garbage piling up for three or four days so long as the weather remains cool.

NORTH DAKOTA

Personal.—Dr. Ulrich F. Bush, Fargo, has returned from Europe.——Dr. Gustave F. Ruediger, Grand Forks, has been reappointed city milk inspector.

Fire in Hospital.—A fire in the Jamestown City Hospital, October 28, necessitated the removal of all patients from the institution. This was accomplished without serious injury to the patients, and a temporary hospital has been established in the neighboring residences.

Sanatorium Contract Let.—At a recent meeting of the board of trustees of the North Dakota Tuberculosis Sanatorium, Dunseith, the contract for the administration building was let for about $20,000. The foundation of the building will be laid this fall and the building will be completed in the early spring. The institution will accommodate forty patients.

OHIO

Medical College Custodian Dies.—Richard Pugh, aged 83, for nearly fifty-five years custodian of the Starling Medical College, Columbus, and well known to many generations of students, died at his home, October 19.

Meeting of Women Physicians.—At a meeting of the Columbus Women's Medical Club, held November 10, Dr. Jane G. Rouey Husted was elected president; Dr. Harriet B. Clark, vice-president, and Dr. Alice M. Johnston, secretary-treasurer.

State Hospital Physicians Meet.—At the semi-annual meeting of the Association of Assistant Physicians of the Ohio State Hospitals, held at the Athens State Hospital, October 4 and 5, Dr. Clyde C. Kirk, Toledo, was elected president; Dr. G. G. Edwards, Gallipolis, vice-president; Dr. Mary K. Isham, Columbus, secretary, and Dr. August C. L. Werner, Dayton, treasurer. The next meeting will be held at the Columbus State Hospital.

PENNSYLVANIA

Milk Laboratory Moves.—The milk laboratory conducted by the milk committee of the Wyoming Valley Society for the Prevention and Treatment of Tuberculosis has been moved to the State Dispensary Building, 184 South Washington Street, Wilkes-Barre, where nurses will be on duty every morning from 9 to 10, to consult with and advise mothers.

Open-Air Pavilion Dedicated.—A children's pavilion and open-air school at the Jewish Consumptive Sanitarium at Eaglesville, was dedicated November 5. After addresses had been made by the chairman and others, the keys of the various rooms and compartments were auctioned off and $3,400 was netted. The sum of $425 was realized by the sale of chairs.

For Sewage Disposal.—The borough council of Norristown has appropriated $500 for the use of the borough engineer to obtain expert advice and to view sewage disposal plants in Ohio, in order to establish a sewage disposal plant at Norristown. It is reported that the one at Philadelphia is an experiment, the one at Reading unsatisfactory, and that the one erected at the State Hospital for the Insane at Norristown is a public nuisance.

Personal.—Dr. John C. Hutton, Harrisburg, is convalescent after a cerebral hemorrhage.——At a meeting of the directors of the Homestead Hospital, November 3, Dr. John Ballagi was elected a director, vice Dr. William A. Jones, resigned, and Dr. Charles A. Shirey, Manor, was elected resident physician.——Dr. Boyd W. Schaffner, Elwood City, has been appointed local surgeon for the Pittsburg, Lake Erie, Baltimore and Ohio Railroad, vice Dr. William A. Shannon, resigned.

Tri-County Medical Society.—The Goodno Medical Society, composed of physicians of Dauphin, Lancaster and York counties, met in Lancaster, October 12. Dr. George W. Brose, York, was elected president; Dr. Roscoe L. Perkins, Harrisburg, vice-president, and Dr. Brantley F. Parker, York, secretary-treasurer.

Philadelphia

Statue Presented.—A life-sized marble statue of Æsculapius, a replica of the one in the Vatican at Rome, was presented to the College of Physicians by Dr. Richard H. Harte, and accepted on behalf of the college, by Dr. S. Weir Mitchell, at the November meeting of the college.

Hospital Buys Lot.—The German Hospital of the city of Philadelphia has purchased a lot at the northeast corner of Corinthian Avenue and Cambridge Street for $4,000. The hospital recently built a nurses' home at the southeast corner of Corinthian Avenue and Cambridge Street.

Memorial Funds.—Reports from the committee in charge of the memorial to the late Dr. De Forest Willard announce that the fund at present amounts to $2,000. A similar committee in charge of the memorials to the late Dr. James Baynes Walker announces that the fund for that memorial has reached $1,000.

City Hygiene Laboratory to be Moved.—Because of the smallness of the quarters in the City Hall, Dr. Joseph S. Neff, director of Public Health and Charities, plans to have the laboratory of hygiene, part of the bureau of health, removed to the Philadelphia General Hospital, and has asked councils to appropriate money to build a new laboratory there.

University of Pennsylvania Alumni Hold Family Party.—The Philadelphia Alumni Society of the Medical Department of the University of Pennsylvania has issued invitations to a family party to be held at the Bourse, November 18. A reception is to be held in honor of the newly elected professors in the medical department, Drs. Gwilym G. Davis, John B. Deaver, M. Howard Fussell, Milton B. Hartzell, Edward Martin, A. M. Pearce, A. H. Richards, Alfred Steugel and Alonzo E. Taylor. The dean, Dr. Allen J. Smith, will tell of the present requirements for admission; Dr. Barton C. Hirst will report on the requirements for admission in the various medical schools and what the state board demands of schools whose graduates desire licenses to practice; Dr. Alfred Stengel will outline the course of medical instruction; Dr. Edward Martin will tell of the teaching of surgery and allied branches; Dr. Alonzo E. Taylor will give an account of how physiologic chemistry is taught, and A. H. Richards will detail the methods followed in teaching pharmacology.

VIRGINIA

Norfolk County Physicians Meet.—At the annual meeting of the Norfolk County Medical Society, held October 7, Dr. Philip St. L. Moncure was elected president; Dr. Edward T. Hargrave, vice-president, and Dr. Charles L. Harrell, secretary-treasurer.

New Rule Gives More Room.—The health commissioner, Ennion G. Williams of Richmond, announces that under the provisions of the rule limiting the stay of patients at the Catawba Sanatorium to six months, removals and changes have become so frequent that suitable patients can now be admitted without long delays.

Personal.—Dr. Junius F. Lynch, Norfolk, was operated on for appendicitis at St. Luke's Hospital, Richmond, October 28, and is reported to be doing well.——Dr. Randolph A. Watts, intern at the Richmond City Hospital, was operated on for appendicitis in that institution, October 31.——Dr. William C. Day, Danville, was thrown from his horse, October 31, fracturing his leg.——Dr. William T. Oppenheimer, Richmond, has been selected by the board of directors of the state penitentiary as surgeon of that institution to fill the unexpired term, which extends to December 31, vice Dr. Charles V. Carrington, removed. Jan. 1, 1912, Dr. Herbert Mann will take charge of the work.

WASHINGTON

Industrial Insurance Examiners.—The following physicians have been appointed to make examinations for the state industrial insurance commission: Drs. I. Royal Watkins, Aberdeen; Winston Appleby, Anacortes; W. W. Ballaine, Bellingham; David Livingstone, Centralia; Edward W. Stimpson, Roslyn; Delbert O. Kearby, Cle Elum; Hannibal Blair, Elma; Adelbert J. McIntyre, Hoquim; Guy E. Marcy, Montesano; James F. Scott, North Yakima; Henry B. O'Brien, Tacoma; Harrison A. Wright and Curtis H. Thomson, Seattle; James F. Mills, Selro Woolley; Drs. Barnhart & Newell, Spokane; A. L. Mathieu, South Bend; Leon L. Love and Joseph F. Griggs, Tacoma; Floyd A. Bird, Kelso, and Howard R. Keylor, Walla Walla.

Opposes Contract Work.—The Pierce County Medical Society at its meeting in Tacoma, October 17, adopted resolutions against contract practice for lodges. The by-laws of the society are to be changed so as to provide for the proper disciplining or punishment of members who violate this rule.

WEST VIRGINIA

Personal.—Dr. Edward Davis has been appointed medical inspector of the schools of Salem.——Dr. Charles A. Barlow, Benwood, has been reelected brigadier-general of the uniform rank of Knights of Pythias.——Dr. Martin V. Godbey, Charleston, has succeeded Dr. Otis L. Aultz as small-pox and infirmary physician of Kanawha County .

Sanatorium Opened.—The Sanatorium of the Antituberculosis Society of Ohio County, at Viewpoint, was opened without formalities last month. The formal opening of the institution will be delayed until spring. The first of the three buildings is already completed and in occupancy; the work on the other two buildings is proceeding rapidly.

WISCONSIN

Society Meeting.—The Trempealeau-Buffalo-Jackson County Medical Association held its annual meeting at Arcadia, recently. Dr. Edwin E. Moore, Merrilan, was elected president; Dr. Carroll L. Storey, Whitehall, vice-president; Dr. Henry A. Jegi, Galesville, secretary and treasurer, and Dr. Bertholet P. Rosenberry, Arcadia, delegate to the state association.

Personal.—Dr. C. J. Wallace, Superior, has been appointed surgeon for the new steel plant of the Minnesota Steel Company on the St. Louis River.——Drs. Victor F. Marshall and James V. Cavanan, Appleton, are among the organizers of the Oregon-Wisconsin Timber-Holding Company.——Dr. Guy C. Waufle, Janesville, who was operated on in Mercy Hospital in that city, November 2, is reported to be doing well.

Antituberculosis News.—At the annual meeting of the Wisconsin Antituberculosis Association, held in Milwaukee, October 13 and 14, the following officers were elected: president, Dr. Mazyck P. Ravenel, Madison; vice-president, Dr. Gustave Windesheim, Kenosha, and executive secretary, Dr. Hoyt E. Dearholt, Milwaukee.——The proposition of the Milwaukee County Board to lease and operate the Greenfield Sanatorium as a county institution has been approved by the health committee and accepted by the city council. This gives to Milwaukee the Greenfield Sanatorium for advanced cases and the Blue Mound Sanatorium for incipient cases of tuberculosis.——At a meeting held in the Appleton City Hall, October 7, organization of the Appleton Antituberculosis Association was effected. The association will be a local affiliated branch of the state association.——A special committee appointed at the last meeting of the Outagamie County Board has selected a site for the County Tuberculosis Sanatorium at Kaukauna.——The Green Bay Public Health Association was organized October 6. Dr. Austin O. Olmsted, Green Bay, was named as a member of the advisory board. The objects of the new organization are the study of the local public health to promote health conditions and cooperation with the state antituberculosis association in its work.——The Social Workers' Tuberculosis Sanatorium, Milwaukee, was formally opened October 8. Although the association is Jewish, the institution is non-sectarian. It has at present twelve patients.

GENERAL

Dental Corps for Organized Militia.—A ruling by Brigadier-General Evans, chief of the division of militia affairs, just issued, sanctions the attachment of a dental corps to militia organizations in the same proportion as exists in the regular establishment.

Veteran Declared Leper.—John R. Early, a veteran of the Spanish-American War, who, it was claimed, was suffering from leprosy, and whose case became celebrated by reason of the differing opinions of experts, has finally been declared to be a leper by the medical board of the pension bureau and has been placed on the total disability list of the bureau.

Æsculapian Society Meeting.—The sixty-fifth annual meeting of the Æsculapian Society of the Wabash Valley was held in Paris, Ill., October 26, and the following officers were elected: President, Dr. Cyrus E. Price, Robinson, Ill.; vice-president, Dr. J. W. Evinger, Paris, Ill.; and secretary and treasurer, Dr. Herbert N. Rafferty, Robinson, Ill. (reelected). The next meeting will be held in Terre Haute, Ind., in April, 1912.

Army Medical Corps Examinations.—Preliminary examinations for the appointment of first lieutenants in the Army Medical Corps will be held Jan. 15, 1912. Full information can be procured on application to the "Surgeon-General, U. S. Army, Washington, D..C." Applicants must be citizens, between 22 and 30 years of age, and medical graduates, who have had at least one year's hospital training as an intern, after graduation.

Ohio Valley Physicians Elect.—The annual meeting of the Ohio Valley Medical Association was held in Evansville, Ind., November 8 and 9, and the following officers were elected: president, Dr. Louis D. Brose, Evansville, Ind.; vice-presidents, Drs. Daniel N. Eisendrath, Chicago; Dr. Henry R. Alburger, Indianapolis, and Angus D. Willmoth, Louisville, Ky., and secretary-treasurer, Dr. Benjamin L. W. Floyd, Evansville, Ind. (reelected).

Personal.—Surgeon Henry R. Carter, U. S. P. H. and M.-H. Service, in command of the U. S. Marine Hospital, Louisville, who has been ill with typhoid fever, has been taken to Johns Hopkins Hospital for treatment.——Major Clyde S. Ford, M. C., U. S. Army, Fort Harrison, was operated on for appendicitis, at Grant Hospital, Columbus, November 1, and is reported to be improving.——Dr. Roger G. Perkins, professor of hygiene in Western Reserve University, Cleveland, was appointed a member of the executive committee of the International Pure Water Association, and not Dr. Francis E. Fronczak, Buffalo, N. Y., as announced in The Journal of October 7.

The Alvarenga Prize.—The College of Physicians of Philadelphia announces that the Alvarenga Prize for 1911 has been awarded to Dr. Francis D. Patterson, Philadelphia, for his essay on "The Parathyroid Glandules."——The next award of the prize, being the income for one year of the bequest of the late Senor Alvarenga and amounting to about $180, will be made, July 14, 1912, provided that an essay deemed worthy of the prize shall have been offered. Essays may be on any subject in medicine, but must not have been published; must be typewritten; if written in a language other than English, must be accompanied by an English translation, and must be received by the secretary of the college on or before May 1, 1912.

Clinical Congress.—The second annual meeting of the Clinical Congress of Surgeons of North America was held in Philadelphia, November 7-16. Up to November 11, more than 1,100 members had registered, including prominent men from all over the country. The work of the congress consisted of day and evening sessions; the day sessions were devoted entirely to clinical surgery, and clinics were conducted in all hospitals in the city from 9 in the morning until 5 in the afternoon. The evening literary sessions were conducted largely by men from out of the city, who presented papers on surgical subjects, many of the lectures being illustrated by stereopticon views. Both the literary and the clinical sessions were exceedingly interesting.

The first evening was devoted to surgical pathology of the stomach and duodenum, surgery of the liver and bileducts and surgery of the pancreas. The second evening was occupied with the president's address and addresses with lantern demonstrations, by Drs. Alexis Carrel, New York City, and William J. Mayo, Rochester, Minn., on subjects which have already been noticed in The Journal. On the evening of November 10, neurologic subjects were discussed, the chief papers being by Drs. Hugh T. Patrick, Chicago, on "The Technic and Results of Deep Injections of Alcohol for Tic Douloureux;" by Dr. Harvey Cushing, Baltimore, on "Clinical Types of Disordered Function of the Pituitary Body," and by Dr. Alfred Reginald Allen, Philadelphia, on "The Operative Treatment of Experimental Lesion of the Spinal Cord Equivalent to Crush Injury of Fracture Dislocation of the Spinal Column."

On the evening of the thirteenth, Dr. Charles H. Mayo, Rochester, Minn., presented a paper, with stereopticon demonstration, on the thyroid gland and its diseases; Dr. Joseph A. Blake, New York City, discussed the operative treatment of fractures, and Dr. John M. T. Finney, Baltimore, considered the significance of blood in the stools. The evening session of November 14 was devoted to pediatrics. Dr. Charles L. Scudder, Boston, read a paper, with lantern demonstration, on the surgical treatment of pyloric stenosis in infancy; Dr. Charles M. Dowd, New York City, discussed the differences between surgery of children and adults, with lantern demonstration, and Dr. R. Tunstall Taylor, Baltimore, gave a preliminary report on the experimental study of stereo-arthrolysis. Obstetrics was the object of discussion in the literary session of November 15. Dr. Edward Reynolds, Boston, spoke on the surgery of the tubes and ovaries; Dr. Edward B. Cragin, New York City, discussed the treatment of ectopic gestation and Dr. John A. Sampson, Albany, N. Y., gave an address, with lantern demonstration, on the circulation of fibroid tumors. On the same evening there was a combined meeting of the Sections of Otology, Laryngology and Ophthalmology, at which Dr. Joseph H. Bryan, Washington, D. C., read a paper on the surgery of sinuses and its relation to orbital complications; Dr. Gorham Bacon, New York City, discussed the relation between otitic and intracranial diseases, and Dr. John E. Weeks, New York City, described the newer operations for glaucoma. The clinical program included operations and demonstrations at practically all the hospitals in Philadelphia.

The local profession entertained lavishly. A general reception was given by the Philadelphia County Medical Society at Wanamaker's Tea Room, November 8; a reception to the president was given by local physicians at the Bellevue-Stratford, November 9, and on November 17, the Medical Club of Philadelphia gave a reception in honor of the president and president-elect at the Bellevue-Stratford. Drs. John B. Murphy, Abraham Jacobi, Albert J. Ochsner and Franklin H. Martin were the guests of honor at a dinner given by Dr. Edward E. Montgomery, at the University Club, November 9; Dr. John B. Deaver gave a dinner in honor of Dr. Maurice H. Richardson, Boston, at the Union League Club, November 8, and Dr. William J. Mayo, Rochester, Minn., was the guest of honor at a dinner given by Dr. Charles H. Frazier, November 9. The following officers were elected at the business session, November 13: president, Dr. D. Edward Martin, Philadelphia; vice-president, Dr. George E. Brewer, New York City; general secretary, Dr. Franklin H. Martin, Chicago (reelected), and general treasurer, Dr. Allen B. Kanavel, Chicago (reelected).

FOREIGN

Pan-American Sanitary Conference.—An important meeting of delegates from the various republics of North and South America opened at Santiago, Chile, November 1. It is the fifth international sanitary conference of American republics.

Death of Bernhard Fränkel.—The cable reports the death, at the age of 75, of Prof. Bernhard Fränkel, leader in the campaign against tuberculosis, founder in 1887 of the university policlinic for the nose and throat at Berlin, and editor of the *Archiv für Laryngologie* since 1894. His numerous works embrace all medical fields connected even remotely with laryngology, and he was prominent in the organization of the medical profession and served for twenty-five years as secretary of the Berlin medical society. In honor of his seventieth birthday, Nov. 17, 1906, a historical laryngologic exhibition was held at Berlin, and the fiftieth anniversary of his entering on his professional career was celebrated in 1909. To Fränkel more than to any one else, probably, is due the great development in Germany of the system of sanatorium treatment of tuberculosis among wage-earners.

The Nobel Prize in Chemistry for 1911.—The cable announces that the Nobel prize for chemistry has been awarded this year to Mme. Curie, who already has shared in one of the prizes, the prize for physics in 1903 having been divided between Becquerel, discoverer of the Becquerel rays, and Prof. and Mme. Curie, the discoverers of radium. In a recent announcement to the Paris Academy of Sciences Mme. Curie stated that in collaboration with Prof. de Bierne she had succeeded in producing pure radium by treating radium bromid by an electrolytic process and extracting the metallic radium by distillation. It is said to have the appearance of a white metal, it changes to black on exposure to the air, burns paper and oxidizes in water. It is most notable that anyone should win such fame in two branches of science as to be awarded an important prize in both. Two other women have received Nobel prizes: Selma Lagerlöf for her literary works, and Baroness von Suttner of Vienna for her efforts and novel in the interests of peace.

CANADA

Need of Institutes of Physiology.—Dr. N. H. Alcock, the newly-appointed professor of physiology in McGill University, emphasizes the pressing need of an institute for physiology in connection with the university. He claims that this would cost only $25,000, and would require not to exceed $4,000 for its annual maintenance.

Tuberculosis Hospital for Quebec.—The government of the Province of Quebec has granted an appropriation of $3.500 per annum for the maintenance of a tuberculosis hospital in the city of Quebec, with accommodation for fifty patients. The institution, which will cost $60,000, is to be placed under the medical control of Laval University, Quebec.

Transfers of Medical Officers.—Lieut.-Col. James Alexander Grant, administrative medical officer of Toronto, is to be transferred to Halifax; Lieutenant-Colonel Hero R. Duff, Kingston, to Toronto; Lieutenant-Colonel C. W. Belton, London, to Kingston; Major J. D. Brousseau, Quebec, to London, and Lieutenant-Colonel Gilbert L. Foster, Halifax, N. S., to Quebec.

Need for Isolation Hospital.—Pleading for a larger and better isolation hospital for Toronto, Alderman McCarthy stated at a recent meeting that more than one-half of the tuberculosis patients in that city are destitute, that there are from 600 to 700 school children at present suffering from tuberculosis, that 232 people died during 1911 from the disease, and that it has been necessary to add two extra nurses to the station of the health department for the care of tuberculosis cases.

Personal.—Dr. Charles Sheard has resigned as professor of preventive medicine in the University of Toronto.——Dr. James Alexander Hutchison, Montreal, has been appointed associate professor of surgery and of clinical surgery in the medical department of McGill University. Dr. John M. Elder has been advanced to a similar station.——Dr. Donald D. MacTaggart has been appointed professor of medical jurisprudence in the McGill University.——Dr. Charles O'Reilly, Toronto, has returned from abroad.

LONDON LETTER

(From Our Regular Correspondent)

London, Nov. 4, 1911.

Plague in England

In previous letters to The Journal the presence of plague in the county of Suffolk has been described from time to time. It is supposed to have been imported by rats in grain ships coming from the East. In December, 1906, and January, 1907, several cases of what was supposed to be pneumonia occurred in two adjoining cottages in the parish of Shotley. There were three cases in one house, two of which were fatal, and five cases in the other, of which four were fatal. It is believed now that all these were cases of pneumonic plague. In January, 1910, two persons died at Trimley, exactly opposite Shotley, on the other side of the river Orwell, from a disease now believed to have been plague. In September, 1910, four persons died in two adjoining cottages in the village of Freston, six miles from Shotley. A little girl in one of the cottages was the first to die, and she was followed by her mother, who had nursed her. The woman was nursed by her husband and by a woman who lived in the next cottage, and both these persons died. The peculiarly infectious character of the disease aroused suspicion, and by this time no doubt exists that all four died of pneumonic plague. It was found that for at least three years, and possibly longer, rats had been dying in large numbers in the neighborhood of the Orwell. One or two dead rats were found to be infected with plague, and the capture of a number of live rats near Ipswich resulted in the discovery that more than 5 per cent. of them were suffering from the disease. During the most virulent epidemics in Bombay, when rats were daily caught and examined in great numbers the average of infected rats was rarely found to exceed 6 per cent. Circumstantial evidence points to the banks of the river Orwell as probably being the original point of entry of the infection in Suffolk. Energetic measures were taken for rat destruction on a large scale and no further cases of plague in man occurred until October 10, this year, when a sailor was admitted to a hospital at Shotley with pneumonia. Examination of his sputum revealed plague bacilli. He was at once isolated and all precautions taken to prevent the spread of the disease. It is thought that he derived the disease from a rabbit caught in the district (these animals as well as rats had previously been found affected with plague). While preparing the rabbit for dinner he cut his finger. A notice has been posted up at the local naval barracks prohibiting anyone from taking in either hares or rabbits.

An Imperial Hospital

For some time it has been felt that more adequate facilities than those provided in private nursing homes are required for dealing with the large number of patients coming to London from the provinces and from oversea dominions for operations. The necessary capital, $90,000, has now been subscribed and a site secured for the erection of a building to accommodate a well-equipped institution which is to be open to the public at moderate charges, and will not be in any way of a charitable character. The promoters of the movement point out that under present conditions patients have no choice between a charity hospital or one of the hundreds of private nursing homes, which in many cases are run as speculations and are not subject to medical supervision, while the charges are often prohibitive to persons of moderate means, the fees ranging from $50 to $100 per week. Nursing homes are, almost without exception, merely converted dwelling-houses and therefore entirely unsuited to modern requirements of the sick. Often, too, they are inefficiently conducted. In the new hospital, which has the hearty support of a large number of London physicians, it is intended to give special consideration to patients from oversea dominions when they are accredited by the agents-general or other official representatives of their states. Provision is to be made in the first instance for forty beds, but the building will be so constructed that additional floors can be added at any time. The management of the hospital will be chiefly in the hands of the committee of physicians elected by the board of directors and a staff of qualified nurses will be employed. Patients will be permitted to have their private doctors. Charges will range from $15.50 upward per week. After payment of a moderate dividend on the preference and ordinary shares a substantial sum of any balance of profit will be set aside each year to form a fund to assist necessitous patients in paying their fees.

The Health of the Navy

The report on the health of the navy during 1910 has just been issued and shows steady improvement. The total force was 113,530 and the total number of cases of disease and injury, 74,233, which gives a ratio of 653 per thousand, a decrease of 42 compared with the average ratio of the preceding five years. The total number of days' sickness was 1,140,568, representing an average loss to the service of 10.04 days for each man, a decrease of 0.4 as compared with the average of the preceding five years. Tuberculosis shows a steady decline; the number of cases during the year was 261, which is below the average. This is attributed to improvement in the general environment and prompt removal of sources of infection. With regard to venereal diseases there is some improvement in the returns for primary syphilis, but little change in other respects. The highest rate for venereal diseases is in the China station, where it amounts to 154 per thousand.

Death From a Wasp-Sting and Workman's Compensation

In the Court of Appeal a curious case was heard, in which the widow of a man who was stung by a wasp and died from septicemia as a consequence claimed under the Workmen's Compensation Act. In the lower court the judge found for her. The appeal was made on the grounds that there was no evidence that the man was stung during his employment or that the accident had arisen out of his employment, as was required by the act. The man was engaged in threshing wheat on a farm and the conclusion was arrived at that wasps which were hibernating in the stack were disturbed by the engine and came out and stung the man. The Master of the Rolls (the presiding judge) gave judgment reversing the decision of the lower court, on the ground that there was no evidence that the wasps were disturbed by the machine and, therefore, it had not been proved that the accident arose out of the man's employment.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Oct. 27, 1911.

Personal

M. Ranvier, professor of general anatomy at the Collège de France, has, at his own request, been allowed to retire. According to rumor the professorship will be discontinued.

Honors to Prof. R. Lépine

October 22, the pupils and friends of Prof. R. Lépine of Lyons, who has just retired, met in the amphitheater where he had taught so long to present him with a jubilee book prepared in his honor. Speeches were made by his successor in the chair of clinical medicine, Professor Roque, and by Professors Collet and Cazeneuve of Lyons, Landouzy of Paris and Henrijean of Liége. The last-named, speaking in the name of foreign scientists, explained how much of Professor Lépine's instruction crossed the frontiers of France and how well his name was known in Belgium and even in Germany. M. Joubin, the rector who presided over the ceremony, thanked Professor Lépine for the renown which he had brought to the Lyonnese University and read letters from the director of superior instruction and the minister of public instruction expressing their esteem and admiration for the learned clinician.

Plan for the Creation of a Superior Council of Medical Studies

The Association des membres du corps enseignant des Facultés de médecine, founded two years and a half ago (The Journal, April 10, 1909, p. 1192), demands the creation of a Conseil supérieur des études médicales. There is at present a Conseil supérieur de l'Université, which has jurisdiction over all national instruction. But this assembly has not the right of initiative and is powerless to obtain reforms in medical instruction. The proposed assembly, composed solely of physicians, most of whom would be named by their colleagues and not by the minister of public instruction, would exist for the purpose of advising and assisting the government on all matters pertaining to medical instruction. It would have the right of initiative. The provinces would have the suitable representation which they have hitherto lacked. Besides the minister of public instruction, the vice-rector of the University of Paris and the director of superior instruction, who would belong to it ex officio, there would be twenty-nine medical members of the superior council of medical studies, two senators, two deputies, four ordinary practitioners, one representative of the preparatory schools of medicine, one of the military schools, fourteen representatives of the Facultés, chosen by their members, and five physicians of the hospitals. The latter, although they have instructed successive generations of students, have up to the present had no representation on the higher councils of instruction and the oversight appears altogether unjust.

Measures Against Frauds in Foodstuffs

The municipal laboratory of Paris has just created a service of rapid analyses of foodstuffs which will permit merchants to test their wares before offering them to their customers and consumers to test the quality of the products sold to them. The results of the analysis will be communicated to the inquirer two hours after the sample is delivered.

Tetanus an Occupational Disease

A workman died of tetanus. His widow testified that he had received a slight prick in his right foot ten days before his death and sought compensation on the ground that he was the victim of an industrial accident. The courts have decided in her favor.

Dangerous Altitudes for Aviation

In view of the records of the height to which ascensions have been made lately, and in view of the fact that certain aviators are ambitious to surpass the altitude of 5,000 meters, the Aero-Club of France, on the advice of its commission on physiologic ascensions, has thought it wise to make known the dangers to which aeronauts are exposed in high altitudes and the precautions that they ought to take. From the physiologic ascensions which have been organized for about ten years by the Aero-Club, it seems that above 4,500 meters one is in the dangerous zone. At the altitude of 5,500 meters a given volume of air weighs half as much as at the level of the ground. The oxygen being rarified, the only means of providing against possible accidents is to carry a provision of oxygen. The most practical and efficient means of making use of it is to have a tube of compressed oxygen with an inhalation mask which may be applied to the aviator's face.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Oct. 27, 1911.

Personal

Professor Lesser, director of the clinic for skin and venereal diseases, has been made regular professor; heretofore he was only an honorary professor and hence not a member of the faculty. His present promotion has only a personal character, affecting him alone, and the department of education retains the power not to grant the same title to his successor. Professor Neisser of Breslau and Professor Killian, who was recently appointed professor of laryngology at our university, and certain other specialists have a similar position.

Professor Caspary of Königsberg died October 19 at the age of 74. Until 1905 he held the chair of dermatology at that university.——Professor Jaffé of Königsberg, died October 26.——Privy Councilor Aschenborn died October 20, at the age of 60, in Berlin. He was a very able practitioner and a member of the state medical department (*Medizinalabteilung des Ministeriums*).

The Göttingen ophthalmologist, Professor v. Hippel, celebrated his seventieth birthday, October 24.

Honors for Professor Waldeyer

As an honor in celebration of Waldeyer's seventy-fifth birthday, the city of Göttingen has decided to place a memorial tablet on the house in which he lived during his student days. November 3 the Berlin student body on the occasion of the golden jubilee of his doctorate held a Waldeyer *Kommers*.

A Tax on Bachelors

In the principality of Reuss each person of a certain age, who has no relatives whom it is his duty to support, must pay a special tax. Whether this draconic regulation is likely to increase the tendency to marry, is doubtful. The tax will always be smaller than the increasing expense of housekeeping for a married couple.

Museum of Hygiene in Dresden

Some important departments of the international hygienic exposition in Dresden, which will be closed in a few days, will remain, particularly the popular "Hall of Mankind" and the historical and ethnological department, which will be transformed into a permanent museum of hygiene for the city of Dresden. This is on condition that the city of Dresden erects a special building therefor and appropriates means of maintenance for the museum. These departments are the private property of the originator and manager of the exposition, Mr. Lingner, who has lately been appointed privy councilor, with the title of "excellency." He will present these departments to the city in spite of the fact that offers to buy them have reached him from other countries. It is said that he has been offered from America the sum of $1,000,000 (4,000,000 marks) for the collections.

The exposition has been extraordinarily successful; it was visited by more than 5,000,000 people and made considerable profits, estimated by some at $250,000 (1,000,000 marks).

Employment of Medicinal Baths Without a Physician's Prescription

The Prussian scientific deputation for medical affairs has been asked by the minister to give an opinion on the question, whether there is any objection from the standpoint of the public against the administration of medicinal baths without a physician's prescription. The deputation comes to the following conclusion: It is not practicable to require a medical prescription for every application of systematic treatment in the bathing places and bath institutes of the large cities. On the other hand, it is desirable that bathing institutes under the advice of their physician should be required to demand medical prescriptions for special forms of treatment, and that they warn their patrons in a proper way by circulars and bathing cards and placards against taking systematic extreme courses of treatment without the directions of a physician.

A Chair for Natural Therapy Refused

The syndicated sickness insurance companies of Saxony, the local Krankenkassen, have recently petitioned the minister of education of Saxony for the establishment of a professorial chair for natural therapy (Naturheilkunde), in the university of Leipsic. As was to be expected, this proposal was refused for the following reasons: A new professorship can be established only for a special independent department of knowledge, which is not yet represented in the university or but insufficiently. The so-called natural therapy, however, cannot be regarded as such a branch of knowledge, as it does not rest on an independent systematic basis and is not a distinctive field of knowledge, separated from other departments of medicine, but is rather a more or less arbitrary collection of a number of special experiences regarding the curative action of certain natural forces. The natural curative methods of this sort are by no means neglected by the representatives of medical science, but for a considerable time have been employed in suitable cases and in an ever increasing proportion. Their employment in the clinics of the Leipsic university is already provided for to a considerable extent at the present time, and marked expansion is already planned.

Ethics of Advertising by Sanatoriums

The physician who was the owner of a certain sanatorium was condemned by a Prussian court of honor for the frequent advertisement of his sanatorium (in all six times). The superior court reversed the decision and acquitted the accused. The content of the advertisement was not objectionable and moreover the matter concerned a sanatorium in a large city which could not exist without occasional advertisement. For this reason the action of the accused could not be regarded as unprofessional.

Marriages

James Birckhead, M.D., New York City, to Miss Helene Bilodeau of Montreal, Que., at Wilmington, Del., October 31.

Samuel T. Nicholson, Jr., M.D., Bonne Terre, Mo., to Miss Mary Carter Peyton of Newcastle, Del., November 4.

Frederick J. Zeigler, M.D., Portland, Ore., to Miss Anne Elizabeth Midlam of Oregon City, Ore., November 8.

William Burke, M.D., to Miss Bertha A. Cooke, both of Greenwich, Conn., at Waterbury, Conn., October 31.

George Howard Hungerford, M.D., Philadelphia, to Miss Harriet E. Schrock of Norritonville, September 21.

Bernard Vincent McDermott, M.D., Stuart, Neb., to Miss Echo Lenore Shank of Massena, Ia., October 25.

Frederick O. Gronvold, M.D., Adams, N. Dak., to Miss Louise Baasen of New Ulm, Minn., October 16.

Oscar Charles Reeve, M.D., New York City, to Miss Grace Howard Fisher of Ossining, N. Y., October 30.

Arthur Freeborn Chace, M.D., to Miss Kathleen Stirling Fletcher, both of New York City, November 2.

Don P. Peters, M.D., to Miss Retta A. Mencke, both of Baltimore, at Wilmington, Del., October 28.

William F. Dugan, M.D., Campbell, Neb., to Miss Opal L. Dearing of Grand Island, Neb., October 30.

Walter T. Dannreuther, M.D., to Miss Anna R. Tower, both of New York City, October 26.

William G. Morton, M.D., to Miss Katherine Christiansen, both of Iowa Falls, Ia., recently.

Allen R. Hickman, M.D., Douglas, Ariz., to Miss Keeler of Los Angeles, Cal., October 19.

Brady Dexter Epling, M.D., to Miss Louise Greene, both of Petersburg, Ill., November 2.

Deaths

William Nye Swift, M.D. Harvard Medical School, 1881; a harter member of the staff of St. Luke's Hospital, New Bedord, Mass., and president of its staff in 1910; an unstinting ontributor of time and money to that institution and the Hospital for Consumptives at Sassaquin; a member of the merican Medical Association and the American Academy of Medicine, and for fourteen years city physician and a member f the Board of Health of New Bedford; died at his home, October 27, aged 57.

John Bradley Crandall, M.D. University of Vermont, 1862; member of the American Medical Association and formerly resident and secretary of the Rock River Valley (Ill.) Medical Association; assistant surgeon of the Thirteenth Vermont Volunteer Infantry during the Civil War and on duty at the Baxter and Sloan General Hospitals; a member of the Chiago Commandery of the Loyal Legion; died at his home in terling, Ill., October 21, aged 71.

Henry Alfred Robbins, M.D. University of Pennsylvania, Philadelphia, 1861; a member of the American Medical Association and American Therapeutic Association; professor of enito-urinary diseases and dermatology in Howard University, Washington, D. C.; dermatologist to the Washington Hospital for Foundlings; a medical cadet and assistant sureon throughout the Civil War; died at his home in Washngton, October 26, aged 72.

Charles William M. Brown, M.D. Harvard Medical School, 876; a member of the American Medical Association and ice-president of the Medical Society of the State of New ork; dean of the medical faculty of Elmira, N. Y.; a spealist on diseases of children and a member of the consulting aff of the Arnot-Ogden Memorial Hospital; died in that institution, October 29, from pneumonia, following an attack of nfluenza, aged 63.

Ovidus Arthur Griffin, M.D. University of Michigan, Ann rbor, 1899; formerly demonstrator of ophthalmology and tolaryngology in his alma mater; a member of the American Medical Association and Academy of Ophthalmology and Otoryngology; examining oculist and aurist to the Washtenaw ounty (Mich.) U. S. pension examining board; died at his ome in Ann Arbor, October 28, from spinal meningitis, ged 39.

Alexander F. Pringle, M.D. McGill University, Montreal, 1880; of Northfield, Minn.; formerly a member of the American Medical Association; oculist and aurist to the Minneapolis state schools for the deaf, and blind, and feeble-minded, was taken ill at his old home in Cornwall, Ont., on his return from Europe, and died October 27, from heart disease, following an attack of nervous prostration, aged 58.

Charles H. Gundelach, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1865; for a quarter of a century a member of the staff of Good Samaritan Hospital of St. Louis, and later a member of the attending and consulting staff of the St. Louis Children's Hospital; a member of the Academy of Science; died at his home in St. Louis, October 23, from heart disease, aged 74.

John J. Hamilton, M.D. Fort Wayne (Ind.) College of Medicine, 1881; formerly a member of the American Medical Association and secretary of the Marshall County (Ind.) Medical Society; coroner of Marshall County, Ind., for six years; formerly local surgeon of the Oregon Short Line at Caldwell, Idaho; died at his home in Rolfe, Ia., September 4, from diabetes, aged 58.

Oscar Henry Benker, M.D. Illinois Medical College, Chicago, 1904; of St. Louis; a member of the American Medical Association; a specialist on tuberculosis and recently appointed consul of Switzerland in St. Louis; who had landed in New York from Europe, October 23; died suddenly in a railway station in New York City, from cerebral hemorrhage, aged 46.

John Charles Hoye, M.D. Western Reserve University, Cleveland, 1888; a member of the Medical Society of the State of Pennsylvania; of New Castle; who was found unconscious, November 3, in New York City, with a fractured skull and other injuries, the result, it is believed, of an attack by thugs; died in Bellevue Hospital on the same day, aged 45.

James Henry Thompson, M.D. University College of Medicine, Richmond, Va., 1908; a member of the Medical Society of Virginia; assistant surgeon to the Pocahontas (Va.) Collieries Company, while en route to his old home in Watsonville, Cal., died in a sleeping car in West Virginia, October 24, from heart disease, aged 28.

James Richard Richards, M.D. Rush Medical College, 1900; for several years a practitioner of Thermopolis, Wyo.; formerly a member of the American Medical Association; who moved to San Diego, Cal., three months ago; died in the office of a physician in that city, September 19, from cerebral hemorrhage, aged 42.

Richard H. Parker, M.D. University of Pennsylvania, Philadelphia, 1858; a member of the Medical Society of Virginia; assistant surgeon in the Confederate service throughout the Civil War; one of the oldest practitioners of Portsmouth, Va.; died at his home, October 26, from cerebral hemorrhage.

William Brown Martin, M.D. Rush Medical College, 1888; a member of the American Medical Association; died at his home in Sherrard, Ill., November 3, from the effects of an incised wound of the throat, self-inflicted, it is believed with suicidal intent, while temporarily insane, aged 51.

Frederick A. King, M.D. New York Medical College, New York City, 1863 (license, Utah, 1894); a pioneer practitioner of Weber County, and for twenty-two years a practitioner of Hooper; died in the Dee Memorial Hospital, Ogden, October 18, two days after a surgical operation, aged 68.

Benjamin Brindley Eads, M.D. Jefferson Medical College, 1891; a member of the American Medical Association; a member of the surgical staff of Cook County Hospital and Illinois Hospital Dispensary; died at his home in Chicago, November 10, from nephritis, aged 41.

Daniel B. Wyatt, M.D. New York University, New York City, 1863; a member of the State Medical Society of Wisconsin; for more than forty years a practitioner of Fond du Lac; died at his home in that city, October 26, from arteriosclerosis, aged 76.

John Frank Mackey, M.D. Medical College of the State of South Carolina, Charleston, 1860; a surgeon in the Confederate service during the Civil War and the oldest practitioner in Lancaster, S. C.; died at his home, September 26, aged 75.

Moritz Halldorson, M.D. University of Copenhagen, Denmark, 1882; for several years a surgeon in the Danish Navy; a native of Reykjavik, Iceland; died at his home in Park River, Minn., October 20, from cerebral hemorrhage, aged 56.

Cleveland V. Frederich, M.D. Northwestern University, Chicago, 1909; of Springfield, Minn.; died in Mercy Hospital, Chicago, October 24, from tuberculosis of the spine, aged 26.

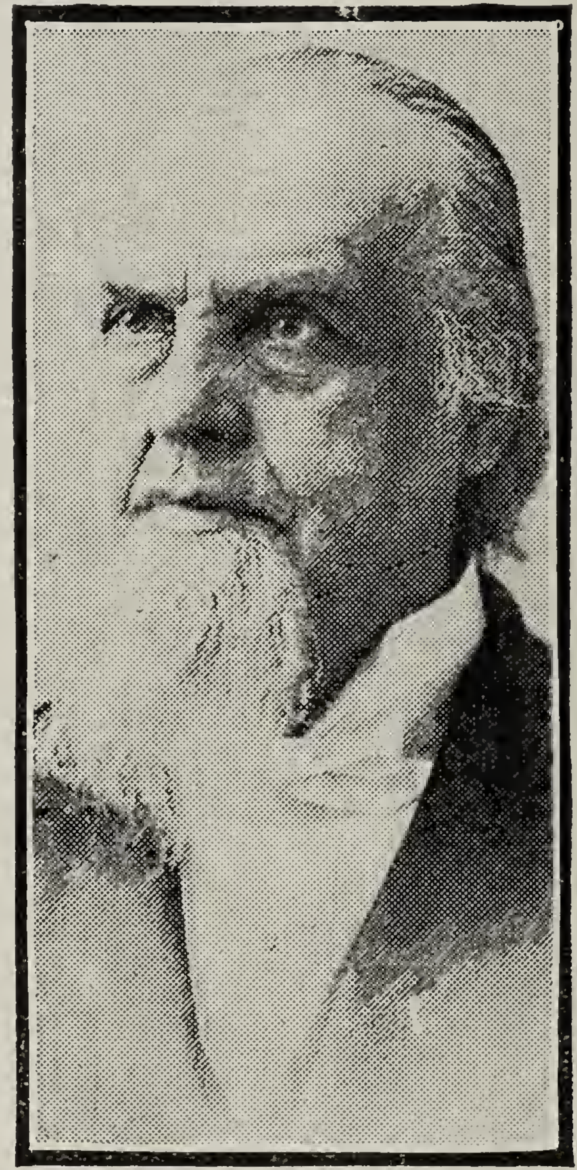
John Hamilcar Hollister, M.D., pioneer practitioner of Chicago, one of the founders of Northwestern University Medical School, sometime editor of the *Journal of the American Medical Association;* died at the home of his sister in Redlands, Cal., November 13, aged 87.

Dr. Hollister was born at Riga, N. Y., Aug. 5, 1824. After graduating from the Rochester (N. Y.) Collegiate Institute in 1842, he entered Berkshire Medical College, Pittsfield, Mass., and was graduated in 1847. He first located in Michigan, but in 1855 moved to Chicago. He soon was made demonstrator of anatomy in Rush Medical College, and in 1856 was one of the founders of what was then known as Chicago Medical College, the Medical Department of Lind University, now the Northwestern University Medical School. He was a trustee and a member of the faculty of this institution from 1856 to 1895, occupying the chairs of physiology, anatomy, pathologic anatomy, general pathology and clinical medicine, and since 1895 has been professor emeritus of clinical medicine.

He became a member of the American Medical Association in 1858, was a member of the Board of Trustees for eight years and editor of The Journal from 1889 to 1891. He served as president of the Illinois State Medical Society and was its treasurer for twenty years. He also had been president of the Chicago Medical Society and was a charter member of the Chicago Academy of Sciences. He became a member of the medical staff of Mercy Hospital in 1866 and served for thirty years in that position. In 1893 he became editor of the *North American Practitioner.*

Dr. Hollister retired from active practice in 1900; he continued, however, his active interest in matters medical and philanthropic. He was one of the founders and for forty years a member of Plymouth Church. During the Civil War, he was a contract surgeon in the army, and on duty at Camp Douglas, Chicago.

As a practitioner, as a professor and as a man, Dr. Hollister was beloved; he was always ready to give advice and help to those in need, and in his death Chicago loses one of the family physicians of the old school, now so rare.



John Hamilcar Hollister; 1824-1911

Ward H. Long, M.D. Baltimore Medical College, 1910; and for a year thereafter resident physician to the Maryland General Hospital; died suddenly at his home in Baltimore, October 22, from cerebral hemorrhage, aged 30.

Harry Lockwood Finley, M.D. Long Island College Hospital, Brooklyn, N. Y., 1907; a member of the Medical Society of the County of Kings; died at his home in Bay Ridge, Brooklyn, October 14, from pneumonia, aged 26.

Francis W. H. Massey, M.D. New York University, New York City, 1884; died at his home in Unionville, N. Y., October 13, aged 58.

Robert Richard Hellman, M.D. Harvard Medical School, 1910; of Cincinnati; a honor graduate and intern in the Massachusetts General Hospital; died in that institution, October 25, from septicemia, aged 26.

Noah Rogers Martin, M.D. Worcester (Mass.) Medical College, 1849; of Newark, N. J.; for forty years a practitioner of Westbrook, Me.; died in Dr. Barrett's Hospital in that city, October 7, aged 91.

Levi Matthew Bailey, M.D. Jefferson Medical College, 1897; formerly of Hanover, Pa.; a member of the York County Medical Society; died at his home in Neiman, Pa., October 20, from nephritis, aged 43.

Thomas Clement Hodgson, M.D. Atlanta (Ga.) Medical College, 1867; for thirty-six years a practitioner of Atlanta; died at his home in that city, October 21, from laryngeal tuberculosis, aged 65.

Thomas Grover Herron, M.D. Medical College of Ohio, Cincinnati, 1876; a veteran of the Civil War; died at his home in Linwood Heights, Cincinnati, October 22, aged 71.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

CARNEGIE UNIVERSITY

A Drugless-Healing Diploma Mill

The greater attention now paid to non-medicinal therapeutics by the medical profession has aroused popular interes in these methods of treatment. As always happens in suc cases, quacks and charlatans have been quick to avail them selves of the opportunities thus offered. Every little while a nev "school" of "drugless healing" comes into existence an attempts to work the public and, if commercially successful has the audacity to insist that its methods shall be recognize by legislative enactment.

The result of this condition has been and is, that the country is flooded witl incompetent ignoramuses who have no brains enough to become shoe-blacks or enough energy to be street-sweepers but who possess cheaply purchased "diplomas" from some school of "drugless healing" and who hold themselves out a competent to treat that most complicated piece of machinery—the huma body. And the tragedy of the whol thing is, that the state instead of stepping in between the charlatans who conduct these "schools" and the public that is victimized by their graduates, grant such institutions charters and empower them to confer "degrees."

The Carnegie University, Wilmington Del., is a corporation chartered by th state of Delaware. Affiliated with thi "university" is the National Institute o Mechano-Therapy of New York City chartered by the state of New York. Th "officers and board of regents" of th Carnegie University are:

J. J. Homan Vanderheide, Ph.D., M.D., D.O., president of the university.

A. B. Wiersma, M.D., vice-president.

A. I. Stolk, M.D., D.O., treasurer.

J. E. Lintott, M.A., D.C., M.T.D., secretary.

Philip Kohnstamm, Ph.D., M.D., D.O., president of the board of regents.

F. T. Des Brisay, B.A., LL.B., vice-president of the board of regents.

A. H. Vanderheide, M.A., LL.B., D.C.L., member of the board of regents.

F. Hayman, M.D., LL.D., Ph.D., membe of the board of regents.

Of this imposing list it will be seen that five of the eight men have "M.D." after their names. A careful search o official records shows no such individuals as licensed practitioners of medicine. Of course it is possible—and in the light of what follows it seems probable—that these enterprising diploma dispensers have seen fit to confer the degre of doctor of medicine on each other. What is the use o running a diploma mill unless you can furnish yourself with any title that may strike your fancy? And judging from the picturesque string of letters affixed to the names of the "officers and board of regents" these gentlemen have apparently availed themselves to the full of the favorable opportunity they have of accumulating "degrees."

WHAT THE "UNIVERSITY" IS

The following description of the Carnegie University i taken from the "Annual Announcement":

"Carnegie University is the oldest and most celebrated institution of learning of its kind in the United States of America. It was initiated, promoted and financed by a few of America's most prominent gentlemen in the financial as well as the professional world. These gentlemen, knowing the progress that Drugless Therapy (healing) has made in the last twenty years, and understanding the great future for this science, saw the necessity of devoting one of the Colleges of a great University to Drugless Therapy, so that those earnestly desiring to become Drugless Physicians and Bloodless Surgeons could acquire a thorough and scientific knowledge of the various sciences which constitute the natural method of healing. The University was named in honor of Carnegie, the great philanthropist, who has done so much for the dissemination and promulgation of knowledge and education."

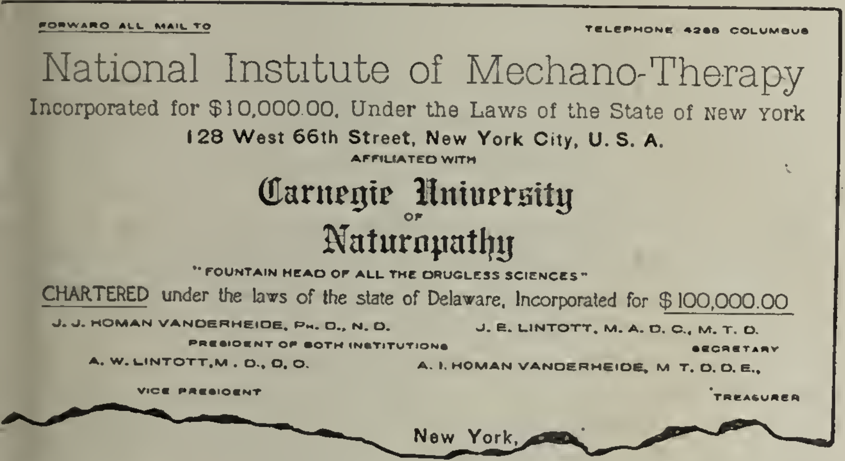
WHAT IT DOES

We learn from the same announcement that: "By virtue of the powers invested in the University by the government of the State of Delaware, it gives instruction in all Drugless Arts, Sciences and Philosophies and in any other Art, Science or Philosophy. It also confers degrees in any Art, Science or Philosophy." Then follows a list of the numerous "degrees" conferred by this institution of learning. Here are a few:

M.D.
LL.D.
Ph.D.
M.A.
Sc.D.
D.O.
D.C.
M.T.D.
Ps.D.

AN INVESTIGATION

Being desirous of looking into the Carnegie University more horoughly, a member of The Journal staff wrote for a atalogue In return a five-page form-letter, on the stationery f the Carnegie University and signed "A. I. Stolk, M.D., .O., Treasurer." was received. The letterhead bore half-tone ictures of Wilmington's two largest office buildings on which e words "Carnegie University" had been inserted to give e impression that this institution occupied these buildings. n "Annual Announcement" was also received (from which uotations have already been given) in which were glowingly escribed the possibilities of "Drugless Healing" and the onderful financial success that would follow a "course" of struction taken at this "most celebrated institution of arning." A number of pictures also were sent purporting be the photographs of "Officers, Members of the Board of egents and Professors of Carnegie University." There were otographs, too, of a handsome building in New York City at was labeled "National Institute of Mechano-Therapy, filiated with Carnegie University." Of course, no such lettering actually appears on this building. Fac-similes of the plomas issued by "*Carnegiana Universitas*" were also received, showing the ornate magnificence of this "magnificently graved" piece of "white parchment"—"19 by 24 inches." he recipient was told that whatever "course" he might take, he degree is legal in every country on the globe and the aduates are protected by the high standing of the corporaon with its immense resources."



FORWARD ALL MAIL TO
TELEPHONE 4288 COLUMBUS
National Institute of Mechano-Therapy
Incorporated for $10,000.00, Under the Laws of the State of New York
128 West 66th Street, New York City, U. S. A.
AFFILIATED WITH
Carnegie University
OF
Naturopathy
"FOUNTAIN HEAD OF ALL THE DRUGLESS SCIENCES"
CHARTERED under the laws of the state of Delaware, Incorporated for $100,000.00
J. J. HOMAN VANDERHEIDE, PH. D., N. D.
PRESIDENT OF BOTH INSTITUTIONS
J. E. LINTOTT, M. A. D. C., M. T. D.
SECRETARY
A. W. LINTOTT, M. D., D. O.
VICE PRESIDENT
A. I. HOMAN VANDERHEIDE, M. T. D. D. E.,
TREASURER
New York,

Fig. 1.—Photographic reproduction (much reduced) of the letterhead of the National Institute of Mechano-Therapy.

On the receipt of this matter from the Carnegie University is—the second—letter was written:

Carnegie University,
Wilmington, Del
Chicago, Ill., Oct. 24, 1911.

Dr. A. I. Stolk:

Dear Sir: I have read the catalogue you sent me about mechano-therapy. Now I am soon going back to England where I expect to start an office as a "bone setter." I have had a good deal of experience over here doing massage and have also studied some medical books. Would you be willing to let me have a diploma of mechano-therapy without having to wait for the course? I haven't time to take it and I want to leave for London in two or three weeks. I will pass an examination if you want to send me the questions and I will be willing to pay for the full course without taking any of the charts, etc. Please let me know the best you can do.

Yours truly,
———— ————

This plan to purchase a diploma outright was eagerly taken up by the "University" as the following reply shows:

Mr. ————
Chicago, Ill.
Wilmington, Del., Oct. 27, 1911.

Dear Sir:—Enclosed please find examination questions which we desire you to answer at your earliest opportunity. If this examination proves to be satisfactory to us, we will grant you the degree of Doctor of Mechano-Therapy upon the conditions mentioned in your letter of October 24th.

Hoping this may be satisfactory to you, we are,

Yours very respectfully,
A. I. Stolk, M.D., D.O.,
Treasurer.

The examination questions referred to in this letter were twenty-two in number and were typewritten on a plain sheet of foolscap under the following typewritten heading:

CARNEGIE UNIVERSITY.
EXAMINATION. MECHANO THERAPY.
(Leading to the Degree of DOCTOR of Mechano Therapy)
Prepared by the BOARD OF REGENTS OF CARNEGIE UNIVERSITY

AN EXAMINATION

Lack of space prevents printing all of the questions and the answers given by the supposed seeker of a diploma. Needless to say the questions were answered in such a way as to make perfectly plain to anyone that the examinee was ignorant to a degree and was in no sense competent to treat disease. A few of the questions asked and the answers given will make this fact clear:

Question: What is Histology?

Answer: Histology is the study of the history of the anatomy and physiology of the body.

Question: What is Embryology?

Answer: Embryology is the study of the new-born baby and how to care for it.

Question: Describe the portal circulation.

Answer: The portal circulation is the circulation of the chyle and chyme which is found in the stomach when the food is being digested. It then goes into the blood to build up the body.

Question: Describe the fornix.

Answer: The fornix is that part of the throat at the back of the tonsils which is affected in catarrh. An adjustment of the vertebra of the neck will often help it.

Question: What is Keratitis? Give course of treatment.

Answer: Keratitis is inflammation of the eye. It should be treated by manipulating the muscles and nerves of the neck and by adjusting the vertebra of the neck. Cold-water bandages may also be used.

Question: Give the treatment for Iritis.

Answer: Iritis is also an inflammation of the eye and should be treated as described in Keratitis.

Question: How would you replace a dislocated lower jaw?

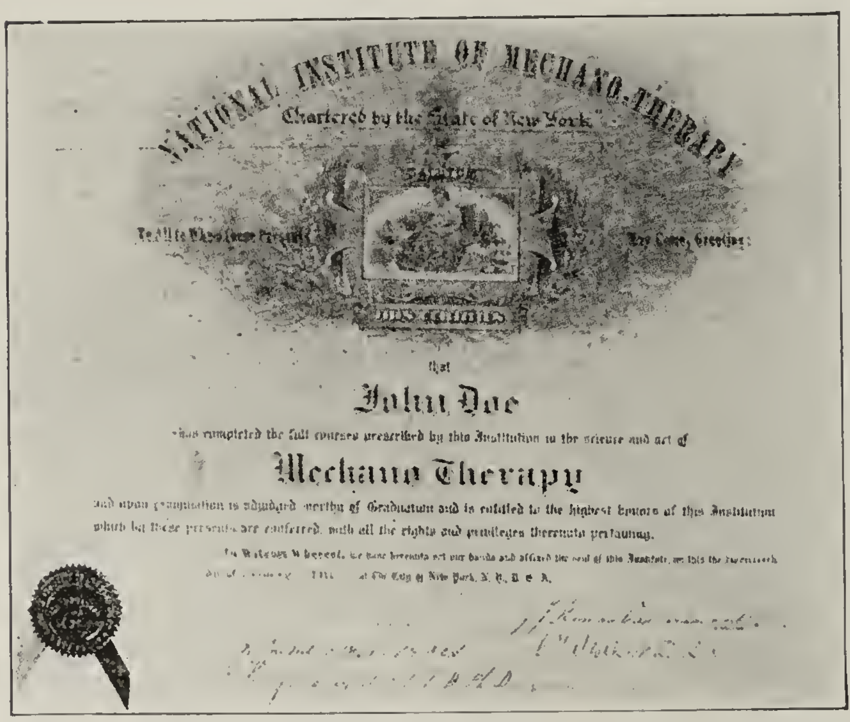
Answer: The jaw should be pulled forward or pushed back, as the case may be, and the joint massaged and adjusted.

Question: Give Pathology, Etiology, Symptoms and Treatment for Malaria.

Answer: Malaria is found in the South and in swampy places. The patient should be given massage to make the bowels move and the spine should be adjusted to improve the circulation. It is also better to have the patient move from a malarial place to where it is dry.

It is not necessary to have a medical education to realize that a person making such answers as those quoted above has not the knowledge of physiology and anatomy usually possessed by the average "eighth grade" public school pupil. Nevertheless, when these answers were sent in, the Carnegie University authorities decided that the person sending them had knowledge enough to be graduated, as the following letter indicates:

> Wilmington, Del., Nov. 4, 1911.
>
> Mr. ————,
> Chicago, Ill.
>
> *Dear Sir:* We herewith have the pleasure to inform you that *you have passed your examination very satisfactorily* [Italics ours—Ed.], and that the Carnegie University has conferred on you the degree of Doctor of Mechano-Therapy. The diploma will be forwarded to you on receipt of post-office money order of $50, as mentioned in your previous communication, being the cash price for the entire course.
>
> If you think that you have not sufficient time to receive the diploma at your Chicago address, and as we presume that you will, before leaving America, arrive in New York City, you can call at the officers of the National Institute of Mechano-Therapy, 128 West Sixty-Sixth Street, New York City, and your diploma will be ready. However, if you still have time to receive the diploma, it will immediately be forwarded to you after the post-office money-order has been received by the Carnegie University. If you cannot call at the institute, we will forward you your diploma wherever you may be.
>
> You can also communicate with us through our representative in London, Jonathan Nicholson, LL.D., M.D., 32 Highfield Hill, Upper Norwood, Surrey, England.
>
> Hoping to hear from you as soon as possible, we are,
>
> Yours very respectfully,
> A. I. Stolk, M.D., D.O.,
> Treasurer.
>
> P. S.—The proper address of our representative in England will be forwarded to you, because he has just moved to London.



National Institute of Mechano-Therapy

Chartered by the State of New York

that

John Doe

has completed the full courses prescribed by this Institution in the science and art of

Mechano Therapy

and upon examination is adjudged worthy of Graduation and is entitled to the highest honors of this Institution which by these presents are conferred, with all the rights and privileges thereunto pertaining.

Fig. 2.—Here we have a facsimile of the "magnificently engraved diploma 19 by 24 inches, on white art parchment" granted by the National Institute of Mechano-Therapy.

WHAT IT ALL MEANS

All of which means that the Carnegie University exists for the evident purpose of selling diplomas and granting degrees to such individuals as wish to engage in the practice of "drugless healing." Whether the M.D. degree, which they claim to grant, can be purchased on the same basis, we do not know. And this parchment factory has the effrontery to make the following claim:

> "ARE OUR GRADUATES COMPETENT?
>
> "We have given so much thought and time to our system of instruction that our students, when graduated, are able to work entirely on their own responsibility and be ultra successful as Drugless Physicians, Bloodless Surgeons, Beauty Specialists and Pedic Surgeons."

Incidentally, it is worth noting that Carnegie University's London representative, Jonathan Nicholson, LL.D., M.D., is also known—unfavorably—on the other side. London *Truth*, which has exposed so many medical and pseudo-medical frauds, has called attention to Mr. Nicholson on several occasions. The following quotation from *Truth's* "Cautionary List" gives tersely and expressively that publication's opinion of the London representative of Carnegie University:

> National College of Electro-Therapeutics, 22, Budge-row and 9, Walbrook, London, E. C.—The name under which Mr. Jonathan Nicholson practises the art and mystery of magnetic healing, and having succeeded in humbugging himself into a belief in himself, now strives to humbug others.

We have said that the answers to the "examination" questions submitted by this "diploma mill" made perfectly plain to everyone the ignorance of the individual writing them. Nevertheless only physicians can fully realize the tremendous amount of harm that might be done by an individual holding himself out as a "drugless healer" whose ignorance of anatomy and physiology is as colossal as that indicated by the "examination" referred to. Yet in many states of the Union an individual without even an elementary education and with absolutely no technical training can do business as a "drugless healer" and carry on his malpractice with impunity so far as the law is concerned. And should the machinery of the court be set in motion against him the cry of persecution is at once raised.

The time must come—and, for the safety of the public the sooner it comes the better—when an enlightened state will not issue charters indiscriminately to any group of ignorant fakers who choose to organize a "university."

Correspondence

Quinin in the Preventive Treatment of Migraine and Anaphylaxis

To the Editor:—In a paper read before the German Medical Society of New York, Feb. 18, 1908 (*Therapeutische Monatshefte*, May, 1908), I tried to establish the fact that typical attacks of migraine had their origin in the gastro-intestinal tract, and were due to auto-intoxication caused by the absorption of certain albuminoids. At the time the tendency was against my hypothesis, but subsequent developments in the causation of a varied series of vague diseased conditions are now being referred to as an outcome of the absorption of certain albuminoids giving rise to the condition now known as anaphylaxis, to which class the syndrome known as migraine or hemicrania is now referred. I myself have been subject to such attacks; during an attack of gastro-intestinal disturbance, certain food products which I can at other times eat with impunity immediately cause an attack of migraine. This led me to attempt to find some medicament which would abort such attacks. Once an attack has reached the severe stage of pain, no abortive treatment is of any avail; only palliative measures are useful. (These measures are described in detail in the above-mentioned paper.) During the early stages, however, in the time of the gastro-intestinal disturbance, and during the stage of scotoma, quinin is the remedy *par excellence*. I have found, after having tried all the various forms of treatment, in the early stages, that quinin is the most effective and is almost specific. But it must be given early, at the onset, and in sufficiently large dose. I have never seen any ill effects from quinin thus administered. I have usually given 0.5 gm. quinin chlorid for an adult, in a wafer or in two capsules, 0.25 gm. each, and I have rarely found it necessary to repeat the dose. I wish to call attention to the employment of quinin in other conditions considered as anaphylactic, e. g., urticaria of all grades; others have also found it useful in this condition. In serum exanthemata I have used it in two cases, but as they were of rather mild character, I cannot say positively that the rapid improvement was due to quinin alone. In hay-fever it has been of distinct advantage, though I have always used it in conjunction with epinephrin applied locally.

A. Herzfeld, New York.

Politics and Public Health

To the Editor:—The editorial in The Journal, November . p. 1542, in which was stated that Dr. Probst had been emoved from the secretaryship of the Ohio State Board of Iealth for political reasons, is wrong in two respects.

Dr. Probst was not removed at all, but resigned voluntarily, nd the reasons which he gave the board were not, as you tate, political, but that he thought he had served the state f Ohio long enough, that he was anxious to take several nonths' rest in Europe, and finally, that he wished to devote he remainder of his active experience to the building up of is medical practice.

Other reasons than these have been given by some of Dr. 'robst's friends and by the Republican press in and out of the tate. but until Dr. Probst returns from Europe and personally confirms these reasons, they cannot very well be iscussed.

John W. Hill, Cincinnati.
Member of the Board.

Servetus and the Pulmonary Circulation

To the Editor:—Your Paris correspondent, in his letter of ctober 20 (The Journal, Nov. 11, 1911, p. 1627), in regard the dedication of a monument to Michael Servetus at ienne, France, reports Dr. Charles Richet, representing the aculté de médecine de Paris at the ceremony, as saying that the divination of the pulmonary circulation by Servetus, ho unlike Harvey, had done no vivisection, and who, nlike Vesalius, had done no dissection, was unparalleled—most a miracle." It seems strange that Professor Richet ould have erred in his statement that Servetus "had done dissection." On the contrary, Servetus' biographers tell that he studied medicine at Paris under the celebrated ünther and succeeded Vesalius as Günther's assistant. His eceptor paid high tribute to his culture and especially his ill in dissecting and to his knowledge of Galen, "scarcely cond to anyone." It is certainly rational to attribute rvetus' concept and description of the pulmonary circulation to his anatomic dissections rather than to an "almost iraculous" divination.

Albert H. Burr, M.D., Chicago.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter ist contain the writer's name and address, but these will be iitted, on request.

REACTION OF POTASSIUM ARSENITE AND IODIN

To the Editor:—Please tell me the chemical reaction and new mpounds formed, if any, in the following formula:

Liq. potassii arsenitis........................
Tinct. iodi........................
Phenolis ....āā ♏ xvj
Aquæ........................q. s. ad ℥j

R. Golding Blackburn, Whitmire, S. C.

Answer.—In alkaline solution, iodin converts arsenites to senates, forms tri-iodophenol from phenol, and iodoform om alcohol, the latter two reactions taking place ordinarily warm solutions. Experiments made by our chemists show at, in the present instance, only the arsenite is affected. The id formed in the oxidation of the arsenite neutralizes the kali, the solution becomes acid in reaction, and hence the emical reaction stops, even before the arsenite is all oxidized. is was shown by the presence in the finished prescription both an arsenite and an arsenate and by the facts that the ution was acid in reaction and contained free iodin. Assum- that solution of potassium arsenite (Fowler's solution) conns potassium arsenite (KH_2AsO_3) and potassium carbonate $_2CO_3$), the reactions which occur may be represented thus:

$$2KH_2AsO_3 + 2I_2 + 2H_2O \rightleftarrows K_2HAsO_4 + H_3AsO_4 + 4HI$$
$$2HI + K_2CO_3 \rightarrow 2KI + CO_2 + H_2O$$
$$H_3AsO_4 + K_2CO_3 \rightarrow K_2HAsO_4 + CO_2 + H_2O$$

t would appear, then, that the only new compound which formed is the arsenate produced by the oxidation of the valent arsenic in Fowler's solution.

On standing, the solution became lighter in color and after a week the free iodin had almost completely disappeared. The solution still contained arsenic in both the trivalent and the pentavalent condition. The chemists are unable to explain the reaction which caused the disappearance of the free iodin on standing.

LARVÆ IN THE EAR

To the Editor:—In two letters in The Journal (Oct. 7, 1911, p. 1207, and Oct. 21, 1911, p. 1385, respectively) accounts are given of the presence of maggots in the ear-passages. The occurrence of larvæ of various flies in the external auditory passages is not uncommon, especially in tropical countries. The following case came under my observation at Trinidad, West Indies: A male East Indian, aged about 60, complained of intense pain in and discharge from the ear. The whole of the auditory meatus was found to be completely filled with a moving, seething mass of maggots. With a pair of forceps I removed as many as thirty-three of these insects from the ear; many of them were already dead. The patient made an uninterrupted recovery. I was unable to ascertain to what species of fly these larvæ belonged.

Fernand L. de Verteuil, Vancouver, B. C.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Nov. 11, 1911.

Baker, Charles L., M.R.C., November 3, relieved from duty in the Philippine Islands and ordered to Fort Ruger, H. T., for duty.

Davis, William T., captain, November 3, detailed to represent the Medical Department of the Army at the Clinical Congress of Surgeons of North America, Philadelphia, Nov. 6 to 7, 1911, instead of Major Thomas L. Rhoads and Captain William L. Keller, Medical Corps.

Strong, Francis X., lieut., November 3, relieved from duty with Field Hospital and Ambulance Company No. 2 and ordered to Jefferson Barracks, Mo., for duty.

Lowe, Thomas S., M.R.C., November 3, ordered to accompany 24th Infantry from Madison Barracks, N. Y., to Philippine Islands on Dec. 5, 1911, and then report to commanding general, Philippines division, for assignment to duty.

Clark, John A., captain, November 3, orders relieving him from duty at Plattsburg Barracks, N. Y., and ordering him to Fort Wadsworth, N. Y., for duty is revoked.

Humphreys, H. G., captain, November 3, orders relieving him from duty at Fort Wadsworth, N. Y., and ordered to Plattsburg Barracks, N. Y., for duty is revoked.

Little, William L., captain, November 3, relieved from duty at Fort Adams, R. I., and ordered to Fort Wadsworth, N. Y., for duty.

Humphreys, M. G., captain, November 3, relieved from duty at Fort Wadsworth, N. Y., and ordered to Fort Adams, R. I., for duty.

Jones, Harold W., captain, November 4, relieved from duty at Walter Reed General Hospital, Takoma Park, D. C., and will proceed to Jackson Barracks, La., for duty.

Coffin, Jacob M., captain, November 4, on expiration of present leave of absence will proceed to Fort Riley, Kan., for duty.

Waring, John B. H., lieut., November 6, granted three months' leave of absence on surgeon's certificate of disability.

Lyster, William J. L., major, November 7, ordered to Army and Navy General Hospital, Hot Springs, Ark., for observation and treatment.

Hanson, Louis H., captain, November 7, granted three months and twenty days' leave of absence, with permission to go beyond the sea.

Carr, William B., lieut., November 8, relieved from duty at Fort Monroe, Va., and ordered to Fort Washington, Md., for duty.

Capen, Nelson, captain, November 8, granted leave of absence for one month and five days.

Darnall, Moses H., M.R.C., November 8, relieved from duty at Fort Washington, Md., and ordered to Fort Hunt, Va., for duty.

Jackson, Thomas W., M.R.C., November 8, relieved from duty at Fort Hunt, Va., and ordered to Fort Washington, Md., for duty.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 8, 1911.

Eager, J. M., surgeon, directed to proceed from Marseilles, France, to Genoa, Italy, and Havre, France, and on completion of duty to return to Portland, Me.

Lumsden, L. L., P. A. surgeon, directed to proceed to Lincoln, on the request of the Governor of Nebraska, to investigate an outbreak of typhoid fever.

Anderson, J. F., P. A. surgeon, detailed to represent the Service at the meeting of the American Public Health Association to be held at Havana, Cuba, Dec. 4-9, 1911.

McKeon, F. H., P. A. surgeon, relieved from duty on Revenue Cutter *Rush* and directed to proceed to San Francisco and report to Passed Assistant Surgeon M. W. Glover for temporary duty.

Krulish, Emil, asst. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Galveston, Tex., for duty in the medical examination of arriving aliens.

Duffy, B. J., asst. surgeon, relieved from duty on Revenue Cutter *Seneca* and directed to report to the medical officer in command at the Marine Hospital, Stapleton, N. Y., for duty and assignment to quarters.

Kucera, J. F., A. A. surgeon, granted thirty days' leave of absence from Oct. 30, 1911.

Miranda, R. U. Lange, A. A. surgeon, granted one month's leave of absence, with pay, from Aug. 12, 1911, and one month's leave of absence, without pay, from Sept. 12, 1911.

Small, E. M., A. A. surgeon, granted thirty days' extension of annual leave of absence, from Sept. 22, 1911, on account of sickness.

Medical Economics

HOW MEDICAL LEADERS CAN BE PUBLIC LEADERS

An open letter by Dr. John A. Wyeth, which appeared in *Harper's Weekly*, November 4, is an illustration of the way in which the recognized leaders in the medical profession can help to educate the people and to mold public opinion. If the leaders in our profession, in every state, city and town, will follow Dr. Wyeth's example and let the people know the truth, as to the possibilities of preventing and controlling disease, the public will speedily understand and appreciate the efforts of physicians to improve health conditions. Let the people know the truth, and the result will not be long in doubt. If Dr. Wyeth's efforts could be duplicated in every town and country, the result in public enlightenment would be beyond belief.

After referring to an editorial in *Harper's Weekly* for October 14, entitled "Why Not a National Department of Health with a Physician as Secretary in the Cabinet?" Dr. Wyeth says:

> "If we can afford a War Department to look after our soldiers, a Navy Department for our sailors, and a Department of Agriculture to protect our cattle and hogs, we surely can afford a department the business of which would be to guard the health and lives of the children, women and men of the nation. . . . Boundary lines offer no barriers to epidemics. Like commerce, they are interstate, and while the rights of the states should be respected in leaving them the fullest liberty to regulate affairs which interest them alone, a central department at Washington should have, and should use, the authority to take control in all emergencies where the general welfare is concerned."

Regarding the rôle played by the sanitarian in the Canal Zone, Dr. Wyeth asserts that the achievements of our profession have made possible the building of the Panama Canal, saved thousands of lives and millions of dollars in its construction. Never in history, he says, has there been such an object-lesson of the value of sanitation:

> "The discovery that the mosquito is the carrier and inoculator of the germs of malaria and yellow fever opened the tropics to the white race, and assured the completion of the greatest project ever undertaken by human hands. There has not been a case of yellow fever in six years in the Canal Zone, and the death-rate among the thousands of white men, women and children living there for all these years is lower than in the city of New York. . . . It is a fact—and our people should know it—that our earlier efforts in Panama failed for the reason that the direction of medical affairs was left at first to red-tape and a mixed commission; and it was not until the chief sanitary officer—an army surgeon—was placed in autocratic control of medical affairs, that the satisfactory results were seen."

After reviewing the results of typhoid vaccination in the army, Dr. Wyeth says that only those who have lived through any of the epidemics of cholera which have visited our country will appreciate the different conditions which now prevail:

> "During the summer just past, for the first time since 1892, the city authorities had to deal with Asiatic cholera. In addition to the cases coming in on the steamship and those which developed on Swinburne Island, three cases occurred within the jurisdiction of the Board of Health of the city. The discovery of the germs of this disease, and of the means of preventing its spread, enabled the authorities to stamp it out at once, and without alarm or panic!"

He concludes his letter with the statement that the American Medical Association is carrying on a campaign of education with the people, their patients, as to the necessity of this great reform, and that neither politics nor prejudice can defeat their efforts. If a few physicians in every county of every state will write to their local newspapers, explaining the efforts of work and physicians, the public will understand the issue and will speedily settle it. The question of advanced health legislation is not one for partisan feeling or bitterness. It calls for free discussion, unprejudiced consideration and —above all—for education, and then more education

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[NOTE.—The pamphlets containing the outline of the postgraduat study course for county societies for the coming year are ready fo distribution. Secretaries of county societies can secure supplies b writing to the Secretary, Council on Health and Public Instructio American Medical Association, 535 Dearborn Ave., Chicago.]

Third Month—Third Weekly Meeting

ACUTE RHEUMATISM IN CHILDHOOD[1]

(a) Insidious onset, anemia, lassitude, epistaxis, etc.
(b) Varied manifestations, chorea, arthritis, tonsillitis, carditis, skin lesions, pulmonary complications.
(c) Frequency of cardiac complications.[2]
(d) Articular complications.
(e) Nervous symptoms.
(f) Nodules.
(g) Anemia.

MUSCULAR RHEUMATISM

CLINICAL VARIETIES

(1) Lumbago, onset, pain, temperature, pathology.
(2) Pleurodynia. Muscles involved, pain, diagnosis.
(3) Torticollis. Occurrence, pathology, pain, diagnosis.
(4) Myalgias, abdominal, dorsal, cephalic, etc.

TREATMENT: Relief of pain, analgesics, morphia. Electricit Local applications. Cupping. Plasters. "Electric belts and other fake remedies in rheumatism.

CHRONIC ARTICULAR RHEUMATISM

PATHOLOGY: Synovial membranes, capsule, ligaments, cartilages, tendon sheaths, contractions, deformity, muscula atrophy.

SYMPTOMS: Joints involved, swelling, pain, tenderness physical signs. General condition. Cardiac complications.

TREATMENT: Prophylactic—Change of climate and occupatio Hydrotherapy. Counter-irritation.
Internal—Iodin, physiologic and therapeutic action. Guaiacum, therapeutic action.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 5-8. Sec., Dr. Charles I Tisdale, 929 Butler Building, San Francisco.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, December 12. Secretary of the Medical Council, Dr. Henry W Briggs, Wilmington.

FLORIDA: Eclectic, 1805 Florida Avenue, Tampa, December Sec., Dr. Hiram J. Hampton.

KENTUCKY: The Armory, Louisville, December 19-21. Sec., Dr J. N. McCormack, Bowling Green.

MARYLAND: Regular, 1211 Cathedral Street, Baltimore, Decembe 12. Sec., Dr. J. McP. Scott, Hagerstown.

OHIO: Columbus, December 5-7. Sec., Dr. George H. Matso State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphi and Harrisburg, December 12-15. Secretary of the Medical Counci Mr. Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, December 19-22. Sec., Dr. R. S. Marti Stuart.

Idaho October Report

Dr. O. J. Allen, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Wallace, Oct. 3-4, 1911. The number of subjects examined in wa 11; total number of questions asked, 110; percentage require to pass, 75. The total number of candidates examined was 2 of whom 16 passed and 6 failed. The following colleges wer represented:

PASSED

College	Year Grad.	Per Cen
University of Colorado	(1911)	75
George Washington University	(1904)	80
Northwestern Univ. Med. School	(1909) 85; (1910)	75, 77, 80
Rush Medical College	(1897)	75
Bennett Medical College	(1874)	75
University of Michigan, Dept. of Med. and Surg.	(1909)	78, 82

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[1] McDonough: New York Med. Jour., 1906, lxxxiii, 346. Dunn THE JOURNAL A. M. A., 1907, xlviii, 493.

[2] International Clinics, 1903, vols. ii and iii.

eighton Medical College	(1907)	78
ew York University Medical College	(1898)	83
ong Island College Hospital	(1880)	82
lectic Medical College, Cincinnati	(1908)	84
fferson Medical College	(1906)	76
cGill University, Quebec	(1908)	84

FAILED

orthwestern Univ. Med. School	(1907) 70; (1910)	72
linois Medical College, Chicago	(1901)	68
icago College of Medicine and Surgery	(1909)	69
. Louis College of Physicians and Surgeons	(1911)	67
niversity of Toronto, Ontario	(1895)	*42

* Did not complete examination on account of illness.

Iowa September Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board Medical Examiners, reports the written examination held Des Moines, Sept. 19-21, 1911. The number of subjects amined in was 8; total number of questions asked, 100; rcentage required to pass, 75. The total number of candi- tes examined was 12, of whom 11 passed and 1 failed. The llowing colleges were represented:

PASSED

College	Year Grad.	Per Cent.
orthwestern University Medical School	(1910) 84.2; (1911)	88, 88.3.
merican Medical Missionary College	(1910)	83.6
oux City College of Medicine	(1909)	84.6
iversity of Louisville	(1910)	81.3
ryland Medical College	(1908)	79
hnemann Med. Coll. and Hospital, Philadelphia	(1911)	82.6, 88
iversity of Pittsburgh	(1910)	80.1
iversity of Toronto, Ontario	(1911)	81.5

FAILED

icago College of Medicine and Surgery	(1911)	*78

* Fell below 60 in pathology.

Iowa October Reciprocity Report

Dr. G. H. Sumner, secretary of the Iowa State Board of edical Examiners, reports that at the meeting held at Des ines, Oct. 25, 1911, 24 candidates were licensed through iprocity. The following colleges were represented:

College	Year Grad.	Reciprocity with
hnemann Medical College and Hospital, Chicago	(1882)	Nebraska; (1910) Illinois.
llege of Physicians and Surgeons, Chicago	(1910)	Illinois
rthwestern University Medical School	(1900)	Wisconsin; (1902) (2, 1909) (1910) Illinois.
sh Medical College	(1910)	Illinois
icago College of Medicine and Surgery	(1909)	Illinois
okuk Med. Coll., Coll. of P. and S.	(1900)	Nebraska
lectic Medical College of Indiana	(1905)	Indiana
iversity of Louisville	(1903)	Indiana; (1911) Kentucky; (1911) Illinois.
iv. of Michigan, Dept. of Med. and Surg.	(1906)	Michigan
Louis College of Physicians and Surgeons	(1909)	Missouri
ighton Medical College	(1906) (3, 1910) (2, 1911)	Nebraska
ectic Med. Coll. of the City of New York	(1891)	Michigan

Wisconsin July Report

r. John M. Beffel, secretary of the Wisconsin State Board Medical Examiners, reports the written examination held Madison, July 11-13, 1911. The number of subjects exam- d in was 22; total number of questions asked, 100; per- tage required to pass, 75. The total number of candidates mined was 36, of whom 30 passed, including 7 osteopaths, 1 6 failed, including 1 osteopath. The following colleges re represented:

PASSED

College	Year Grad.	Per Cent.
thwestern University Medical School	(1893) 82; (1911)	79, 82, 3, 83, 84, 84, 85.
nnett Medical College	(1911)	78, 82
llege of Physicians and Surgeons, Chicago	(1910) 84; (1911)	9, 80, 81.
versity of Louisville	(1911)	76, 77
ns Hopkins University	(1911)	88
umbia Univ., Coll. of P. and S.	(1910)	82
stern Reserve University	(1911)	81
iversity of Pennsylvania	(1908) 83; (1911)	85
rquette University	(1909) 75; (1911)	75

FAILED

iana University	(1910)	71
rquette University	(1911)	73
v. of Athens, Greece	(1903) 71; (1910) 72; (1911)	72

Book Notices

Lateral Curvature of the Spine and Flat-Foot, and Their Treatment by Exercises. J. S. Kellett Smith, F.R.C.S., Late Demonstrator of Anatomy at University College, Liverpool, etc. Cloth. Price, $2 net. Pp. 137, with 82 illustrations. New York: William Wood & Co., 1911.

The most notable thing in this book is the explanation of the uniform rotation of the vertebræ in scoliosis so that the sides of vertebræ toward a convexity of the lateral curve are twisted backward. This the author explains by the necessary elevation of the ventral ends of the ribs on the side of the convexity, and the consequent increase of anteroposterior distance between the ends of each rib that is thus elevated. After the limits of looseness and elasticity are reached, this increasing anteroposterior separation of the rib ends, the author credibly asserts, forces the corresponding sides of the vertebræ backward, i. e., rotates them. This explanation applies of course only to the dorsal, rib-bearing part of the spine; the author therefore considers the dorsal rotation the primary one, and the lumbar rotation, which he does not explain, he regards as secondary. Accordingly, he believes that the dorsal deformity should be the special object in corrective exercises and measures. Another new point is the explanation of some cases of weak ankles in children by the failure of the external malleolus to grow downward from its fetal position on a level with the internal malleolus.

The exercises are clearly described and illustrated, and their rationale discussed. Hygienic measures and certain drugs are considered. The author states that a scoliotic patient being treated in this way should give his full time to it for three to six months and six months more to half-training. The book is not intended to consider severe structural cases of scoliosis. It does not, however, refer to the growing proof that many cases are due to congenital imperfection of the vertebræ, and so must in many instances be dealt with as severe from the first appearance of the deformity.

The book is a welcome justification for, and guide in, the use of exercises in the treatment of scoliosis and flat-foot, and a reproof of the needless (and when needless always harmful) use of artificial support.

The Prevention of Malaria. By Ronald Ross, D.P.H., F.R.C.S., D.Sc., Nobel Laureate. With Contributions by Various Men. Cloth. Price, $5 net. Pp. 669, with illustrations. New York: E. P. Dutton & Co., 1910.

To every specialist the particular subject in which he is interested acquires great importance, so that we naturally expect Dr. Ross to estimate highly the importance of malaria. Still we are not accustomed to yield it first place in professional regard, as he does when he says that "malarial fever is perhaps the most important of human diseases." This, however, he supports with the statement that in India, it is estimated that the average annual death-rate from this disease is 1,130,000 persons. Ross believes that malaria has profoundly modified the world's history by rendering the tropics unsuitable for the full development of civilization and that it therefore becomes a political disease, affecting the welfare of whole countries, and one whose prevention should be an important branch of public administration. The author has adopted the plan of giving a general summary of the history and facts regarding the causation and prevention of malaria and then incorporating the contributions of authorities for different countries. These contributions number twenty-one, covering southern Europe, the United States and other American countries and the European possessions in Asia and Africa.

In this connection it may be noted that the communication of Dr. Edmond Sergent is entirely in French with no translation. This is a feature which might occasion some annoyance to such readers as are not familiar with the French language.

The special contribution for the United States is from Prof. L. O. Howard, chief of the Bureau of Entomology at Washington. He describes the work that has been done in a sporadic way by scattered associations and communities, the official work of the State of New Jersey, and the educational work carried on among the school children in San Antonio, Texas. Professor Howard suggests that while malaria tends to disappear in consequence of the drainage of swamp lands, the conditions of improved civilization bring about steadily increased opportunities for anopheles to breed, as by the construction of irrigation ditches, railroad embankments, mill dams, etc., so that it would not be surprising if malaria were increasing rather than decreasing in the United States. It would seem that the mosquito crusade is bound to become an extremely important matter within the next few years.

The campaign against malaria in Panama is made the subject of two communications, one by Colonel W. C. Gorgas, and the other by J. A. Le Prince, Chief Sanitary Inspector, Panama Canal Zone. Colonel Gorgas expresses the view that the work already done at Ismailia, Havana, Panama, and at other places has demonstrated that malaria can be eventually banished from the worst places in the tropics at no very great expense. He thinks that the individual farmer can protect himself from tropical malaria for less than what he expends in protecting himself against the cold of Dakota or Manitoba.

W. T. Prout in describing antimalarial measures in Jamaica states that deaths from malaria represent nearly one-fifth of the total deaths. Hitherto little has been done to prevent the disease, but as the result of an expedition from the Liverpool School of Tropical Medicine, public opinion has been aroused and an appropriation of $25,000 has been made to carry on the work. The efforts to prevent malaria in British tropical territory receive extensive notice. This part of the work is illustrated by a number of plates. "The Prevention of Malaria in War" is the subject of a very practical chapter by Colonel C. H. Melville.

Altogether the work contains a large amount of information involving painstaking and accurate research; the book is recommended to sanitarians and to all who need to inform themselves on this important department of preventive medicine.

Special Message of Governor Herbert S. Hadley Regarding the Control and Prevention of Tuberculosis, Together with a Report of the Voluntary Commission to the Forty-Sixth General Assembly, 1911. J. Hal. Lynch, Secretary, 625 Locust St., St. Louis. Paper. Pp. 99.

In July, 1910, Gov. Herbert S. Hadley of Missouri asked a number of men and women who had been prominent in the investigation of public questions to serve as a voluntary committee to investigate the prevalence of tuberculosis in the state of Missouri, the causes of the disease and the best method of controlling it. The report, transmitted to the legislature in a special message, was printed by the state. It is in three parts: viz., a report on the morbidity and mortality caused by this disease; an estimate of the economic loss caused by it; and recommendations as to its prevention and cure. As to its prevalence, the committee reports from 5,000 to 5,500 deaths per year from this disease in Missouri. In the cities the death-rate was 173 per 100,000. In small towns and country districts, it was estimated at one death in every six, making the average for the state one in every ten deaths. It was found impossible to estimate accurately the number of cases of the disease, 18,000 being the minimum and 30,000 the maximum. The estimated loss through this disease was $31,000,000 per year. The committee recommended enlarged powers for the state board of health; the appointment of a tuberculosis commission; the passage of an enabling act for the erection and maintenance of county sanitariums; segregation of tuberculous inmates of state institutions and prisons; and the passage of a state housing law.

Nature Sketches in Temperate America. A Series of Sketches and a Popular Account of Insects, Birds, and Plants, Treated from Some Aspects of Their Evolution and Ecological Relations. By Joseph Lane Hancock, M.D., F.E.S. Cloth. Price, $2.75 net. Pp. 451, with 227 illustrations. Chicago: A. C. McClurg & Co., 1911.

By sketches of insect, bird and plant life, Dr. Hancock has endeavored to illustrate, in its philosophic aspects, the doctrine of the organic evolution which has brought them to their present form, and also to throw some light on their present ecologic conditions. His sketches and studies are based on personal observation and are presented with a rare combination of literary charm and simplicity with sound scientific information. Dr. Hancock's frank interest and joy in his subject is infectious, and makes the book one which may be read with entertainment and profit. The book is profusely illustrated with photographs and sketches by the author.

Medicolegal

Validity of Provision for Medical Examination and Treatmen of Prostitutes

(*People vs. Fox* (N. Y.), *129 N. Y. S. 646*)

The First Appellate Division of the Supreme Court of Nev
York holds constitutional the enactment of that state provid
ing for the medical examination and treatment of prostitute
This provides that they shall, after conviction as vagrants o
disorderly persons, be taken to a room adjacent to the court
room, and there be physically examined by a woman physi
cian of the department of health detailed for that purpos
After such examination, the physician making the same shal
promptly prepare and sign a written report to the court o
the prisoner's physical condition, and if it thereby appear
that the prisoner is afflicted with any venereal disease, whic
is contagious, infectious or communicable, the magistrate shal
commit her to a public hospital having a ward or wards fo
the treatment of the disease with which she is afflicted, fo
detention and treatment, etc.

The lower court held that this act violated the constitutio
in that it directed the detention of the accused without du
process of law, in that the nature of the sentence after con
viction was made to depend on the report of a physical exan
ination without an opportunity for a hearing on the fact
entering into the report. But the Appellate Division think
that a construction can be put on the statute which will sav
it. It says that it would not be said that a person who ha
contracted a contagious or infectious disease in the practi
of drunkenness and debauchery requiring charitable aid t
restore him to health should be subjected to punishment f
his condition, but rather that medical assistance should l
extended and his reformation attempted; yet by the statut
such a person is a vagrant. It is recognized by those wh
have made a study of criminology that prostitution is ev
dence of insanity or degeneracy, and the offenses or conditio
specified in these sections require more the supervision of th
health and reformatory authorities of the state than commi
ment to penal institutions. The detention of a person withi
these provisions of the statute is not so much a punishme
for a crime as a means for the reformation or protection
the individual who has become a vagrant or disorderly perso
and for the conservation of the public health, and the juri
diction given to the courts of inferior criminal jurisdictio
over vagrants and disorderly persons is therefore more refo
matory than penal. When a person is brought before a jud
cial tribunal charged with this condition, he is to be su
jected to such detention or treatment as will be best calculat
to accomplish the end in view, and the statute should be co
sidered in view of what seems to have been the evident inte
tion of the legislature in enacting the provisions in questio

Certainly, if it had appeared that the accused was sufferi
from small-pox, cholera, or typhus fever or any other infe
tious disease, the court would not have been bound, nor woul
it have been justified, in committing her to a public instit
tion which would endanger the lives of all its inmates, or i
discharging the prisoner so infected to communicate the di
ease to all of the inhabitants with whom she should come in
contact. The nature of venereal diseases is such that t
result of infection is more serious than of the ordinary co
tagious or infectious diseases that are so carefully guard
against. To deny the power of the legislature to provide f
the isolation or detention of persons suffering from a vener
disease until cured, or until the danger of infection has pass
would prevent the health authorities from removing from
crowded tenement house a person suffering from small-po
scarlet fever, or tuberculosis, or the quarantine authoriti
from removing to a hospital a passenger arriving at a po
suffering from cholera or plague—precautions that ha
always been recognized as within the police power and jus
fied by the danger of contagion from those suffering from su
diseases.

There is nothing in this statute which in terms makes t
report of a physician binding on a magistrate, and nothi

which prevents a magistrate from hearing testimony as to the prisoner's condition, or from determining the question as to her condition contrary to the report of the physician. It is true that the mandatory word "shall" is used rather than the permissive word "may," or "has authority to" commit. But the instances are many in which courts have treated the mandatory word as merely permissive when necessary to sustain an act or accomplish the purpose which was clearly intended.

Considering all the provisions of this article of the statute, it seems to the court that they are provisions for the health of the community, and were intended to ameliorate the condition of one suffering from one of the most terrible diseases, and to protect the community from infection.

Then, the objection was made to this act that it relates to women only, and not to men, who are suffering from these diseases; but it was clearly a question for the legislature to say whether the public interests or the public health required that a woman afflicted with a venereal disease should be treated differently from a man. Moreover, public prostitution applies only to women, and every person convicted of public prostitution is within the act. Nor does the court think that this can be said to be an unreasonable exercise of the police power.

Large Damages Approved for Personal Injuries

(Zibbell vs. Southern Pacific Co. (Cal.), 116 Pac. R. 513)

The Supreme Court of California affirms in this case a judgment for the plaintiff for $70,000 for damages for personal injuries. The jury's verdict in favor of the plaintiff was for $100,000, but from that $30,000 was remitted. At the time of his injury the plaintiff was 27 years old, in perfect health, and earning about $2,500 a year in the breeding and training of horses. By the accident his right heel was crushed and torn to such an extent as almost to sever it from the foot. His right leg was fractured between the knee and ankle, and the flesh on that leg between the thigh and ankle was torn, cut, bruised and lacerated. His back, sides and shoulders, face and head were cut, bruised and wounded, and he sustained a severe nervous shock. Moreover, by reason of his injuries his left arm had to be amputated below the shoulder, his right hand at the wrist, and his left foot a short distance above the ankle. So the court declares that, while the damages awarded in this case were very great, the shocking character of the injuries, the loss of both arms and one leg, he permanent loss of earning capacity, the inevitable disabilties and the suffering endured, and necessarily to be endured or more than 38 years, which the mortality tables showed was the expectancy of his life, presented a case in which the injuries were as grave as the damages great, or, at least, a case in which there was no such marked disproportion between he character of the injuries and the award made for them s to suggest at once that the award was influenced by prejudice, passion or corruption.

Society Proceedings

COMING MEETINGS

merican Physiological Society, Baltimore, Dec. 27-30.
merican Public Health Association, Havana, Cuba, Dec. 4-9.
outhern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Vestern Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

MINNESOTA STATE MEDICAL ASSOCIATION

Forty-Third Annual Meeting, held at St. Paul, Oct. 4-6, 1911

he President, Dr. J. W. Robertson, Litchfield, in the Chair

A list of the officers elected was published in The Journal, ct. 14, 1911, p. 1296.

Medicine in Minnesota

Dr. J. W. Robertson, Litchfield: It seems to be the consensus of opinion among the members of the profession in innesota that medical education shall consist of, first, graduation from a state high school; second, two years in science nd arts in some college or university; third, four years in the tudy of medicine; fourth, one year in hospital training. I think that this course of study will meet the approval of a large majority of the medical men of the state. I also believe that it is to the best interests of humanity that we have a physician in every county of the state to be supervisor of health in schools so that the many abnormalities and physical defects of children can be observed, tabulated and treated during the growing period of childhood.

Carcinoma of the Lip, Mouth and Pharynx

Dr. E. H. Beckman, Rochester: Of 210 patients operated on for carcinoma of the lip during the past six years, only fifty-two presented themselves within six months of the beginning of the disease. The extensive "block dissection" of Crile should be done at an early period in the disease before glandular involvement has taken place. We have performed 25 "block dissections" in the past three years with no operative mortality, so that the operation is not so dangerous as at first supposed. Better results in the treatment of carcinoma of the lips, mouth and pharynx seem to lie in a realization of the hope for an earlier diagnosis and a more extensive removal of the lymphatic glands into which the area of the cancer drains.

Carcinoma of the Gastro-Intestinal Tract

Dr. William J. Mayo, Rochester: From Oct. 1, 1897, to Oct. 1, 1911, 1,230 patients with carcinoma of the gastro-intestinal tract were operated on at St. Mary's Hospital. Of these 848 involved the stomach, and the radical operation was done in 296, or 34.9 per cent. of the cases. The mortality is 5 to 8 per cent. at present. Statistics in this series show that over 25 per cent. of patients who recovered from the operation and whose present condition is known, are alive and well over five years. There were fourteen cases of cancer of the small intestine, and five, or 35.7 per cent., were submitted to radical operation. Of the 214 cases of cancer of the large intestine nearly three-fourths were operated on radically. Fifty per cent. of those who recovered from the operation and whose present condition is known, are alive and well over five years. The operative mortality in these cases is now less than 10 per cent. Thirty per cent. of the 163 patients with cancer of the rectum, who recovered from the operation and whose present condition is known, are alive and well over five years. The mortality is now less than 10 per cent. Cancer, as cancer in the stomach, does not early produce definite symptoms; only when its situation makes a palpable tumor, or causes obstruction, can a probable diagnosis be made in the beginning of the disease. Malignant disease in any part of the large intestine proximal to the middle of the transverse colon is best treated by removal of all the large intestine up to the growth, doing ileocolostomy, beyond the middle of transverse colon resection in continuity. In cases of cancer of the ampulla of the rectum, a permanent colostomy should be made at the primary operation, and at a second operation after the lower segment has been properly cleansed, the entire rectum should be removed from behind. This procedure gives the patient moderate control and the best chance for a permanent cure. For high rectal or recto-sigmoid cancer the abdominal combined method is preferable. The perineal operation should be reserved for cancer of the anal region. In five instances we have discovered rectal cancer early enough to permit a purely local operation. The pessimism of the medical profession as regards malignant disease of the gastro-intestinal tract is not justified by the facts. Failure to make a diagnosis while the disease is still local, and not any peculiar malignant tendencies in the presence itself, accounts for the fatal character of cancer in this region. Lack of examination rather than lack of knowledge is responsible for mistakes in diagnosis.

DISCUSSION

Dr. J. E. Moore, Minneapolis: I heartily endorse the principles laid down and the treatment advocated in Dr. Beckman's paper. The erroneous opinion has widely prevailed that carcinoma of the face is not so malignant as in other parts of the body, and that radical treatment is not necessary. This is due to the fact that cancer of the face is recognized earlier than in any other part of the body, and earlier operations have been performed. This strengthens the contention of the surgeon that carcinoma is originally a local disease. Fortunately for the surgeon and humanity, carcinoma of the small intestine is comparatively rare, for results of surgical intervention are not nearly so good here as in other parts of the intestines. The mortality of carcinoma of the stomach without operation is 100 per cent., and if, as Dr. Mayo has demonstrated, 25 per cent. can be saved by operation, it surely requires no argument to establish its value. Carcinoma of the large intestine is an encouraging field. The diagnosis is not so difficult, and results are remarkably good. The large bowel is remarkably tolerant of surgery. There is one point made by Dr. Mayo that I wish to endorse most emphatically, because all surgeons do not agree with him, and that is in reference to the value of colostomy in carcinoma of the rectum. This comparatively simple operation gives immediate relief and enables us to perform radical operations on the lower bowel that we could not do otherwise.

I have patients living and well to-day on whom I performed colostomy fifteen years or more ago who could not have been saved in any other way. There is another point in this paper that should encourage those who are disposed to be pessimistic on this subject, and that is the large percentage of tumors of the cecum and sigmoid presumably malignant that prove to be benign when put under the microscope.

Visceroptosis

Dr. Leroy Crummer, Omaha: This is a condition and not a disease, symptoms occurring in this condition are dependent on changes in function and not on changes in structure. The physical stigmata are the phthisical chest, the long abdomen and the narrow pelvis. On abdominal examination, the colon can be palpated as a narrow, tender cord in more or less of its entire extent from the cecum to the rectum. The right kidney can always be palpated and generally the left. The stomach on inflation is found vertical and not dilated. These signs are found in the routine examination in the large percentage of women, many of whom present absolutely no symptoms of any kind.

Following, however, a period of stress with its attendant malnutrition and loss of weight, the symptoms become manifold. The usual symptoms which first present themselves are in the stomach and are described as a sensation of "chronic grief." The bowels soon become affected, and in early cases an alternating diarrhea and constipation and finally persistent constipation, and ultimately attacks of colica mucosa occur. A secretion of mucus in the bowel is practically a constant symptom. Many other symptoms occur in the course of the condition and any form of abdominal distress, palpitation, backache, coxalgia, or any symptoms of so-called neurasthenia demand an examination for the physical signs of this condition.

These patients should never be operated on for anything except definite pathologic conditions, as the ultimate results of operative interferences of visceroptosis itself are bad. The diagnosis should be made directly by finding these stigmata in cases having vague abdominal symptoms. Differentially tuberculosis and hyperthyroidism must be considered. There is no direct line of separation between hyperthyroidism and this condition, as many symptoms exist in common. It is very difficult to pick out those cases in which there is a real surgical lesion and this diagnosis must be made only on indisputable evidence.

Etiologically, a past history of chlorosis is found in a large proportion of cases, but of most importance is an exact history of stress followed by malnutrition. The prognosis is good when the cases are recognized during the early period and even in the severe cases under proper treatment there is a return to a comfortable existence without, however, there being any indefinite changes in visceroptosis. As far as treatment is concerned, the principles of the Weir Mitchell rest treatment with forced feeding give the best results. Belladonna is practically a specific in most cases.

DISCUSSION

Dr. J. E. Moore, Minneapolis: Many years ago Glenard enlightened the profession concerning visceroptosis, but the average physician paid very little attention to the subject. With the development of abdominal surgery, surgeons began to take note of these physical defects and very naturally concluded that these defects were the cause of the patients' suffering, and that the best means of treatment would be mechanical; hence, all the scars mentioned by the essayist. It is necessary in surgery, as in everything else, to go to extremes to find what the happy medium is. These operations did only temporary good, and on the whole were very disappointing, but they did not kill people, and while they were rather hard on the present generation, they have enabled us to demonstrate that operations are not curative in these conditions, and we have relegated these patients to the physician where they rightfully belong, and have very materially helped the physician to establish the ground on which he now stands. In this way these operations, now discredited alike by surgeons and physicians, will prove of untold value to future generations. These scars should not be placed to the discredit of surgeons but should be looked upon as milestones of his progress, for, having demonstrated the inefficiency of surgery, he honestly turns these patients over to the physician. Real surgeons no longer perform these operations. It is only the "would-be" surgeon, the one without personal experience, or the honesty or ability to profit by the experience of others. Our worst difficulty now is that half-baked physicians are still referring these cases to us for operation.

Polycystic Disease of the Kidney

Dr. Donald C. Balfour, Rochester: In the series of six cases observed in St. Mary's Hospital, four were females and two were males. In the majority of cases symptoms are absent in the early stages, but as the process advances signs of renal insufficiency become evident, such as pain of a varying character, frequent micturition, bloody urine, and, occasionally, temporary retention. In the later symptoms constitutional disturbances occur, e. g., loss of weight, reflex disorders of the stomach, secondary cardiac hypertrophy, arteriosclerosis, uremia and general failing health. The diagnosis rests mainly on the presence of tumor in one or both flanks. If both kidneys are involved, polycystic disease of the kidney may be diagnosed almost positively. Differentiation is made between this condition and hydronephrosis, pyonephrosis, and hypernephroma by means of ureteral catheterization. The affection is ultimately fatal from gradual destruction by pressure of the normal kidney tissue, although as the secreting structures of the kidney are markedly resistant to outside pressure, patients may live comfortably for some time after the cystic degeneration is fairly advanced. If the condition is diagnosed as bilateral, surgical measures are useless, and treatment along general lines should be instituted. If the kidney on the opposite side is grossly unaffected, nephrectomy may be indicated, but the mortality following this procedure makes it almost prohibitive. In doubtful cases, exploratory operation should be made. In two of the cases reported in this series some of the cysts had attained a size sufficient to make exploration advisable. One case was explored on a diagnosis of ovarian cyst; the other on a provisional diagnosis of partial rupture of the kidney, as the tumor was noticed immediately after a severe fall.

Fracture of the Elbow

Dr. Owen W. Parker, Ely: Out of the last 4,600 injuries, 324 were fractures of which only seven involved the elbow. These fractures are much more common among children. Great care is necessary in examining all injured elbows; otherwise many fractures will be overlooked. On account of the irregularity of the lower end of the humerus, a large variety of fractures are met. In treatment, the position used by us in fractures of the elbow is either the right-angle position or that of acute flexion or hyperflexion. I prefer hyperflexion in all fractures of the lower end of the humerus, except the intercondylar. I always attempt to hyperflex the arm up to 30 or even 20 degrees. If the swelling is so great as to interfere with hyperflexion and the safety of the pulse, wait a few days and then hyperflex. Hyperflexion is maintained by dressing either with adhesive straps or by means of a roller bandage as used by Ashhurst, at no time using any splint. Splints are used whenever treating in the right-angle position. Full flexion, the most valuable function of the joint, is fully preserved, whereas in a right-angle position there is more apt to be some loss of flexion. Extension is less valuable than flexion and is more easily regained. It may be regained early or not for several months. It is important to preserve the carrying angle. Do not use early forcible manipulation: wait until the third week when union is fairly firm and then begin gentle passive motion, extension having in the meantime been gradually increased.

Tuberculin in the Treatment of Scleritis

Dr. C. N. Spratt, Minneapolis: I have had one case of episcleritis and six of keratoscleritis treated with tuberculin. Five patients were women and two were men. The ages of the former were between 31 and 38 years. One man was 43, the other was 55 years of age. The right eye was the one affected five times and the left twice. Two of the patients had previous attacks in the other eye. All were in good health. The location of the infiltration was, two on the temporal, two on the superior temporal, one on the nasal side, one above and one below the cornea. In three cases the entire anterior part of sclera was involved. All patients gave a general reaction to Koch's old tuberculin. Lowest febrile reaction was 100.2; highest, 102.6 F. Maximum reaction was twelve hours in two cases, thirty-six in another and an average of twenty-four hours in the others. A local reaction in the affected eye followed in six cases. In two cases Denys' bouillon filtrate was used, the initial dose being 1/1,000 mg. In the other five the bacillus emulsion was used, with an initial dose of 1/100,000 or 1/1,000 mg. The dose was slowly and carefully increased, avoiding as far as possible signs of general or local reaction. Any redness about point of injection or rise of ½ degree in temperature was considered an indication that the point of intolerance was reached. The dose was not increased or repeated until the temperature was normal for forty-eight hours. In one severe case cure was obtained in six months after forty-five injections, the maximum dose being 20 mg. bouillon filtrate. In a severe case of ten months' duration a cure was obtained in three months after twenty-two injections, maximum dose 1/50 mg. of B. E. In a case of seven weeks' duration the patient was cured in ten weeks after twenty injections maximum dose 1/50 mg. A fourth patient with trouble of eight months' standing and under treatment three months has received twenty-six injections and is improving. In a case of five months' duration the patient was cured in three months with eighteen injections of B. E., maximum dose 1/100 mg. In a sixth case of eight months' duration the patient was much improved after the diagnostic dose of 10 mg. O. T. He was sent home to have the treatment continued by his physician. The seventh patient, with episcleritis of one month's duration, is still under treatment and is improving.

KENTUCKY STATE MEDICAL ASSOCIATION

Fifty-Sixth Annual Meeting, held in Paducah, Oct. 24-26, 1911

(Concluded from page 1635)

President's Address: United We Stand, Divided We Fall

Dr. J. G. Carpenter, Stanford: We want better organization of the physicians of the country through their local organizations, that the advantage of cooperative study may be obtained; that the lot of the physicians may be made better; that better laws may be enacted; better sanitary conditions maintained; the science of medicine advanced more rapidly, and the mission of the physician as he sees it better fulfilled. Our conception of the physician is that he should be a leader in the community; the cleanest man in it; clean in speech; clean in his morals; a leader of opinion and the best cultured. The time is at hand when the physicians are to have the leading part in the destiny of the country. Now, the problems are social and moral and psychologic, and a different class of men should be sent to the legislatures. In this physicians and teachers must take a hand by impressing on their legislators the worth of health measures before them and helping to get men into the legislatures who will give proper consideration to these measures.

The organization of a weekly or bi-monthly graduate course in every town and county should be brought about by physicians. Every society meeting is a graduate course. This is the golden opportunity of the practitioner to gain knowledge from and impart knowledge to others.

The State Institutions and a Plea for a More Perfect Equipment

Dr. H. P. Sights, Hopkinsville: I would like to refer to one simple advancement in the management of the insane. This is the complete abolition of all forms of mechanical and medical restraint that were thought absolutely necessary in former years. The state institutions are conducting training schools in which the best methods of handling the insane by personal care are taught, gradually educating the people to the fact that an insane person is a sick-minded, not a deformed-minded person. Autopsies and laboratory work and study of cases will develop trained alienists who shall stand as a credit to the present methods of conducting state institutions. A psychopathic hospital is an absolute necessity to treat and care for patients, as it affords the best opportunity for recovery of the acute cases of insanity.

DISCUSSION

Dr. Brooks H. Beebe, Cincinnati: If the legislators in their respective communities were approached in the proper manner and in the right spirit with regard to the better care and handling of the insane, I believe there is not one of them who will go counter to the physician. They are non-political when it comes to health laws, and you have control of the situation if you simply get together.

Dr. W. E. Gardner, Lakeland: While a great many improvements have been made in our asylums during the past few years, such as the abolition of non-restraint, more liberal amusements and recreation for patients, and the establishment of training schools for nurses, making provision for the care and isolation of tuberculous patients, and a more systematic examination and study of cases, yet all these things amount to very little so far as bringing the institutions up to standard is concerned and to what can really be called state hospitals for the insane. We want a hospital for the sick in each one of these institutions. We should have a psychopathic department in each one of the institutions.

Dr. George P. Sprague, Lexington: The number of attendants, the number of physicians and the number of employees generally throughout the institutions for the insane of Kentucky are too small, so that there is not enough supervision of patients. There is urgent need for reform in this respect. There should be more nurses, more physicians, more employees. It would be considered criminal in a well-managed hospital to have such conditions as obtain in our state asylums, and these things obtain simply because we do not know what the conditions demand, and do not voice that demand to our legislators.

Expert Testimony in Courts of Law

Dr. Dudley S. Reynolds, Louisville: Expert testimony in courts of law is extremely variable. It is a well-known fact that hypotheses stated by different persons lose their original character and clearness, and are therefore well calculated to mislead the expert witness. Two or more experts may differ widely in their answers to a hypothetical question stated in the same language; when personal examination by them would lead to identical conclusions, and these conclusions might destroy the hypothesis relied on by the establishment of facts, wholly different from those on which the hypothesis was predicated. Much of the ill-repute of medical expert testimony in courts of law is due to the ignorance of the judges, and the unfortunate, not to say dishonorable methods of attorneys who are employed to contest the facts and pervert truth and justice.

DISCUSSION

Dr. W. W. Anderson, Newport: Unfortunately, under the methods of conducting testimony and taking sides, the physician or witness is impelled to take sides, and unfortunately, physicians can be found who are willing to take sides in a case rather than go straight ahead with the truth in the case.

If we men, who are not specialists and not experts in all matters of medicine, will be honest enough when we get on the stand to disqualify ourselves until we are qualified to speak as experts, we will save our reputations and the reputations of our fellow-practitioners. We should take no side; we should take no interest in the verdict. It is none of our business, except to state the case to the jury clearly and simply, and not permit the attorneys to make us appear to say something that we did not say.

Dr. J. N. McCormack, Bowling Green: The condition of the profession in regard to expert testimony is the result of the vicious system which lawyers have brought on us. We are not responsible for it. The medical expert is just as important as the judge, and he ought to be selected carefully for his scientific attainments, first, and second, on account of his legal knowledge. If we selected judges as we select experts, our courts would be in bad shape, and yet we are selecting medical men in a haphazard manner, allowing any man to qualify as an expert—and he is selected by the lawyer.

Dr. C. Z. Aud, Cecelia: The testimony of the expert often is biased. Many patients get well a year or so after a verdict has been rendered and damages have been recovered.

Dr. Virgil E. Simpson, Louisville: As long as human nature is as it is, we are going to have malingering, and there is a possibility of physicians being honestly mistaken in giving a professional opinion. The hypothetical question is a nuisance, and whenever it is possible for an expert to make an examination of the conditions as they exist, then there is no longer any necessity for hypothesis. If doctors, in their answers to questions which in the very nature of the phraseology require yes or no for an answer, were entitled to the privilege of explaining the responses, they would be much less embarrassed than they are.

Dr. Curran Pope, Louisville: If the lawyer insists on putting ridiculous questions which have nothing to do with the case, then I give him right straight back what he is after. We must be guarded as to our replies to questions. In the first place, we must know something. In the second place, we must be honest enough to admit that there are some things we do not know.

Care of the Insane Criminal

Dr. Milton Board, Louisville: An institution for the criminal insane should be established in each state for various reasons: 1. That those who plead insanity as an excuse for crime and succeed in convincing the jury that they are insane, shall not go scot-free to prey again on the public, but may be confined in a safe place where, under the inspection of competent alienists, their fraud may be uncovered, if they have practiced deception, and where their mental condition may be treated, if they are really insane. 2. For the confinement and treatment of persons who have developed well-marked criminal tendencies.

Intestinal Obstruction

Dr. P. C. Layne, Ashland: I had a case of adynamic ileus in a man, 22 years of age, who had been operated on for acute perforative appendicitis, attended with acute peritonitis. Also a case of strangulated ileus in a child, 1 year of age. The incision revealed an acute intussusception of the ileocolic type, with about 18 inches of the ileum invaginated into the colon. Reduction was accomplished with very great effort, a long appendix excised, and a reef put into the mesentery with the hope of preventing a recurrence. Recovery was complete. Case 3 was an obturation ileus in a man, 57 years of age. Operation revealed a stricture of the bowel at the junction of the descending colon with the sigmoid. Resection of the affected segment, followed by end-to-end anastomosis with a large-sized Murphy button, was performed as quickly as possible; but the shock of the operation was too great, and the patient died about five or six hours later.

Deep Alcohol Injections for Persistent Neuralgia

Dr. E. A. Stevens, Mayfield: My opinion of the method of cure or relief in these cases is that it produces a temporary paralysis which amounts to a physiologic rest. During this rest the nerve temporarily recovers from the neuritis, but is weakened by the previous disease. The history of this treatment indicates that the neuritis will return in from one to three years after the treatment, although some of the cures seem to be permanent.

The Physician's Duty as an Educator in Preventive Medicine

Dr. J. W. Ellis, Masonville: As all reform must come from physicians along health lines, I think they should by public addresses and short newspaper articles instruct the laity.

The Surgical Treatment of Goiter

Dr. John R. Wathen, Louisville: Reasoning from experience with 160 cases, I should say that if we delay operation for several years, administering iodin and electricity until the heart muscle has undergone degeneration, albumin is in the urine, enlargement and fatty degeneration of the liver, lowered blood-pressure, etc., we have waited too long to attempt any radical operative measures, and these patients will generally die. The proper time to advise operation with an expectation of a low mortality and good results is after the thyroid enlargement has begun to manifest the early symptoms of exophthalmic goiter, and has existed for several months or years, with little or no signs of improvement. Early operation, before complications have arisen, offers the best results. I have noted that all patients, in whom I was not able to reduce the pulse in preparatory treatment to below 110, died, and I lost no patient in whom we were able to reduce the pulse to below this figure. This observation was made irrespective of the original condition of the pulse when the patient entered the hospital. In other words, a patient entering the hospital with a pulse of 180, which was reduced before the operation to below 110, always recovered, and one entering the hospital with a pulse of only 120 to 130, which was not reduced below 110, always died. Those cases with intermittent pulse are the most dangerous, irrespective of the pulse-rate. My mortality has not been over 4 per cent., and I have benefited all on whom I have operated, and apparently cured permanently about three-fourths.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

November 2, CLXV, No. 18, pp. 669-708

1 Circulatory Disease, Its Prevalence in New England, Massachusetts and Boston. E. W. Dwight, Boston.
2 *Factors Involved in Production of Arterial Blood-Pressure, Physiologic and Pathologic. W. B. Cannon, Cambridge.
3 High Blood-Pressure and Arteriosclerosis. J. M. Jackson, Boston.
4 *Treatment in Circulatory Disorders. H. D. Arnold, Boston.
5 *Experimental Study of Cause of Death in Acute Intestinal Obstruction. F. T. Murphy and B. Vincent, Boston.

2. **Production of Arterial Blood-Pressure.**—The necessity of keeping in mind both the discharge from the heart and the constriction of peripheral vessels as determinants of arterial pressure is emphasized by Cannon. He says that low pressure may be due not to vasodilatation, but to a weak heart; and any agency used to increase vasoconstrictor tone under these circumstances is likely to stop the heart at once. His attention was recently called to a case of precisely this character, in which the administration of epinephrin to raise the low tension was followed by instant death, the laboring heart was overburdened by the sudden increase of load and stopped immediately. Until the part played by each of the two factors, therefore—the heart and the arterioles—is clearly demonstrated, the intelligent treatment of any disturbance of normal arterial pressure is impossible.

4. **Treatment of Circulatory Disorders.**—Arnold dwells at some length on the benefits to be derived from the proper dietetic treatment of advanced cases of circulatory disturbance. The same method of treatment is useful in earlier stages of this disease. It stands to reason, Arnold says, that

the less the eliminative power of the kidneys is impaired, the greater should be the efficacy of a measure that spared the work of the kidneys. Altogether too little attention has been paid to an excessive protein diet as a potent cause in producing disease of the kidneys. Hearty eating, too little exercise and high-pressure business cares are the factors that hurry many a valuable business man to his grave prematurely. If alcohol is added as a whip to keep up the pace, the progress of the disease is much accelerated. If these cases can be taken early, when high tension is first manifesting itself, the patients can be restored to a life of greater efficiency and relative health, and many a good citizen can be spared for an indefinite period of usefulness. To dietetic regulation in such cases must be added the lessening of the strain of business cares, moderation in all things, regularity of life, sufficient exercise and recreation and thorough elimination from the alimentary canal. The treatment is essentially prophylactic. Drugs play a very minor part.

5. **Cause of Death in Acute Intestinal Obstruction.**—The results of their experimental work are summarized by the authors as follows: 1. Interference with circulation of obstructed intestine is the vital factor in the production of the typical symptoms of acute ileus. The obstruction of the venous return is the most important element in this circulatory disturbance. 2. The acute symptoms are caused by the absorption of a toxic substance which is found in the obstructed intestine. 3. This toxic substance is destroyed by boiling. It is not soluble in water and will not pass through the Berkefeld filter. 4. The formation of this substance probably is not dependent on any vital secretion of the mucous membrane of the intestine. 5. The rapidity of absorption varies, dependent on the patency of the lymphatic channels in the mesentery, and the permeability of the intestinal wall. They conclude, therefore, that this toxic substance is purely bacterial in origin and that the living bacteria with their end toxins, not the putrefactive products nor the chemical poisons, are directly responsible for the profound symptoms and death in acute intestinal obstruction.

These experimental results confirm the clinical observations regarding the importance of any disturbance with the circulation in acute ileus and are in accord with the generally accepted ideas of surgical treatment. The demonstration of the rapidity of absorption, after interference with the circulation, emphasizes the necessity of early operation and restoration of the circulation, as well as the removal of the obstruction. The observation that the toxic intestinal content is not absorbed to any degree through the normal mucous membrane may influence materially the surgical treatment, because if this is so, an enterostomy for permanent drainage is futile, since if there is strong peristalsis to make the enterostomy effective, it would, after the obstruction is removed, force the content beyond the zone of possible absorption. In the cases in which peristalsis is evidently going to be lacking or obstructed on account of the damage to the wall of the intestine, the authors' findings would indicate a resection of the segment involved, rather than any of the various procedures, such as irrigation or massage, because of the danger from the presence of intestine which may act as a reservoir for the formation of the toxic substance, as well as furnish an avenue of absorption. The relatively low toxicity of the free fluid in the abdominal cavity, except in the terminal stages of the obstruction, would suggest that drainage of the peritoneum was indicated only when demanded by some local septic process.

Journal of Arkansas Medical Society, Little Rock

September, VIII, No. 4, pp. 103-126

6 *Management of Fractures and Crushing Injuries of Extremities. J. A. Foltz, Fort Smith.
7 Abdominal Incisions for Exploratory Purposes. C. S. Holt, Fort Smith.
8 Inguinal Hernia. H. H. Kirby, Little Rock, Ark.
9 Case of Splenectomy. P. Hunt, Texarkana, Ark.
10 *Unusual Case of Thyroid or Parathyroid Goiter. R. C. Dorr, Batesville.
11 *Surgical Treatment in Trachoma. R. Caldwell, Little Rock.

6, 10 and 11. Abstracted in THE JOURNAL, July 8, 1911, pp. 156 and 157.

Archives of Pediatrics, New York

October, XXVIII, No. 10, pp. 801-880

12 Radical Removal of Tonsils and Adenoids. C. G. Kerley, New York.
13 *Involution of Thymus by Röntgen Ray. A. Friedlander, Cincinnati.
14 Open-Air Schools and Fresh Air in Schools. L. G. Ager, Brooklyn.
15 Colon Irrigation. The Short vs. Long Tube. Comparison Based on 200 Irrigations. H. T. Machell, Toronto.
16 Further Observations on Soy Bean. J. Ruhräh, Baltimore.
17 *Sugars in Infant Feeding with Special Reference to Maltose-Dextrin Preparations. J. S. Leopold, New York.
18 Investigation of Action of Sodium Benzoate in Artificially Fed Infants. C. G. Grulee and W. H. Buhlig, Chicago.

13. **Involution of Thymus by Röntgen Ray.**—The experiments made by Friedländer gave results which he thinks justify the belief that in the Röntgen ray we have a therapeutic agent of great value in the treatment of enlarged thymus. The fact that in clinical cases of status lymphaticus concomitant changes occur in other portions of the lymphoid tissues of the body, that experimentally he was able to induce changes in the spleen, both go to prove that the Röntgen ray is a valuable agent in the treatment of status lymphaticus itself. For if by exposing only the region of the thymus to the action of the Röntgen ray, one can cause diminution in size of the spleen and of the lymph-nodes, can change a lymphocytic to a normal blood-picture, it would seem that this is a distinct advance in the treatment of status lymphaticus. Certainly, the Röntgen ray is far safer than the dangerous operation of thymectomy. Apparently it is not followed by subsequent ill effects, either. Thus it is interesting to note that the first patient treated by the Röntgen ray, over six years ago, is an excellent condition. He shows absolutely no evidence of anything like a lymphatic constitution. His development has been been perfectly normal, his general health excellent. The other patients are all in excellent condition also.

17. **Sugars in Infant Feeding.**—From his studies, Leopold has come to the conclusion that a combination of about equal parts of maltose and dextrin was the sugar preparation that was borne best in the artificial feeding of infants. He found that the maltose-dextrin preparation caused dyspeptic stools and rise in the temperature much less frequently than either lactose, saccharose, glucose or maltose. It was also shown that a gain in weight was obtained in a greater number of cases by maltose-dextrin preparations than by any of the other sugars. Leopold's experiments were made on young infants, mostly under 3 months of age, because of their well-known susceptibility to digestive disturbances.

American Journal of Urology, New York

September, VII, No. 9, pp. 327-366

19 Armamentarium of Cystoscopist, with Special Reference to Use and Construction of Certain Types of Cystoscopes. L. Buerger, New York.

Long Island Medical Journal, Rockville Centre, N. Y.

September, V, No. 9, pp. 339-381

20 Treatment of Adenoids and Diseases of the Tonsils. W. W. Carter, New York.
21 Some Elementary Principles of Dieting. F. Overton, Patchogue, N. Y.
22 Organ of Mastication; the Teeth. H. C. Ferris, New York.
23 *Cause and Relief of Pain in Duodenal Ulcer. J. T. Pilcher, Brooklyn.
24 Surgical Indications of Duodenal Ulcer. P. M. Pilcher, Brooklyn.

23. Abstracted in THE JOURNAL, June 10, 1911, p. 1751.

Journal of Nervous and Mental Disease, Lancaster, Pa.

October, 38, No. 10, pp. 577-640

25 *Deviation of Tongue in Hemiplegia. E. Jones, Toronto.
26 *Osteo-Arthritis of Spine as Cause of Compression of Spinal Cord and Its Roots. P. Bailey and L. Casamajor, New York.

25. Abstracted in THE JOURNAL, July 29, 1911, p. 417.

26. **Arthritis of Spine.**—In a case of spinal arthritis with typical history seen by Bailey and Casamajor, the Röntgen ray demonstrated exostoses and ankyloses in the spinal joints and other joints, but the case presented the unusual feature of a localized paralysis corresponding to the lesion

demonstrated in the spine. In a previous case the diagnosis of extramedullary tumor had been made, but the operation showed nothing but a bony thickening of the laminæ. These two cases led the authors to an inquiry as to the circumstances under which the spinal contents may be pressed on by exostoses in a way to cause some or all of the symptoms of paraplegia. Of the five cases recorded by them all presented symptoms of compression. Some degree of spinal osteo-arthritis is extremely common in persons past middle age, and the condition itself is probably a part of the degeneration of senility. When present in slight degree, it may cause few or no symptoms, or its symptoms, when vague, may be and doubtless often are disregarded by physicians or dismissed by them as rheumatic or neurasthenic. Unmistakable local pain and rigidity are probably constant, when the lesion is extensive enough to cause focal symptoms. But in addition to the local symptoms of bone disease there is no longer doubt that spinal osteo-arthritis may cause focal symptoms in the nervous system generally referable to compression of one or more nerves, sometimes of the cord or cauda equina. A study of the subject has convinced the authors that the use of the Röntgen ray in spinal diseases can hardly be too widely extended. Osteo-arthritis is a very common disease, and in slight degrees cannot be recognized, except by means of the Röntgen ray. Many spinal symptoms classed as rheumatic and "nervous" are probably due to it; and they think it probable that some of the cases of traumatic lumbago, so frequent after injuries to the back, depend for their symptomatology on osseous hyperplasia of the spine. In such cases and as a preliminary to every spinal operation, a Röntgen-ray examination should become a matter of routine. Therapy in osteo-arthritis is discouraging. Some local measures are counter-irritation, immobilization and relief of pressure. Counter-irritation may be in the form of deep massage of the spine and the actual cautery; hot-air baths have been of little use in the authors' hands. Immobilization, by means of plaster-jacket, seems particularly useful in subacute cases, or when there is marked deformity. The operative indications are too infrequent to permit any general rules, except that operations for the relief of pressure on the cord in this disease is not contra-indicated and may result in great benefit.

Journal of South Carolina Medical Association, Chaleston

October, VII, No. 10, pp. 359-397

27 *Plastic Operations on Face. J. S. Horsley, Richmond, Va.
28 Psychic Measures in Medicine. T. A. Williams, Washington, D. C.

27. Published in full in THE JOURNAL, Aug. 26, 1911, p. 697.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

October, XIV, No. 10, pp. 578-640

29 *Bromatotherapy. H. W. Wiley, Washington, D. C.
30 Rules and Management of Labor and of Puerperium. R. H. Turner, Paris, France.
31 *Salvarsan as Patented Product. F. E. Stewart, Germantown, Pa.
32 Classification of Nervous and Mental Diseases. B. Sidis, Portsmouth, N. H.
33 Treatment of Leukemia with Mixed Toxins of Coley. R. C. Larrabee, Boston.

29 and 31. Abstracted in THE JOURNAL, June 3, 1911, p. 1676.

American Journal of Diseases of Children, Chicago

November, 2, No. 5, pp. 293-368

34 *Mikulicz' Disease, with Report of Case of Lymphatic Leukemia in Child with Marked Enlargement of Salivary Glands. W. Tileston, New Haven, Conn.
35 *Caloric Needs of Premature Infants. J. H. Hess, Chicago.
36 *Use of Malt Sugar and High Percentages of Casein in Infant Feeding. J. L. Morse, Boston.
37 *Bacteriologic Examination of Lymph-Nodes in Scarlet Fever. J. A. Kolmer, Philadelphia.
38 *Intestinal Infantilism of Herter. R. G. Freeman, New York.
39 Congenital Myatonia: Report of Case with Autopsy. W. T. Councilman and C. H. Dunn, Boston.

34. **Mikulicz' Disease.**—Tileston's case was one of lymphatic leukemia of the "aleukemic" type, in a child 2 years old with large tumors of both parotids and both submaxillary glands: lacrimal glands not involved. Blood: August 30, red cells, 6,860,000; hemoglobin, 95 per cent.; leukocytes, 14,700. September 14, leukocytes, 6,700. The histologic picture was so typical that the diagnosis of lymphatic leukemia was made without hesitation. Tileston says that there can be little question that this case should be classified as lypmhatic leukemia of the "aleukemic" or "preleukemic" type; that is to say, without increase in the leukocyte count. The histologic appearance of the salivary glands, however, is identical with that described in many cases of Mikulicz' disease without involvement of the blood or lymphatic system, so that the case also fits in with the Mikulicz syndrome. The absence of enlargement of the lacrimal glands does not preclude such a classification, for although in the typical cases of Mikulicz' disease the lacrimals are involved, a number of instances have been reported in which they were not. Therefore, Tileston believes that the term Mikulicz' disease should be reserved for those cases of chronic, painless bilateral enlargement of the salivary and lacrimal glands in which pseudoleukemia and leukemia can be excluded. The cases occurring in the last-named diseases should be classified as pseudoleukemia or leukemia with the Mikulicz syndrome. The cause of Mikulicz' disease is probably some infectious agent in the widest sense of the word. It is likely that a number of different organisms may cause the symptoms of the disease.

35. **Caloric Needs of Premature Infants.**—In a study of six infants with a birth-weight averaging between 1,000 and 1,500 gm., Hess found four infants with energy quotients fluctuating between 115 and 170, averaging daily gains between 14 and 27 gm., while those with wider fluctuation gained on an average 12 to 14 gm. daily. Infants with birth-weights between 1,500 and 2,000 gm. showed the best results when being fed between 102 and 132. The largest infant with a birth-weight of 2,010 gm. gained on 94.5 to 118.5 apparently with equal rapidity, while one infant showed marked fluctuations when an energy quotient was passed. Hess believes it is safe to state that the figures of Budin and others, of an energy quotient of 100 set for the full-term new-born infant does not hold for the premature and under-weight infant, but he would say that the energy quotient needed varies inversely with the age and birth-weight, the energy quotient averaging between 115 and 170 in those below 1,500 gm. and 100 and 132 in those over 1,500 gm. At first the caloric value of the food should be low, but the quantity of each feeding should also be small. These infants, therefore, should be fed small quantities, frequently repeated, i. e., every one and one-half to two hours during the day and two to three hours during the night, according to the development of the individual, with special reference to the digestive organs, stools, urine and presence or absence of vomiting. On the first day following the first bowel evacuation the human milk may be fed diluted with one or two parts of water or sugar, with a caloric value approximating 30. From the second day on, in the absence of indigestion, the food may be increased by 10 calories daily. In the presence of digestive disorders greater care is necessary and it may be necessary for some days to hold the feeding in the neighborhood of 90, approximately the amount necessary to maintain the metabolic equilibrium. After ten to fifteen days an attempt should be made to hold the figures, in the infant weighing less than 1,500 gm., to 120 to 140, and in those weighing over 1,500 gm. at between 110 and 130; but in all cases the infant itself should never be lost sight of, and more especially the stools and weight. One other important factor is a sufficient water-supply to counterbalance the rapid evaporation due to artificially heated and dried air and the excessive excreta of the first few days. All intestinal disturbances in premature infants should be treated as if they were atrophic infants, as they do not stand starvation well. Artificial feeding of these infants should be discouraged in all cases in which the infant is born at thirty-six weeks or under. Artificially fed, full-term infants also require a higher food-value than the same infants at the breast, the average added requirement being 10 to 20 calories per kilo, which would also hold true in premature infants, and this adds materially to the dangers of this method of feeding. The energy quotient needed in Hess' series of seventeen cases to maintain the metabolic equilibrium ranged quite

lose to 90, while in the full-term infant 70 is usually suffiient. The method of administration of food in each case aried with the vitality of the infant.

36. Abstracted in The Journal, July 8, 1911, p. 153.

37. **Bacteriologic Examination of Lymphatic Glands in Scaret Fever.**—In a study of the glands of twenty-six patients vith scarlet fever, including a case cultured at autopsy, Kolmer did not find any organism in any case, in any way esembling the bacillus described by Vipond. (See The Journal, Aug. 12, 1911, p. 588.)

38. **Intestinal Infantilism of Herter.**—The intestinal infantlism of Herter is not a very infrequent condition in young hildren, who for a considerable period will not grow or ain in weight, although the hygienic surroundings, feedings nd supervision are most carefully managed. These children ave characteristic symptoms and characteristic, abnormal ntestinal flora, as well as equally characteristic changes in the rine. Freeman reports four such cases. He believes that he lack of growth is really due to an intestinal condition hat interferes with a proper absorption of food in the owels, and this interferes with an increase in weight.

Journal of Iowa State Medical Society, Clinton

October 15, I, No. 4, pp. 149-228

40 Pain in Disease of Heart. J. B. Herrick, Chicago.
41 Drug Action. C. Van Epps, Iowa City, Iowa.
42 Etiology and Pathogenesis of Anemia. C. P. Howard, Iowa City, Iowa.
43 Symptomatology of Anemia. F. Albert, Mason City, Iowa.
44 Treatment of Anemia. D. N. Loose, Maquoketa, Iowa.
45 Diverticulitis. L. W. Littig, Davenport, Iowa.
46 Growth of Public Interest in Sanitary Science. C. W. Baker, Stanwood, Iowa.
47 Epidemic of Glandular Fever. G. E. Crawford, Cedar Rapids, Iowa.
48 Contracted Pelvis Followed by Cesarean Section. J. A. Cahill, Volga City, Iowa.

Surgery, Gynecology and Obstetrics, Chicago

November, XIII, No. 5, pp. 485-596

49 Ileocecal Adhesions (Lane's Kink and Jackson's Membrane). F. G. Connell, Oshkosh, Wis.
50 Actinomycosis of Stomach. A. W. Mayo-Robson, London, England.
51 Factors in Present-Day Mortality of Appendicitis. J. M. Wainright, Scranton, Pa.
52 Physiologic Principles in Treatment of Acute Peritonitis. J. L. Yates, Milwaukee, Wis.
53 *Blood-Pressure Index of Eclampsia. H. C. Bailey, New York.
54 Seventy-Three Cases of Dudley's Operation for Dysmenorrhea and Sterility. S. M. Brickner, New York.
55 Acidosis. B. B. Cates, Knoxville, Tenn.
56 Fibroma of Vagina. A. H. Barkley, Lexington, Ky.

53. **Blood-Pressure Index of Eclampsia.**—In 1,136 systolic eadings on 145 women made in the Bellevue Hospital, New York. Bailey found that the average blood-pressure is 118 nm. of Hg. These readings were made with the wide-cuff Stanton instrument, and do not include readings taken on the lay of labor. These readings vary greatly, but that there is high limit rarely passed. Many women run a continuously noderate blood-pressure which is little affected by the ordinary occurrences of ward life, but by far the most numerous are those having from day to day an irregular range of blood-pressure. As far as it could be determined, there was no regular variation in the readings from primiparæ and nultiparæ. Of these women, 28 per cent. showed a variation f 25 to 30 mm. during the course of some days. A study f the nitrogen partition of the urine of the women who ave marked changes from day to day has so far been found o be of little value. Observations through the remainder of he pregnancy in this type of case lead to the conclusion that hanges of 30 mm. above the normal average (118) mean ery little from a practical standpoint. Excitement, exertion, igestion, rest and sudden changes of position all tend to roduce changes up to 10 mm., but seldom more than this mount. The onset of labor tends to raise the blood-pressure. n the first and second stages of labor 140 to 150 mm. may be onsidered a fair average, if taken between the pains.

Examinations of blood-pressure in early toxemia were nvariably low. Apparently toxic substances are circulating n the blood which have marked influence on the vomiting enter, but with little action on the vasomotor apparatus, ither central or peripheral. In the developed toxemia of the latter months there is usually present a blood-pressure-raising principle or else by hormone action or similar means the pressure is raised to increase the natural resistance of the body. The fact that in the fulminant type of fatal toxemia in the latter months the blood-pressure is very low points more to the latter idea and also tends to more closely associate the early and late manifestations of poisoning that occur in these women. While it is generally known that cases of eclampsia at the time of the convulsions usually have high blood-pressures, still convulsions occur when the pressure is as low as 155. The eclamptic toxemia may be even more severe when the pressure is very low. From the analysis of blood-pressure readings by many observers 150 mm. may be taken as a danger limit, and any pressure above this should demand rigorous investigation and treatment.

Chicago Medical Recorder

October 15, XXXIII, No. 10, pp. 525-586

57 Treatment of Third Stage of Labor or Delivery of Placenta. L. C. Collins.
58 Milk Supply of Chicago. G. M. Whitaker, Chicago.
59 Cerumen (Wax) in Ears. J. C. Warbrick, Chicago.
60 Alcoholism Cured by Surgery. W. F. Waugh, Chicago.

Denver Medical Times and Utah Medical Journal

October, XXXI, No. 4, pp. 125-168

61 Malaria Contracted in Colorado at Altitude of 5,000 Feet Above Sea Level. J. E. Dale, Fort Collins, Colo.
62 Facts Regarding Pneumonia and Tuberculosis. J. M. Shaller, Denver.
63 The Mental Hospital of the Future. H. H. Drysdale, Cleveland.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

October, XIII, No. 4, pp. 209-268

64 *Nosology of So-Called Rheumatic Diseases. B. M. Randolph, Washington, D. C.
65 Influences During Pregnancy on Unborn Child. J. M. Tompkins, Richmond.
66 Ovarian Dermoid with Twisted Pedicle in Girl of Fourteen. H. A. Royster, Raleigh, N. C.
67 Hysteria or Neoplasm. T. A. Williams, Washington, D. C.

64. **Rheumatic Diseases.**—Randolph protests against the perpetuation of the use of the term "rheumatism" as being the source of incalculable error in diagnosis, prognosis and treatment, and calls attention to the fact that our knowledge of the pathology of these conditions is sufficiently developed to permit of a classification on a logical basis.

Vermont Medical Monthly, Burlington

October 15, XVII, No. 10, pp. 235-260

68 *What Standard of Efficiency Should be Required of Physicians in Order to Guarantee Best Medical Service to Public and How Should That Standard be Determined? H. C. Tinkham, Burlington, Vt.
69 Ice Water or Summer Colitis and Treatment of Mucous Colitis. B. Joseph, New York.
70 Three Hundred Confinements. L. W. Burbank, Cabot, Vt.
71 Röntgen Ray in Medicine and Surgery. W. J. Tindall, Montpelier, Vt.

68. **Standard of Efficiency Required of Physicians.**—Tinkham says it would be a decided step in advance if there was an organization of state boards which required some standard of efficiency as a prerequisite to membership and which could have some influence in bringing about a more uniform standard of examination. It is difficult to see how the influence of state examining and licensing boards is to produce an elevating influence on medical education until they are composed of men who are as well qualified to examine medical graduates as the men who compose medical faculties are qualified to teach, and it is difficult to see how state boards can determine and maintain a satisfactory standard of efficiency for medical graduates unless these boards are composed of efficient men.

Canadian Medical Association Journal, Toronto

October, I, No. 10, pp. 919-1018

72 *Transient Attacks of Aphasia and Paralyses in States of High Blood-Pressure and Arteriosclerosis. Sir W. Osler, Oxford.
73 Non-Operative Treatment of Appendicitis. R. D. Rudolf, Toronto.
74 Peritoneal Effusion (Ascites) in Typhoid. Physical Signs of Exudate in Peritoneal Cavity. A. McPhedran, Toronto.
75 Prolonged Pregnancy. A. H. Wright, Toronto.
76 Diagnosis of Syphilis by Binding of Complement Method. F. B. Gurd, Montreal.
77 Chorionepithelioma. H. N. Vineberg, New York.

72. **Transient Attacks of Aphasia and Paralyses.**—Osler cites the case of a well-built, active man of 43, who had used alcohol and tobacco in excess, and suddenly found that he could not speak or write. In a few hours he could say a few words, but incoherently. The next day he could talk, but not quite freely. There was no paralysis, no disturbance of vision and no headache. Within three or four days he was quite well and could talk perfectly. The blood-pressure was found to be 212 mm., and the attack was regarded as possibly a slight hemorrhage. Fifteen months after the attack he was very well, except that he had become very nervous and apprehensive. His arteries, with the blood-current flowing, could easily be rolled under the fingers. His heart appeared to be normal. The blood-pressure was 220 mm. in spite of the fact that he had been taking for more than a year nitrites and potassium iodid. He has had no other cerebral attack.

Another man, aged 62, had worked hard, but had not been a heavy drinker. He had used tobacco to excess. One afternoon he went out to say something to the gardener and to his surprise found it impossible. He did not feel giddy or dazed, and five minutes later he could speak quite well. He returned to the house, and about an hour afterward some people came in, and to his surprise he could not say how-do-you-do, could only nod and give a grimace. He had no headache and felt quite clear in his mind. In the course of ten to fifteen minutes he began to say a few words, though not quite clearly; in a day or two he could say everything. He remained in bed for a couple of days on low diet. His blood-pressure was 200 mm., and for the first time it was found that his arteries were sclerosed. There was an extreme degree of arteriosclerosis. Brachials, radials and ulnars were visible in their entire course, with forcible pulsation.

Osler divides these cases into three categories: (a) Healthy individuals with high blood-pressure, but without signs of arterial disease; (b) patients with well-marked arteriosclerosis, in whom the cerebral attacks have come on without warning, sometimes as the signal symptom, and a majority of Osler's cases come in this group; (c) in advanced sclerosis with cerebral changes, manifested by progressive mental and muscular weakness, all possible types of these transient seizures, including convulsions, may occur. The attacks are most frequent in the aged, but men in the fifth and sixth decades are also affected.

California State Journal of Medicine, San Francisco

October, IX, No. 10, pp. 401-446

78 Abnormal Body Temperatures in Injuries of Cervical Spinal Cord. R. L. Wilbur, San Francisco.
79 Treatment of Vascular Nevus by Use of Carbon Dioxid Snow. D. Friedlander, San Francisco.
80 Mistakes in Medical Education. D. Tait, San Francisco.
81 Some Points to be Considered in Feeding Infants. L. Porter, San Francisco.
82 Case of Carcinoma of Appendix. H. A. L. Ryfkogel, San Francisco.
83 Tentative Classification of Exceptional Children. M. P. E. Groszmann, Plainfield, N. J.

Ohio State Medical Journal, Columbus

October 15, VII, No. 10, pp. 469-514

84 *Mucous Colitis. C. C. Fihe, Cincinnati.
85 Vaccine Therapy from Standpoint of General Practitioner. L. M. Ladd, Cleveland.
86 *Results Obtained from Use of Coley's Toxins in Treatment of Sarcoma. J. C. Oliver, Cincinnati.
87 Conservation of Humanity. O. O. Fordyce, Athens, Ohio.
88 Precautions to be Taken in Prevention of Pneumonia. G. E. Robbins, Chillicothe.
89 Recurring Corneal Erosions. J. S. Wyler, Cincinnati.

84. **Mucous Colitis.**—Fife calls attention to a röntgenologic study of mucous colitis which showed malpositions and angulations of the colon which were coincident with more or less characteristic attacks of the disease. In some of these typical attacks occurred of what Van Noorden would choose to call colica mucosa.

86. **Coley's Toxins in Sarcoma.**—Oliver cites ten cases in which he used the toxins, but he had such poor results that he discourages further use. He says comparatively few persons are cured by its administration, the vast majority, at least 90 per cent. of the cases, are uninfluenced by its use. He says one is not justified in assuming that this treatment will ever influence any large proportion of the cases of sarcoma favorably.

Ophthalmology, Seattle, Wash.

October, VIII, No. 1, pp. 1-141

90 Epithelioma of Eye at Sclero-Corneal Limbus. M. Danis, Brussels.
91 Removal of Piece of Steel from Apex of Orbit. C. A. Wood, Chicago.
92 Parinaud's Conjunctivitis; Report of Two Cases. R. M. Lapsley, Keokuk, Iowa.
93 Partial Tenotomy of Eye Muscles. R. P. O'Connor, U. S. Army.
94 Mydriatic Ozena. L. R. Culbertson, Zanesville, Ohio.
95 Mental Disturbances Following Operations and Accidents to Eyes and Responsibility of Physician as Regards Prognosis in Serious Cases. H. V. Würdemann, Seattle, Wash.
96 Present State of Question as to Trachoma Corpuscles. R. Greeff, Berlin.
97 Magnet Operation on Eye. O. Haab, Zürich.
98 Experimental Production of Congenital Cataracts and Malformations in Eyes of Vertebrates. H. E. Pagenstecher, Strassburg.
99 Special Forms of Atrophy of Iris. T. Axenfeld, Frieburg, Germany.

Medical Record, New York

November 4, 80, No. 19, pp. 909-958

100 Surgery of Common Bile Duct. J. B. Deaver, Philadelphia.
101 Primary Splenohepatomegaly in Brother and Sister. H. B. Sheffield, New York.
102 Healed Tuberculous Lesion from Life Insurance Standpoint. G. Parker, Peoria, Ill.
103 Rôle and Methods of Psychotherapy in Care of Psychasthenia Predisposing to Inebriety. T. A. Williams, Washigton, D. C.
104 Recognition and Treatment of Gonorrheal Cervicitis and Endometritis. W. T. Dannreuther, New York.
105 *Use of Ipecac to Abort Typhoid Fever. W. L. Frazier, Mountain Home, Ida.
106 Transillumination in Locating Foreign Bodies in Extremities. M. H. Kahn, New York.

105. **Ipecac to Abort Typhoid.**—Frazier used ipecac in six cases of typhoid with good results. For instance: Woman 4 years of age. She was seen first on the third day after becoming confined to her bed; the case was diagnosed as typhoid on the sixth day of her illness, Widal test being positive. At 8 p. m. of the sixth day she was given 15 minims of tincture of opium; thirty minutes later she was given 30 gr. of pulverized ipecac in salol-coated capsules; the room was made dark and she was required to lie on her right side for two hours, so that the capsules might pass out of the stomach as quickly as possible. In this way vomiting was prevented by getting the ipecac past the stomach without coming in contact with the stomach wall. On the seventh, eighth and ninth days ipecac was given in the same manner, the dose being decreased 5 gr. each day; on the ninth day the dose being 10 gr. On the tenth, eleventh and twelfth days the dose was 10 gr. each day. The highest temperature recorded was 103.8 F. on the seventh day. The highest recorded on the eighth day was 99.6 F. There was no elevation of temperature after the ninth day. The ninth day of her illness was the fourth day she was given ipecac. The remaining cases were treated similarly. Frazier says it is necessary that each fecal discharge be carefully examined to find whether or not any of the capsules pass without being dissolved.

Annals of Ophthalmology, St. Louis

October, XX, No. 4, pp. 711-856

107 Mechanics of Choked Disk. M. Standish, Boston.
108 Relation of Choked Disk to Intraocular Tension; Clinical Study of Six Cases. W. R. Parker, Detroit.
109 Lead Amblyopia and Presentation of Case of Left Homonymous Lateral Hemianopsia Due to Lead Poisoning. C. Williams, Philadelphia.
110 Probable Cyst of Retina. G. S. Derby, Boston.
111 Case of Syphilitic Tarsitis Treated by Salvarsan. A. C. Santter, Philadelphia.
112 Episcleritis Periodica Fugax. A. C. Snell, New York.
113 Three Cases of Xerosis Epithelialis with Involvement of Muscular Anomaly. H. W. Wootton, New York.

Ophthalmic Record, Chicago

October, XX, No. 10, pp. 599-648

114 Histopathology of Diplo-Bacillary Conjunctivitis. H. McKee, Montreal.
115 Case of Amblyopia Due to Ingestion of 120 Grains of Quinin Sulphate. G. F. Keiper, Lafayette, Ind.
116 Two Cases of Embolism with Retention of Central Vision. A. C. Snell, Rochester, N. Y.
117 New Operation for Pterygium. D. W. White, Pawnee, Okla.
118 Three Cases of Xerosis Epithelialis with Involvement of Cornea. H. V. Dutrow, Ancon, Canal Zone.
119 Blood Condition in Sympathetic Ophthalmia. H. S. Gradle, Chicago.

St. Louis Medical Review

October, V, No. 10, pp. 289-320

120 Vaccine Therapy in General Practice. G. H. Sherman, Detroit.
121 Experimental Investigations and Pathologic Researches. Cause of Cancer. F. Gaertner, Pittsburgh.
122 Some Interesting Cases of Pneumonia. A. E. Campbell, Clinton, Ill.
23 Treatment of Infections of Hands and Fingers, with Special Reference to Tenosynovitis. S. W. Moorhead, Philadelphia.
124 Specific Gravity of Urine in Relation to Diet and Chlorids. J. C. Warbrick, Chicago.
25 Man as Geologic Species in Western Hemisphere. A. S. Ashmead, New York.

Therapeutic Gazette, Detroit

October 15, XXXV, No. 10, pp. 685-760

26 The B. C. Hirst Bag for Hydrostatic Dilatation of Cervix. R. L. John, Philadeplhia.
27 Action of Animal Extracts on Secretion of Mammary Gland. I. Ott and J. C. Scott, Philadelphia.
28 Adenoids: Indications for Their Removal, Operation of Adenectomy and Liability of Recurrence. W. H. Tomlinson, Philadelphia.
29 Dyspepsia of Heart Disease and Its Dietetic Treatment. A. W. Calloway, Asheville, N. C.

Medical Herald, St. Joseph, Mo.

October, XXX, No. 10, pp. 431-472

30 Three Cases of Acute Poliomyelitis in Same Family at Same Time. A. L. Skoog, Kansas City.
31 Should Venereal Infections Be Classed and Reported as Contagious Diseases? T. M. Paul, St. Joseph, Mo.
32 Case of Extreme Edema of Cecum Following Gangrenous Appendicitis. L. J. Dandurant, St. Joseph, Mo.
33 Tonsils as Source of Infection. Tonsillitis and Peritonsillar Abscess; Its Prevention. C. F. Bartholomew, Broken Bow, Neb.
34 Alcoholic Degenerations. T. D. Crothers, Hartford, Conn.
35 Penetrating Wounds of Eyeball. P. I. Leonard, St. Joseph, Mo.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical ctures, single case reports and trials of new drugs and artificial oods are omitted unless of exceptional general interest.

Lancet, London

October 21, CLXXXI, No. 4599, pp. 1117-1178

1 *Old and New Views on Treatment of Tuberculosis. C. T. Williams.
2 *Results of the Manipulative Treatment of Congenital Dislocation of Hip-Joint. G. C. E. Simpson.
3 *Case of Axial Rotation of Fibroid in Which Uterus Was Involved in Twist. J. Bland-Sutton.
4 *Acute Rheumatism Among Children. F. Langmead.
5 *Acute Endocarditis Caused by Microorganism Hitherto Undescribed. A. T. Nankivell.
6 Spinal Anesthesia in Egypt. H. E. S. Stiven.
7 Acute Glaucoma Successfully Treated by Operation of Trephining the Sclera. S. Stephenson.
8 Case of Intrauterine Hemorrhage with Nervous Origin. D. Fenton.

1. **Treatment of Tuberculosis.**—Williams is convinced that ny comprehensive scheme for dealing with tuberculosis in reat Britain should include the establishment of a large numer of tuberculosis hospitals scattered over the country in lose connection with dispensaries and sanatoriums and as a urther link in the chain some form of labor colonies and xchanges should be available. He says that the task of urther reducing and abolishing tuberculosis is not a hopeless ne, but it does not lie wholly with the physicians. It lies lso with those who have it in their power to remove or lessen he principal causes of tuberculosis, viz., the overcrowding of ur cities, the want of open spaces and ventilation, the insanary houses, the lack of a good supply of water and of pure ilk. If all these defects were remedied the number of hthisis cases would be comparatively small. The government nd the local authorities could insist, too, on the removal of dvanced cases of tuberculosis to a hospital or infirmary, and hus do away with one chief source of infection, and we should oon see a rapid fall in the number of contact cases and in the ortality tables.

2. **Congenital Dislocation of Hip-Joint.**—Congenital dislocaon of the hip is a condition which progressively gets worse ll puberty and may cause severe deformity. In adult life urther trouble may arise and completely incapacitate the atient. Simpson has found that treatment by manipulation t the earliest possible time after infancy may be expected yield a stable articulation with perfect function in 60 to per cent. of the cases. A slight limp (due to imperfect growth of the bones) and some slight limitation of movement may remain, but the children are cured of any obvious deformity or incapacity. Of the remaining 35 to 40 per cent. the condition is usually much improved by treatment. The treatment in children below 8 years of age is attended by little or no danger and by few unfavorable accidents. The trouble caused to the parents is slight and the loss of school attendance in early childhood is of but small importance. In children between 9 and 12 years of age treatment by manipulation has greater dangers and inconveniences and gives much less favorable results. It should, however, be tried in all cases which have unfortunately reached this age with the condition unremedied; great care and gradual reduction avoid the dangers of shock and laceration and considerable improvement is usually effected. In unsuccessful and relapsed cases some form of open operation may prove of advantage.

3. **Axial Rotation of Fibroid.**—A spinster, aged 67, sought Bland-Sutton's advice on account of pain, discomfort and frequency of micturition, associated with a large tumor which could be felt in the hypogastric region. It had the clinical features of a uterine fibroid. When exposed in the course of the operation performed for its removal, the tumor proved to be as big as the head of a new-born child. On withdrawing the tumor the pedicle was found to be twisted like a rope; on untwisting it the ovaries, Fallopian tubes and uterus were recognized. Subtotal hysterectomy was performed.

4. **Acute Rheumatism Among Children.**—Altogether 2,556 children were examined by Langmead. Of these, 844 were boys and 838 girls in the senior departments, i. e., from 6¼ to 14 years old; and 874 were attending the infants' department, and consisted of nearly equal numbers of boys and girls from 3 to 6½ years old. Fifty-nine boys and 74 girls could be classified as definitely rheumatic, a total of 133. This is equivalent to a percentage incidence of 5.20 for children of all ages attending school, or of 6.83 for children in the senior departments only, those attending the infants' department being excluded from the estimation. In the majority of cases attention was drawn to the rheumatic child by the condition of the heart, sometimes by definite valvular disease, at others by dilatation accompanied by such alteration in sounds and rhythm as one is accustomed to hear in rheumatic children. More and more children become rheumatic as they grow older. There is, however, an apparent accession of rheumatism at the age of 10 which is not shown in subsequent years. Langmead gives no explanation for this and regards it as an inaccuracy which would have disappeared if a large enough number of children had been examined.

Out of these 133 children all except 18 showed some evidence of cardiac disorder at the time of examination. This rheumatic heart affection occurred in 4.49 per cent. of the children of all ages attending school, or in 5.94 per cent. of those in the senior departments only. Obvious valvular disease was found in 2.93 per cent. of children at all ages, or 3.92 per cent. of those in the senior departments. Mitral regurgitation was noted 44 times; mitral stenosis 15 times; double mitral disease, 9 times; aortic regurgitation and mitral stenosis only once; dilatation with a systolic bruit at the apex, possibly mitral regurgitation, 12 times; dilatation with a short presystolic rumble, or so-called reduplicated second sound (mid-diastolic bruit), possibly early mitral stenosis, 8 times; dilatation without bruits, 20 times. The comparative rarity of aortic regurgitation in children is emphasized by the fact that only one case was discovered among the 2,556 children examined. Chorea did not appear among the children or in the histories of their previous illnesses as often as might have been expected. There were eighteen cases only, which amounted to 0.70 per cent. of all the children of all school ages or 1.06 per cent. of the children in the senior departments. The comparative incidence in boys and girls followed the usual rule, there being twice as many girls affected as boys. Thus 0.71 per cent. of the boys were at some time choreic and 1.43 per cent. of the girls. The relation of enlarged tonsils and adenoid vegetations to rheumatism in childhood is well illustrated by the figures obtained. Taking the 133 rheumatic cases, in 75 there were no signs of abnormality in the throat, in 21 the tonsils were slightly enlarged, in 11 considerably enlarged, in 16 greatly enlarged and in 3 tonsillotomy had been performed before the patients were examined. Adenoids were responsible for producing signs of post-nasal obstruction and mouth-breathing in 7. In other words, there was an abnormality of the tonsils or pharyngeal mucosa or both in 58 cases, or in 43.6 per cent. of the rheumatic cases. This was sufficient to warrant operative interference in 37 cases, or 27.8 per cent. of the rheumatic cases.

5. **Acute Endocarditis.**—The diplococcus which Nankivell obtained from the patient's blood-stream showed no evidence of having a capsule. In shape each coccus was round, the diameter being about 0.7. There was no tendency to chain formation, either in broth or on solid media. The organism showed no evidence of a hilum. It was non-motile. It had neither spores nor flagella. Its thermal death-point was 48 C. This diplococcus does not retain the stain by Gram's method, it is Gram-negative. It stains well with dilute carbol-fuchsin and eosin, less brilliantly with the blue dyes. It is not acid-fast. On nutrient agar the diplococcus grows well at 37 C. and fairly well at 20 to 22 C. At 42 C. on agar the growth is only slight. The growth on agar has a ground-glass appearance, with small translucent separate colonies at the edges of the streak. The organism does not readily die and will survive on agar for at least twelve weeks without subculturing. The diplococcus will grow both anaerobically and aerobically. It liquefies gelatin. It grows well in broth and peptone water, forming a precipitate; in peptone water it produces indol at the end of a week's growth. On Conradi-Drigalski medium and on Rebipelagar the diplococcus grows feebly, forming white, pin-point, translucent colonies. Litmus milk is clotted and turned acid by the diplococcus in forty-eight hours; the clot is firm and not honeycombed, and the supernatant whey is clear. The organism ferments glucose, with the production of acid, but no gas. Lactose, sucrose, maltose, galactose, raffinose, arabinose, mannite, dulcite, inulin, salicin and dextrin are not affected. The diplococcus is not hemolytic. The acidity and alkalinity of the culture media do not influence greatly the growth of this microorganism. It grows well on agar between 45 and 60 (Eyre's scale). Outside these extremes the growth is more feeble. The organism is inhibited by 1 in 40,000 malachite green. This diplococcus does not seem to be very pathogenic. The little girl from whose blood it was obtained was at no time very ill, nor did it produce any ill-effects when injected into guinea-pigs.

British Medical Journal, London

October 21, No. 2651, pp. 961-1052

9 *Old and New Views on Treatment of Tuberculosis. C. T. Williams.
10 Auricular Fibrillation. J. Mackenzie.
11 *Infusion Anesthesia: Use of Normal Saline Infusion as Means of Administering Ether. F. Rood.
12 Symphyseal Ligament of Parturient Guinea-Pig. J. Bland-Sutton.
13 Resuscitation of Still-Born. Sir F. Champneys.
14 Eclampsia Complicating Labor in Girl Aged 12: Recovery of Mother and Child. C. H. Roberts.
15 Present Position of Vaginal Operations in Relation to Uterus and Adnexa. P. Strassmann.
16 Cause and Cure of Eclampsia. H. Tweedy.
17 Dangers of Fibromyomata of Uterus in Later Years of Life. J. N. Stark.
18 Dysmenorrhea Due to Very Small Fibroids. T. Wilson.
19 Case of Tuberculous Elephantiasis of Vulva. C. E. Purslow.
20 Diagnosis and Treatment of Conditions in Accessory Nasal Sinuses Giving Rise to Oculo-Orbital Symptoms. A. Onodi.
21 Submucous Resection of Nasal Septum. D. McKenzie.
22 Treatment of Tuberculosis of Larynx. D. Grant and P. Watson-Williams.

9. See Abstract 1.

11. **Infusion Anesthesia.**—The most striking features of infusion anesthesia, Rood says, are: Extreme flexibility so that the condition of the patient can be adjusted with great nicety and can be changed in the direction of deepening or lightening of anesthesia with really remarkable rapidity. That the patient begins to come round very soon after the anesthetic is stopped and is able to converse rationally within a few minutes. That postanesthetic vomiting and pulmonary irritation are both extremely rare. Rood has used it with much satisfaction in twenty-one cases.

Clinical Journal, London

October 4, XXXVIII, No. 26, pp. 401-416

23 Clinical Effects of Extravasations of Blood. C. B. Lockwood.
24 Asthma. F. J. Wethered.
25 Medical Hydrology in Relation to Treatment of Nervous Disorders. R. F. Fox.

October 11, XXXIX, No. 1, pp. 1-16

26 Arthritis Deformans. A. H. Tubby.
27 Tubercle Bacillus and Infection in Pulmonary Tuberculosis. C. Wall.
28 Clinical Aspects of Vertigo. C. E. West.

October 18, XXXIX, No. 2, pp. 17-32

29 Nervous Affections of Traumatic Origin. Sir D. Ferrier.
30 Arthritis Deformans. A. H. Tubby.
31 Some Aids to Diagnosis of Pulmonary Tuberculosis. C. Wall.

Dublin Journal of Medical Science

October, No. 478, pp. 242-328

31 Vital Statistics of Ireland Since 1864. Sir W. J. Thompson.

Journal of Tropical Medicine and Hygiene London

October 16, XIV, No. 20, pp. 301-316

33 Third Report on Experimental Work on Animal Trypanosomiasis. H. A. Foy.
34 *Salvarsan. J. C. Graham.

34. **Salvarsan.**—A man who was suffering from an obstinate pharyngeal ulcer, had been under treatment with ¾ c.c. of a 1 per cent. solution intragluteal injection of bichlorid of mercury daily for ten days. He then had a course of potassium iodid for two weeks. To accelerate his recovery Graham decided to inject 0.4 gm. salvarsan intravenously. After the usual initial rise the man's temperature returned to normal on the following morning, but he complained of general malaise and pain in his loins and epigastrium. All treatment failed to alleviate this and he required morphin injections to get even a little sleep at night. By way of nourishment he could only stand a little milk; symptoms of paraplegia supervened and gradually became worse. He became unconscious on the morning of the fifth day after the injections with fixed pupils and tonic spasms. Post mortem there were extensive extravasations varying in size from a millet seed to a split pea and even larger all over the serous lining of the chest and pericardium and on the heart itself. The blood itself was also more diffluent than usual. Heart, kidneys, liver and spleen were all in a more or less pulpy condition; the spleen was enlarged and contained a small abscess in its lower segment. Taking the condition of the patient at the time of the injection when he was clinically comparatively well, with the exception of his pharyngeal ulcer, Graham thinks it quite impossible for the death on the fifth day after injection to be ascribed to any other cause than the salvarsan. Under these circumstances in spite of the occasional brilliant results achieved with salvarsan, he says that patients ought to be warned that a certain number of cases end fatally, death being directly due to its use, so that they may know what risks they incur.

British Journal of Children's Diseases, London

October, VIII, No. 94, pp. 433-480

35 *Blood-Pressure in Diphtheria. J. D. Rolleston.
36 Dull and Backward Children. A. F. Tredgold.
37 A Complex Tumor (Nævoid) of the Fronto-Nasal Region. D. M. Greig.

35. **Blood-Pressure in Diphtheria.**—In a series of 179 cases of diphtheria examined by Rolleston the blood-pressure was found to be subnormal in sixty-three patients, or 35.1 per cent., the extent and duration of the depression having as a rule, a direct relation to the severity of the faucial attack. In the great majority the highest readings were found in the first and the lowest in the second week of disease. The normal tension was usually reestablished by the seventh week. In a large proportion of convalescent cases either the readings in the recumbent and erect positions were the same, or the recumbent was higher than the vertical record until the convalescence was firmly established. In laryngeal cases disproportionately high readings were obtained, especially when the dyspnea was sufficiently severe to require operation. Relief of the obstruction by tracheotomy was followed by an immediate and steep fall of blood-pressure (20 to 40 mm.). The blood-pressure showed little tendency to be affected by the early serum phenomena, but during the late febrile syndrome it was raised in 40 per cent. Albuminuria was accom-

panied either by a fall or by no change in the blood-pressure except in a case of uremia, in which there was hypertension. In early paralysis the blood-pressure tended to fall. In late paralysis, even when extensive, it was usually not affected. Rolleston concludes that sphygmomanometry in diphtheria, as in other acute diseases, though of considerable theoretical nterest, has little practical significance.

Glasgow Medical Journal

October, LXXVI, No. 4, pp. 241-319

38 Ulcerating Gummatous Syphilide Treated by Salvarsan in a Congenital Syphilitic. G. H. Edington and C. H. Browning.
39 *Diphtheritic Paralysis. A. Love.
40 Public Health Administration in Glasgow. H. A. M'Lean.

39. **Diphtheritic Paralysis.**—Of 1,313 patients seen by Love, 85, or about 6 per cent., became paralyzed. Of these 85 patients, 65, or 77 per cent., recovered and 20 to 23 per cent. died. In no one case could death be attributed solely or directly to paralysis, although in all cases it was contributory. n 10 of the cases that terminated fatally the disease was of he malignant type, while in the others it was of a severe character. Eight had nasal implication, 7 a combination of aucial and laryngeal diphtheria with tracheotomy in three nstances, and 27 had greatly enlarged cervical glands. Of he latter, 2 went on to suppuration. Of the 85 patients, 53, r almost two-thirds had paralysis of the palate alone; 15 f the eyes and palate; 3 of the eyes alone (strabismus). Of he 15 who were afflicted with paralysis of the eyes and palate ombined, 3 had paralysis of accommodation as well as trabismus. Paralysis of the ocular muscles alone is uncommon, and only 2 of the 68 patients recorded were affected n that way. Of the 12 patients noted as having intercostal nd cardiac paralysis, 9 died and 3 recovered, the main symp-oms being great difficulty in inspiration with marked feeble-ess and irregularity of the heart. In the one case in which he lower limbs only were affected the loss of power lasted nly for a few days. The average duration of the paralysis as eighteen days. The urine varied greatly as regards lbumin. Of the 85 patients, 27 had a large quantity of lbumin in the urine, 18 had a moderate quantity, 17 a mere race and 23 no albumin in the urine at all. With one excep-on there was a large quantity of albumin in the urine of all he fatal cases. In connection with the administration of ntitoxin, it is interesting to note that out of the 85 patients ealt with, 38 were afflicted with serum rashes. In 28 cases he rash was urticarial in character and general in distribu-on, in 6 it was scarlatiniform and in 4 morbilliform. Two of he rashes, which on their first appearance were urticarial, ecame morbilliform in about twenty-four hours, while one, hich was in the first instance scarlatiniform, became mor-lliform in the same time. The serum rash when urticarial character appeared usually on the ninth day after the dministration of serum and lasted on an average 4.2 days. he scarlatiniform rash also appeared on the ninth day, but sually lasted only two days, while the morbilliform rash ame out on the twelfth day after the injection of serum and a rule lasted four days. All-important as is the early dministration of antitoxin, it is a mistake to suppose that the late cases antitoxin is of no avail. Twenty-seven of e patients were admitted after the fifth day and all received ntitoxin. Of these, five died, a mortality of 18.5 per cent.

Annales de Médecine et Chirurgie Infantiles, Paris

October 1, XV, No. 19, pp. 593-620

1 *Symptomatic Importance of Constipation in Children. (Valeur séméiologique de la constipation chez les enfants.) E. Périer and Gaujoux.

41. **Constipation in Children.**—Périer and Gaujoux discuss e symptomatic importance of constipation from obstruction, om modification of the contents of the intestines and from fective action of the expelling muscular fibers or nerve exuses innervating the intestine. Search for the cause along e of these three lines will clear up many puzzling syndromes. nstipation in the mother, especially from lack of out-door ercise, is a frequent factor in the constipation of infants. ngenital stenosis of the rectum may escape discovery for eral weeks or months.

Archives Générales de Chirurgie, Paris

September, V, No. 9, pp. 961-1080

42 Intrasaccular Suture in Treatment of Aneurysm—Endoaneurysmorrhaphy. (De l'anévrismorrhaphie.) C. Monod and J. Vanverts. Concluded in No. 10.
43 Cicatricial Changes in Inguinal Canal as Factor in Strangulation of Hernia and Retention of Testicle. (Les cicatrices péritonéales du canal inguinal.) L. Delrez.
44 Operative Treatment of Undescended Testicles. (Technique opératoire de l'ectopie testiculaire inguinale ou iliaque.) R. Le Fort. Commenced in No. 8.
45 Metal Sheath Applied Directly to Fractured Long Bones. (Essais de traitement sanglant des fractures diaphysaires avec des bagues et des plaques amovibles engainantes.) P. Mauclaire.

Archives de Médecine des Enfants, Paris

October, XIV, No. 10, pp. 721-800

46 *Asthma in Children. (L'asthme chez les enfants.) J. Comby.
47 Wedge Excision in Treatment of Rachitic Curvature of the Leg: Two Cases. (Les incurvations rachitiques de la jambe et leur traitement chirurgical.) V. Veau.

46. **Asthma in Children.**—Comby reviews his experiences with seventy-five cases of asthma in children, his impression being that this paroxysmal respiratory neurosis is never due to adenoids or nasal catarrh and is never influenced by operations for the latter, but it may be accompanied by a chronic catarrhal bronchitis or violent and repeated sneezing. The child outgrows the tendency and the lungs do not seem to suffer from it, but the underlying arthritic tendency persists and is liable to manifest itself in other ways. The first attack of the asthma is often puzzling; pneumonia is suspected, but the sudden onset, the normal temperature and the musical character of the râles and their propagation and the transient character of the syndrome all contradict pneumonia. Compression of the air passages by the thymus or enlarged glands and tuberculosis can easily be excluded. Treatment of the attack may be by revulsion, mustard plasters or dry cupping, and by sedatives, opium, belladonna, aconite; morphin will rarely be necessary, but Dover's powder may be given—0.05 gm. per year of the age. The diathesis is best combated by an out-of-door life, rubbing the skin, baths and douches and a vegetable diet. Arsenic, potassium iodid and sulphur may prove useful, especially in the catarrhal forms. Comby generally prescribes them in the form of sodium arsenate, 1, 2 or 3 mg. daily for ten days each month, and then 0.1 gm. of sodium or potassium iodid daily for 10 days.

Bulletin de l'Académie de Médecine, Paris

October 10, LXXV, No. 32, pp. 117-148

48 *Salvarsan in Syphilis. (Sur un cas de mort survenu apres deux injections de 606, chez un sujet relativement sain.) H. Hallopeau and others.
49 *Arteriosclerosis of Heart and Aorta is Often Merely Syphilis. (L'artério-sclérose du cœur et de l'aorte n'est souvent que de la syphilis.) C. Fiessinger.
50 General Spinal Anesthesia. (La rachianesthésie générale par la strychno-stovainisation.) T. Jonnesco.

48. **Fatality After Salvarsan.**—Hallopeau has never used salvarsan but knows of an accident from it, the patient, a robust man of 35, previously addicted to alcohol but having abandoned its abuse for the last two years. He contracted syphilis in 1902 and in recent years has been tormented by a recurring eruption on palms and soles for which he was given two intravenous injections of salvarsan, 0.3 and 0.4 gm. in six days. The third day following the last injection there was some nausea, with vomiting, and the third day convulsions came on, with tremor, the temperature rose to 104 F. and the patient died in coma during the night. The case teaches, Hallopeau thinks, that salvarsan is contraindicated when there is a history of alcoholism. Gaucher in the discussion maintained that salvarsan is a violent poison for the nervous system and stated that he had witnessed several fatalities after its use at the Saint-Louis Hospital, all these patients dying with epileptiform convulsions. Only one of these cases has been published (Ravaud's); the necropsy findings convinced Gaucher that death was the result of arsenical intoxication. He added that salvarsan is given in private practice under conditions of such secrecy that the outcome is never published. He knows of one fatality which followed injection of merely 0.3 gm., and acute mania developing in a paralytic after one injection. P. Marie's experience with salvarsan has been satisfactory, he said, and he has never had

any cause for uneasiness with it, not even with patients with general paralysis and tabes, but he never gives doses over 0.2, 0.3 or 0.4 gm., although he does not hesitate to repeat this dose at need after intervals of fifteen or twenty days.

49. **Syphilis in Etiology of Arteriosclerosis of Heart and Aorta.**—Fiessinger found a history of syphilis in 28 of 37 cases of aortic insufficiency; in 4 of 5 cases of bradycardia; in 6 of 6 cases of aneurysm, and in 2 of 3 patients with constant arhythmia. Even with organic angina pectoris in persons under the age of 50, he found 6 syphilitics in 11 cases; above this age only 3 in 41 cases. In a total of 92 patients with heart disease of the sclerotic type syphilis was admitted by 54 of the patients; a positive Wassermann reaction unlocks the tongue in many cases. One of the patients had had permanent slow pulse for forty-seven years after the primary sore, and gave a marked Wassermann reaction. Specific treatment generally comes too late to do much good although the pains may be relieved. The warning signs are a certain dyspnea after exertion, tachycardia, hard and strong pulse, blood-pressure a little above normal, bulging of the arteries at the base of the neck, perception of the aortic pulse at the bifurcation of the sternum, and accentuation of the second aortic sound. The kidneys are sound and there is no albuminuria. This combination in a patient between 35 and 50 is almost pathognomonic of syphilitic cardiovascular disease and a positive Wassermann reaction will clinch the diagnosis. Mercurial treatment at once may banish the whole trouble. One of his patients in this category had the pains aggravated by two injections of salvarsan. He has witnessed dyspnea or pulmonary edema more than once after administering iodids in syphilitic cardiovascular disease.

Journal de Chirurgie, Paris

September, VII, No. 3, pp. 237-368

51 Emergency Operations for Traumatic Hemothorax. (L'intervention chirurgicale d'urgence dans les grands hémothorax traumatiques.) C. Lenormant.

Lyon Médical, Lyons

September 24, CXVII, No. 39, pp. 617-664

52 The Internal Secretions and the Nervous System. J. P. Morat.

October 1, No. 40, pp. 665-712

53 Psychotherapy in Neurasthenia. M. Rifaux.
54 Experimental Grafts and Anastomoses of Nerves. (Greffes et anastomoses nerveuses.) Duroux.

October 8, No. 41, pp. 713-752

55 Weight of Children Before and After Sanatorium Treatment. (Résultats pondéraux de la cure marine de Giens.) R. Rendu. Commenced in No. 40.
56 Effect on Eye of Excision of Gasserian Ganglion. (Ablation du ganglion du Gasser et ses effets sur l'oeil.) M. Jaboulay.

Obstétrique, Paris

October, IV N. S., No. 10, pp. 825-952

57 Fatal Non-Traumatic Hemorrhage from the Liver in New-Born Infants. (Pathogénie des hemorrhagies du nouveau-né.) E. Bonnaire and G. Durante.
58 *Pubiotomy. (Sur l'hébostéotomie.) H. van de Velde.
59 *Puerperal Infection from Diphtheria Bacillus. (De l'infection puerpérale à bacilles de Loeffler.) C. Bourret.

58. **Pubiotomy.**—Van de Velde has done pubiotomy fourteen times during the last ten years; the pelvis was permanently enlarged by it in nine of the patients. One patient in advanced bilateral renal tuberculosis succumbed soon after the operation, but the others recovered without mishap. He compares his results with those obtained by others, tabulating thus 125 cases; in seventy-four the pelvis was permanently enlarged. Comparison of the data shows, he says, that pubiotomy is a useful operation when the diameter is over 8 cm. and the patient not infected and when this is not the first childbirth. Under other conditions it exposes to too many dangers. The great and sovereign virtue of pubiotomy is that it gives the obstetrician confidence to wait for spontaneous delivery; as he knows he can interfere at any time he feels serene in giving Nature more of a chance than otherwise he would consider advisable. In this way pubiotomy has materially reduced the number of obstetrical operations.

59. **Puerperal Infection with Diphtheria Bacilli.**—Bourret adds another to the forty-one cases of this kind on record, giving a summary of each, including an epidemic of thirty-three cases in 1890 at a Paris maternity, and Williams' case in 1898. The false membranes develop at the site of lacerations or other lesions. Edema of the external genitals is an important symptom when present, as in his case, and swelling of the regional lymph-nodes was pronounced in a number of cases, generally bilateral. This enlargement of the glands was an early sign. Paralysis of the sphincters was observed in some cases. The fever is usually proportionate to the severity of the membrane production, but in two cases the temperature persisted normal. In some the fever was the first sign of mischief, but it seldom was correctly interpreted. Prostration and somnolency were extreme in some of the cases; headache was another symptom, and in Bourret's case there was great difficulty in breathing but no wheezing or croupiness. Serum treatment gave excellent results, but in Bumm's cases the serotherapy did not prevent development of a pharyngeal and nasal diphtheria when the genital diphtheria was retrogressing. In only three of the cases did the infants contract diphtheria. His patient had mixed infection and the diphtheria was not recognized until nearly two weeks after the onset of the puerperal infection, and the patient died the day after the antitoxin had been injected.

Presse Médicale, Paris

October 4, XIX, No. 79, pp. 785-792

60 *Aortic Reflexes in Diagnosis and Treatment of Aneurysm of the Aorta. (Contribution au traitement des anévrismes aortiques.) A. Abrams (San Francisco).

October 7, No. 80, pp. 793-808

61 *Technic for General Anesthesia for Operations on Upper Air Passages. (La chloroformisation dans les interventions sur les voies aériennes supérieures.) P. Blanluet.
62 *Pneumonic Plague. (Contribution à l'étude de la pneumonie pesteuse de Childe.) F. de Mello.
63 Deep Injections of Alcohol in Treatment of Trigeminal Neuralgia. (Les injections d'alcool dans le ganglion de Gasser à travers le trou ovale.) N. Taptas.

October 11, No. 81, pp. 809-816

64 Antisyphilitic Treatment of Tabetic Arthropathy. (Traitement specifique et arthropathies tabétiques.) G. Etienne and M. Perrin.
65 High Blood-Pressure and the Viscosity of the Blood. (Hypertension artérielle et viscosité sanguine.) A. Martinet.

October 14, No. 82, pp. 817-832

66 Anatomy of the Bile Ducts in Relation to the Arteries. (La voie biliaire principale sus-pancréatique.) P. Descomps.
67 *Preferable Technic for Determination of Tubercle Bacilli in Urine. (Valeur comparative des procédés pour déceler et colorer les bacilles tuberculeux dans l'urine.) V. P. Sémionov.
68 Cocain in Local Anesthesia of the Uterus. M. Febres.

60. See The Journal, 1905, xlv, page 1027, abstract 19.

61. **General Anesthesia for Operations on Upper Air Passages.**—Blanluet illustrates the various devices in use to facilitate long operations on the upper air passages. He prefers a combination of several as he describes in detail.

62. **Pneumonic Plague.**—De Mello is chief of the sanitary authorities in the Portuguese Indies, and describes the methods by which he has been able to stamp out epidemics of plague on their first appearance. First and foremost is the education of the people by lectures, talks and in every other possible way striving to reassure the populace and teach them how to protect themselves against contagion. He preaches that the lymphatic system is the portal of entry and of propagation of the infection, no matter what form the plague may assume. If infectious material gets on an abraded mucous membrane, it penetrates into the lymphatic system just as if introduced by the bite of a flea. In one family there were ten cases of plague; it was of the pneumonic form in the first three but of the bubonic type in the following cases.

67. **Tests for Tubercle Bacilli.**—Sémionov relates his experience with the various methods for determining the presence of tubercle bacilli in urine, his final conclusions being that the Ellermann-Erlandsen method is the most accurate and reliable, but that for ordinary purposes the Koslov method is extremely satisfactory while it is simpler and rapid. It combines the use of antiformin with that of a mixture of ether and acetone. The antiformin dissolves out the bacilli and they rise to the surface and float on the ether-acetone mixture. To 5 c.c. of urine is added 1 c.c. of antiformin. After thirty minutes twice the volume of the mixture is diluted with twice the volume of water and again with twice the volume of a mixture of equal parts ether and acetone. After stirring for five

seconds the fluid is allowed to settle for one minute. The fluid then consists of an upper layer of ether, a lower layer of water, antiformin and acetone, while suspended between these layers is a middle layer of bacilli, which is taken for examination. Koslov's method of staining also shortens the technic. He makes his stain by grinding 1 gm. of gentian violet with 6 gm. of phenol and adding gradually 40 gm. of glycerin and then 100 c.c. of water. After fixation as usual, the specimen is submitted to the action of this stain for fifty or sixty minutes, then treated with Lugol's solution (official compound solution of iodin) for fifteen seconds and rinsed. A contrast stain is obtained by plunging the specimen for two or three seconds into an aqueous 1 per 1,000 safranin solution.

Revue de Gynécologie, Paris

September, XVII, No. 3, pp. 193-288

69 *Successful Amputation of Cervix Uteri for Tuberculosis. (Cas de tuberculose du col de l'utérus.) X. Bender.
70 Rupture of Vessels in Abdominal Contusions and Their Treatment. III. (Des ruptures vasculaires dans les contusions abdominales.) Dueuing and J. Florence.

69. **Tuberculosis of the Cervix Uteri.**—In Bender's case the uberculous nature of the ulcerating lesion for which the cervix was amputated was not suspected until afterward. There was nothing in the history of the case before or since to suggest tuberculosis, but the histologic and bacteriologic findings confirmed the retrospective diagnosis. The patient was a woman of 32 in good health otherwise at the time and during he two years since. The case had seemed to be an ordinary ulcerating metritis consecutive to an abortion at the fourth month, after excessive horseback riding. The patient had previously borne two healthy children.

Semaine Médicale, Paris

October 18, XXXI, No. 42, pp. 493-504

71 *Traumatic Orchitis. (Doit-on admettre l'existence de l'orchite traumatique?) F. Moty.

71. **Traumatic Orchitis.**—Moty declares that even when a gonococcus epididymitis develops as a complication of rapid inflammation of the testicle following trauma, yet the diagnosis of traumatic orchitis must be maintained even under hese circumstances. The danger of atrophy is as great as fter a contusion; both require incision of the tunica albuginea in case of excessive pressure. The gonorrheal process will run ts usual course. With spontaneous orchitis the affection subsides so quickly that there is no danger of confounding it with a gonorrheal process; the left testicle is more often involved in the spontaneous and traumatic form. The spontaneous orchitis is the result of some unusual physical exertion, the muscular strain causing an aseptic contusion of the esticle.

Berliner klinische Wochenschrift

October 16, XLVIII, No. 42, pp. 1873-1916

72 *Nascent Iodin in Therapeutics. (Methode zu therapeutischer Anwendung von Jod in statu nascendi in den Geweben.) A. Reyn.
73 *Iodin in Exanthematous Typhus. (Ueber Jodbehandlung des Typhus exanthematicus.) Uftugeaninoff.
74 Research on Anaphylatoxin. (Mechanismus der Anaphylatoxinbildung und Beziehungen zwischen Anaphylatoxin und Toxin.) E. Friedberger. (Ueber Anaphylatoxinbildung aus Milzbrandbakterien und den Einfluss des Milzbrandimmunserums auf die Giftbildung.) A. Schütze.
75 *Pressure Massage of Nerves. (Histologische und physiologische Wirkung der Druckmassage auf die Nerven.) M. Joffe.
76 Juvenile Hydrophthalmos. (Hydrophthalmus infantilis.) J. Fejer.
77 Traumatic Detachment of the Retina. (Traumatische Netzhautablösungen.) J. Fejer.
78 *Determination of Degree of Turbidity. (Ein neues Verfahren zur Messung der Trübung eines Mediums durch die Turbidometrie.) E. Schlesinger.
79 Indications for Interrupting a Pregnancy. (Indikationen zur künstlichen Unterbrechung der Schwangerschaft.) E. Runge.

72. **Therapeutic Electric Generation of Nascent Iodin.**—Reyn as applied in another way the two-route principle of treating superficial lesions. He gives potassium iodid by the mouth and applies the electric current to the spot; nascent iodin is generated in the lesion, exerting its therapeutic power to the full. The patient takes fasting 3 gm. (45 grains) of potassium iodid. Between one and two hours afterward the electricity is applied, the positive pole introduced into the skin while the negative pole wrapped in a wet pad is held in the hand. In Reyn's tentative experiments he applied a 2 milliampere current for two minutes or a 3 milliampere current for three minutes. As the iodin is generated only close to the needle, the therapeutic action is enhanced by using five needles, each 0.5 mm. in diameter, soldered to a metal plate at intervals of 0.5 mm. There is not much pain when the five needles are inserted, and it is thus possible to introduce from twenty to thirty needles before the current is turned off. He repeated the process two or three times on each patch of lupus and relates the details of the five cases in which this method has been tentatively applied. Reyn is the medical chief of the Finsen Light Institute at Copenhagen, and he thinks this two-route method may prove a useful adjuvant to or substitute for the Finsen treatment, especially when deep action is desired. It may also prove to have a field in treatment of cancer.

73. **Iodin in Exanthematous Typhus.**—Uftugeaninoff reports fourteen cases which added to Jaworowsky's forty-one brings to fifty-five the number of exanthematous typhus patients treated with tincture of iodin internally, three or four drops three or four times a day, taken in red wine. The disease was unmistakably modified by the medication and evidently much for the better in the entire group, he says.

75. **Massage of the Nerves.**—Joffe relates experimental research which demonstrated a markedly injurious action on nerve tissue from pressure such as is applied in the modern "pressure massage" treatment of neuralgia. Fifty-two experiments showed that the benefit in neuralgia is due to blocking of certain of the nerve fibers from degenerative processes. The centrifugal fibers seemed to suffer more than the centripetal.

78. **Turbidometric Tests of Milk, Blood and Other Fluids.**—The fluid in a very tapering wedge-shaped vial or glass is inspected through a narrow slit. As this slit is moved upward a point is reached where objects behind become visible through the fluid which is more or less opaque at the thick end of the wedge vessel. Schlesinger says that one is able thus to estimate the fat content of breast milk and market milk and detect admixture of water, to estimate the number of corpuscles in the blood, and, after destruction of the red corpuscles, to determine the proportion of whites.

Deutsches Archiv für klinische Medizin, Leipsic

CIV, Nos. 1-2, pp. 1-208. Last indexed November 4

80 Destruction of Hemoglobin in the Liver. (Hämoglobinzerstörung in der menschlichen Leber. Experimentelle Hyperglobulie.) L. Hess and P. Saxl.
81 *Heart-Block. (Ueber Reizleitungsstörungen am menschlichen Herzen.) A. W. Meyer.
82 Albumosuria. (Untersuchungen bei einem Falle von Bence-Jones'scher Krankheit.) R. Massini.
83 *Nephritic Edema. (Ueber nephritisches Oedem.) P. Schmid and K. Schlayer.
84 *Experimental Research on Influence of Preparation of Food on Its Digestibility. (Einfluss der Zubereitung der Nahrungsmittel auf ihre Verdaulichkeit.) F. Best.
85 Tension Time of the Heart. (Ueber die Anspannungszeit des Herzens.) A. Müller and P. Breuer.
86 Epinephrin Content of Adrenals. (Ueber den Adrenalingehalt der Nebennieren.) A. Ingier and G. Schmorl.
87 The Active Factors in the "Oatmeal Cure" for Diabetes mellitus. O. Baumgarten and G. Grund.

81. **Heart-Block.**—Meyer remarks that in many cases of heart-block on record outside of the Adams-Stokes syndrome, the disturbance was the result of the action of digitalis; he has seen a number of cases of this kind. In comparatively few is the disturbance the result of the heart disease itself. He reports a case in which the toxic influence of digitalis was strikingly apparent in the onset and blocking both between the auricle and ventricle and between the sinus and the auricle. In contrast to this he reports a case of the Adams-Stokes syndrome, the heart-block due to actual anatomic conditions, in which digitalis gave great benefit. The curves of these cases demonstrate anew the influence of digitalis on the automatically beating ventricle, regardless of whether this automatic action is the result of anatomic injury of the conducting bundle or of injury from the digitalis itself.

83. **Nephritic Edema.**—Schmid and Schlayer report experiments on rabbits in which nephritis had been induced by chromium or uranium, arsenic or cantharidin, until there was

complete anuria, and then salt solution was infused to study the development of edema. Changes in both vessels and tissues cooperate in the production of the edema in nephritis. Physical-chemical factors alone do not play such a prominent part in the process as has been hitherto assumed.

84. **Digestibility of Food.**—Best has been studying the influence of the mode of preparation of the food on its digestibility. Using three dogs with retention cannulas at different points in the small intestine. It was found that addition of butter to bread and vegetables caused them to linger longer in the stomach and upper intestine, and thus be better utilized. Sugar, bread and potatoes sojourn only a brief time in the stomach and upper intestine while making the least demands on secretion. Flour gruels, meat and cream were always completely assimilated in the experiments, no residue reaching the cannulas. Raw fruit is digested to a soft mass before it reaches the large intestine, and Best thinks that the digestive apparatus will be spared just so much work if the fruit is cooked soft before being eaten. When the aspect or taste of the food stimulates the appetite, this starts secretory and motor reflexes which permit good digestion of the most widely diverse articles of food.

Deutsche medizinische Wochenschrift, Berlin

October 12, XXXVII, No. 41, pp. 1873-1920

88 Feeble-Minded Children. (Ueber den kindlichen Schwachsinn, seine Symptomatologie, Diagnose und Therapie.) J. Raecke.
89 Retroflexion of the Uterus and Trauma. (Retroflexio uteri und Unfall.) H. Fritsch.
90 *Edema in the Brain as Factor in Eclampsia. (Beitrag zur Auffassung und Behandlung der Eklampsie.) W. Zangemeister.
91 *Removal of Outer Wall of Orbit to Relieve Extreme Exophthalmos. (Druckentlastung der Augenhöhle durch Entfernung der äusseren Orbitalwand bei hochgradigem Exophthalmos—Morbus Basedowii—und konsekutiver Hornhauterkrankung.) J. Dollinger.
92 Regional Injection of Epinephrin for Study of Lymph Circulation. (Versuche zur klinischen Beobachtung der Lymphzirkulation der Haut.) Z. v. Dalmady.
93 *Color Test for Albumosuria. (Eine neue Methode zum Nachweis der Albumosen im Harn.) E. H. Fittipaldi.
94 Anilin Dyes Not Very Reliable Reagents for Bile Pigment in Urine. (Ueber die Anwendbarkeit von Anilinfarben als Reagens auf Gallenfarbstoff im Harn.) O. V. C. E. Petersen.
95 Recurrent Paralysis and Differences in the Radial Pulse with Mitral Stenosis. (Zwei ungewöhnliche Nebenerscheinungen bei Mitralstenose.) Muktedir Effendi.
96 *Pregnancy as Cause of Disease of the Optic Nerve and Retina. (Ueber die Gravidität als Ursache der Erkrankung des Sehnerven und der Netzhaut.) W. Dolganoff.
97 Intermuscular Lipoma. R. Herzenberg.
98 Salvarsan in Kala-Azar. (Zur Kasuistik der Kala-Azar und seiner Behandlung mit Salvarsan.) G. Caryophyllis and D. Sotiriades.

90. **Eclampsia a Reflex Epilepsy.**—Zangemeister treats eclampsia on the assumption that it is the result of pressure from edema in the brain. The pressure is immensely increased during the strain of each labor pain, the condition being an actual "glaucoma of the brain" with epileptiform seizures as the consequence. By prompt trephining the brain is relieved from pressure. He has acted on this assumption in three extremely severe cases of eclampsia persisting after delivery, the temperature, pulse and general condition giving a grave prognosis. A bone flap was turned back on the right side of the skull, above and behind the temple. The dura was found hard and tense, the pressure so great that there was no pulsation. Large amounts of serous fluid escaped when it was incised and fluid continued to flow for a long time. Diuresis soon set in and sweating, and the convulsions were milder and occurred at longer intervals or affected only a smaller group of muscles or assumed more the form of tonic rigidity. Two of the patients recovered but the third succumbed the sixth day although the eclampsia had long subsided. Temperature and pulse began to climb up again, with intense headache and hyperesthesia. This was the only case in which the dura had been sutured again after the operation leaving only a minute opening; the edema may have recurred, with resulting compression and anemia of the brain. Edema of the brain has rarely been found at necropsy of persons dying in eclampsia; the edema probably subsides rapidly after death. We know that labor contractions induce reflex vessel spasms in other organs, and that eclampsia seems to be limited to periods of labor, consequently it is rational to assume that the labor contractions may induce spasm of the cerebral vessels, inducing anemia which in turn entails the convulsions. A normal brain bears the reflex changes in pressure in the brain without harm, but a brain already suffering from the effects of edema responds with convulsions. The benefit from the trephining is not immediate; it takes some time for the pressure and circulation to adjust themselves to the change in conditions, especially when—as in his cases—only one side of the brain was operated on.

91. **Resection of Orbit to Relieve Exophthalmos.**—Dollinger reports with illustrations a case of exophthalmos so severe that the cornea of the left eye became ulcerated and the patient, a man of 62, suffered from intense pain in the eyes and head, rebellious even to morphin. There were no other symptoms of Basedow's disease. By resecting a wedge from the outer wall of the orbit, the eye-ball sank more to the side, relieving the forward protrusion and enabling the lids to close over the cornea. The pains subsided and the corneal ulcer soon healed.

93. **Test for Albumose in the Urine.**—Fittipaldi mixes the specimen of urine with six times the amount of alcohol. The next day the alcohol is decanted, the sediment dissolved in as little as possible of a solution of sodium hydroxid (31 to 32 per cent.), and the alkaline solution is tested with the ammoniacal solution of nickel. This reagent is a mixture of equal parts ammonia water and a 5 per cent. solution of nickel sulphate. It is bluish, but when a drop of this reagent is added to the alkaline mixture above, the tint changes to orange in the presence of albumose or peptone. The method can be applied to the blood, first heating to boiling after it has been well mixed with animal charcoal (10 or 20 gm. to 10 or 20 c.c. of blood). The filtrate after cooling is mixed with six times the amount of alcohol as above. This method does not require preliminary removal of the albumin from urine and there is no possibility of confusion with albumin, as the latter never gives the orange reaction.

96. **Disease of the Optic Nerve and Retina Connected with Pregnancy.**—Dolganoff insists that when the pregnancy alone is responsible for the ocular disturbances, expectant treatment should be the rule, and he reports a case in which a young woman had suddenly become almost totally blind in the third and fourth months of her first pregnancy. Except for recurring headache she seemed otherwise healthy. She was kept in bed and given dry sweats and hot baths every two or three days, with iodin, and improvement gradually followed. The assumption seems plausible that some toxic substances were produced during the first months of the pregnancy and that they had some special affinity for the optic nerve. Later the organism adapted itself to the condition, possibly aided in this by the treatment adopted, and in the course of the next two or three months all the functioning and excreting apparatus came into good working order and all disturbances subsided. The case teaches that when an internist, gynecologist, syphilologist and neurologist—all these specialists were consulted in this case—can find nothing to explain the optic neuritis or retinitis, the trouble can be ascribed to the pregnancy alone and probably can be safely left to time.

Medizinische Klinik, Berlin

October 15, VII, No. 42, pp. 1605-1644

99 Summer Heat and Other Factors in Infantile Mortality. (Einfluss der Hitze auf die Sterblichkeit der Säuglinge.) H. Liefmann and A. Lindemann.
100 Röntotherapy of Skin Diseases. (Gefahren der Röntgentherapie der Hautkrankheiten.) F. Zinsser.
101 Case of Traumatic Thrombosis of the Axillary Vein. E. Ruge.
102 Technic for Irrigation of the Urethra. (Ueber Janetsche Harnröhrenspülungen und eine neue Kanüle zur erfolgreichen Ausführung derselben.) L. Dufaux.
103 United Twins or Girl with Two Spines Living Till Puberty. (Ueber einen Pantopagus.) J. Linke.
104 Aggressins in Filtrate as Test for Tubercle Bacilli. (Ueber den Nachweis kleiner Mengen von Tuberkelbacillen vermittels Filtrataggressin.) P. Asch.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

October, XXXIV, No. 4, pp. 397-512

105 Pathologic Anatomy of Endometritis. H. Albrecht.
106 Shall Retained Fragments of Placenta Be Removed or Not? (Soll man Placentarreste nach reifer Geburt entfernen oder nicht?) K. Hörmann.

07 Decapsulation of the Kidneys in Treatment of Eclampsia; Eleven Cases. (Behandlung der Eklampsie mit Entkapselung der Nieren.) C. Longard.
08 *Differential Diagnosis of Extra-Uterine Pregnancy and Its Management (Ueber die ektopische Schwangerschaft und über die differentialdiagnostischen Schwierigkeiten derselben.) D. v. Velits.
09 *Relations Between Myoma in the Uterus and the Circulation. (Beziehungen zwischen Uterusmyom und Kreislauf.) A. Patta and C. Decio.
10 *Treatment of Myoma in the Uterus. (Zur Behandlung der Uterusmyome.) R. Marek.

108. **Differential Diagnosis of Extra-Uterine Pregnancy.**—elits reviews his experience with fifty-two cases; it has onvinced him that every large hematocele from this cause ould be regarded from the same point of view as a malignant growth, but with a dubious diagnosis expectant treatent should be the rule. In no other morbid condition is the revious history so important as in the diagnosis of extraterine pregnancy. And even this may be misleading at times. is various cases are grouped and typical ones discussed in tail. One case of multiple myoma in the uterus simulated eceptively an extra-uterine pregnancy; a normal pregnancy another case was masked by a myoma in the uterine rvix, conditions suggesting extra-uterine gestation, as also ovarian tumor impacted in the pouch of Douglas with a ormal pregnancy in two other cases. Delivery was normal one case but the fetus died during labor in the other. n the whole, the data cited confirm the wisdom of expectant eatment until the diagnosis is certain.

109. **Myomas and the Circulation.**—Patta and Decio injected gs with extracts from nine myomas and also extract of erus tissue. The myoma extract seemed to have a pronnced action on the circulation in some respects, inducing adycardia, palpitation and asthma in the animals, but no fluence on the blood-pressure could be detected, unless posbly a depressing influence.

110. **Operative Treatment of Uterine Myoma.**—Marek reews the outcome in 247 cases of myoma in women from 25 62 years old, all but sixty-two being given operative treatent. There was complicating carcinoma in three and sarcoma two cases. Comparing this material with others of the nd on record, he says that supravaginal amputation with moval of the adnexa gives the best permanent results with e lowest mortality; 2.091 operations with 3.2 per cent. morlity. Even taking into account the danger of cancer of the ump (0.5 per cent. to date), the ultimate outcome is better an with hysterectomy which has a record of pulmonary ema and septic peritonitis five and six times larger than th supravaginal amputation, and the total mortality 2.6 per nt. larger. He would restrict hysterectomy to cases susions of cancer, to myoma of the cervix, and to complicating ppuration in the adnexa, and in all cases remove the uterus abdominal section. Roentotherapy should be given a trial ien operative treatment is refused or contra-indicated or en the hemorrhagic myoma is in a patient near the menouse. Roentotherapy may also possibly prove useful as a eliminary to operative treatment when the patient has lost cessive amounts of blood.

Münchener medizinische Wochenschrift

October 10, LVIII, No. 41, pp. 2145-2200

1 Experiences at Kiel with Salvarsan. (Unsere bisherigen Erfahrungen mit Salvarsan.) V. Klingmüller.
2 Alimentary Fever in Adult. (Alimentäres Fieber beim Erwachsenen.) G. Walterhöfer.
3 Acetonuria in Diphtheria and Acute Angina. (Azetonurie bei Diphtherie und akuten Halsentzündungen.) F. Reiche.
*Preoperative Injection of Blood in Anemic Patients. (Eine anteoperative Vorbehandlung hochgradiger Anämien durch intramuskuläre Injektionen von defibriniertem Menschenblute.) P. Esch.
Vaccine Therapy of Gonorrhea. (Die spezifische Behandlung der Gonorrhoe, mit bes. Berücksichtigung der Zervixgonorrhoe.) A. Schmitt.
Disease of Air Passages Contra-Indicates Scopolamin. (Ursache der Skopolaminasphyxien.) O. Klauber.
*Rapid Technic for Determination of Tuberculosis by Inoculation of Animals in the Liver. (Tuberkulosenachweis durch beschleunigten Tierversuch.) R. Oppenheimer.
Plastic Operation on Lower Lid with Flap from Inside of Upper Lid. (Verfahren für den plastischen Ersatz des Unterlides.) Köllner.
Salvarsan in Syphilis. (Beitrag zur Salvarsanbehandlung der Syphilis.) Favento.
The Literature on Salvarsan. (Bemerkungen zur Salvarsanliteratur.) Laquer.

121 Streptococcus Infection in General, and Especially with Abortions. (Streptokokken-Aborte und ihre Behandlung.) H. Schottmüller. Commenced in No. 39.

114. **Injection of Blood Preliminary to Operations.**—Esch refers in particular to extremely anemic and weak patients with hemorrhagic uterine myomas. They need myomectomy at once and yet their resisting powers are at a dangerously low ebb. In order to improve conditions he injected defibrinated blood in two cases; three injections of 20, 15 and 30 c.c. and 15, 20 and 22 c.c. of the defibrinated blood in the course of fourteen days, improving the condition to such an extent that the hysterectomy was then safely performed. The hemoglobin rose from 25 to 46, and from 23 to 36 per cent., the improvement parallel in both cases and evidently strictly connected with the injections.

117. **Improved Technic for Diagnostic Inoculation of Animals with Tuberculous Material.**—Oppenheimer injects the suspected urine directly into the liver of the guinea-pigs, and has found that specific lesions develop in about sixteen days, confirming the diagnosis. The findings were constantly positive in the seventeen animals injected with tuberculous material while they were constantly negative in the twenty-three in which the urine was derived from individuals free from tuberculosis. The liver not only develops the specific lesions remarkably early, but its structure permits their recognition in an incipient phase easier than in any other tissues. Of the six animals not slaughtered at the end of sixteen days, three died after thirty-one days and three others after thirty-five, all with signs of extensive tuberculosis, showing that this intrahepatic technic is a powerful mode of inoculation. The guinea-pig liver is peculiarly accessible. He introduced the needle at two points close together, just below the sternum, pointing the tip upward toward the right and toward the left.

Wiener klinische Wochenschrift, Vienna

October 12, XXIV, No. 41, pp. 1419-1454

122 Reduced Alkalinity of Blood in Uremia, Diabetic Coma and After Death. (Weiterer Beitrag zur Hydroxylionenkonzentration des pathologischen Blutes.) C. Kreibich.
123 Anatomy and Histology of the Female Urethra. (Beiträge zur Anatomie und Histologie des weiblichen Urethralwulstes.) O. Sachs.
124 Diuresis Under Calomel. (Klinische und experimentelle Studien über Kalomeldiurese.) R. Fleckseder.
125 Serodiagnosis and Treatment of Scleroma. E. Suess.
126 Cancer from Standpoint of Physical Sciences. (Naturwissenschaftliche Gedanken über den Krebs.) E. Zirm.
127 Cell Inclusions in Spring Catarrh. (Mikroskopische Befunde bei Frühjahrskatarrh.) A. Botteri.

Zentralblatt für Chirurgie, Leipsic

October 14, XXXVIII, No. 41, pp. 1369-1400

128 Invagination of Stumps in Suturing Severed Ureter. (Eine neue Methode, die Enden eines durchschnittenen Ureter zu vereinigen.) W. Forssell.

Zentralblatt für Gynäkologie, Leipsic

October 14, XXXV, No. 41, pp. 1425-1448

129 *Laparotomy During Labor with Placenta Prævia. (Während der Geburt durch Laparotomie behandelte Placenta praevia-Fälle.) E. Seipiades.
130 Operative Treatment of Retroflexion of the Uterus. (Wie sollen wir die Retroflexion operieren?) G. Bamberg.

129. **Laparotomy for Placenta Prævia.**—In the first two of the three cases reported the patients were elderly primiparæ and after considerable hemorrhage the child was removed by Cesarean section and both mothers and children were dismissed in good condition, with nothing to interfere with future pregnancies. The third patient was a woman of 40 at term with her eighth pregnancy, faint from excessive losses of blood, the fetus dead. The abdomen was opened and the uterine arteries ligated and ligaments tied off. The pulse began to improve at once, and supravaginal amputation of the unopened uterus was rapidly done and the patient was replaced in a warm bed, the pelvis raised.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 3, XXXII, No. 119, pp. 1259-1266

131 *Intradermal Reaction in Syphilis. (Sulla diagnosi della sifilide mediante la intradermoreazione.) A. Fontana.

October 5, No. 120, pp. 1267-1274

132 *Autoserotherapy of Peritonitis Plus Iodid Therapy. (Contributo alla cura delle sierositi col metodo Gilbert combinato alla terapia iodica.) E. Cariani.

October 8, No. 121, pp. 1275-1290

133 Physiology of Secretion of Urine. II. F. Bottazzi.
134 Total Inversion of the Uterus; Two Cases. (Sull'inversione dell utero.) M. Fasano.

October 10, No. 122, pp. 1291-1298

135 Scarlatinal Uremia; Recovery After Lumbar Puncture. (Caso di uremia scarlattinosa curato con la puntura lombare.) G. B. Allaria.

131. **Diagnostic Intradermal Reaction in Syphilis.**—Fontana has experimented with various substances, sodium glycocholate, lecithin, etc., injecting them into the skin by the intradermal technic. None proved reliable for eliciting a specific reaction except a glycerin extract of syphilitic livers or superficial lesions. Scraps of a condyloma lata, swarming with spirochetes, were triturated with five times their weight of neutral glycerin and after standing for ten days in a cool place the fluid was filtered and distributed in vials fused and kept at 56 C. (132.8 F.) for an hour on three successive days and then set aside in a cool place again for two months when the "syphilin" was ready for use. In sixty-seven tests, the syphilin gave positive findings in 47.5 per cent. of the cases while the Wassermann reaction was positive in 85 per cent.; in the primary and tertiary phases the two reactions constantly paralleled each other. The method is thus not without value and when the technic is further perfected may prove important.

132. **Autoserotherapy in Serositis.**—Cariani expatiates on the good results attainable by reinjection of some of the patient's own effusion, Gilbert's method, especially when supplemented by local iodin treatment.

Policlinico, Rome

October 8, XVIII, No. 41, pp. 1289-1320

136 Salvarsan in Syphilis. G. Burzi and De Favento.

October 15, No. 42, pp. 1321-1352

137 Serotherapy of Gonorrhea. (Sull'azione curativa del siero antigonococcico.) V. Fisichella.
138 *Extraserous Transposition of Testicle in Treatment of Hydrocele. (L'eversione della vaginale del testicolo nella cura dell'idrocele.) A. Cernezzi.

138. **Eversion of the Tunica Vaginalis in Treatment of Hydrocele.**—Cernezzi has applied the Longuet technic for extraserous transposition of the testicle in nineteen cases since 1903, bilateral in three, with prompt and permanent relief. He emphasizes the necessity for making the incision over the upper pole of the tumor as thus the lips of the serosa can unite better afterward and form the sheath for the cord. Also that a silk suture before the catgut suture holds the parts in place better. He also warns against the slightest unnecessary torsion of the testicle, and adds that it is unnecessary to drain.

Riforma Medica, Naples

October 9, XXVII, No. 41, pp. 1121-1148

139 Experimental Anaphylaxis from Gastric Juice in Diagnosis of Cancer. (Ancora sulla anafilassia da succo gastrico.) S. Livierato.
140 Experimental Research on Pharmacologic Action of Salvarsan. III. (Ricerche sperimentali sull-azione farmacologica del Salvarsan.) L. Ferrannini.

Ugeskrift for Læger, Copenhagen

October 12, LXXIII, No. 41, pp. 1485-1532

141 *Anatomic Conditions with Anemia and Other Diseases of the Blood. V. Ellermann.

141. **Possible Infectious Origin of Pernicious Anemia.**—Ellermann discusses the typical changes in the marrow in the long bones, the myeloid changes in the spleen and liver, the gastritis and the secondary fatty degeneration and siderosis or excess of iron. None of these changes is characteristic exclusively of progressive anemia and all of them may develop in consequence of the action of some toxin. The resemblance between the morbid anatomy of pernicious anemia and that of myeloid leukemia is striking. Another notable resemblance between them is in the remissions in the disease. Irregular fever may also accompany both these conditions and the prognosis is equally grave for both. His research on fowl leukemia has shown still further resemblance between the two and has demonstrated that the leukemic changes in the blood are not the essential feature of the disease as they were often lacking in the early stages and sometimes disappeared during the course of the disease, and in certain instances never developed at all, although the marrow, spleen and liver showed the characteristic changes. In other cases there was merely intense anemia and changes in the bone marrow. He has encountered also in the clinic these same three forms, namely, the true leukemic, the pseudoleukemic and the anemic. The last mentioned form has so many points in common with pernicious anemia that he is inclined to regard the latter as the extreme type of the former. Arnsperger has reported an epidemic of five cases of myeloid leukemia in a small district and five other cases in which the clinical picture seemed to be the same but no examination was made of the blood. Bie has also reported two cases of myeloid leukemia in a family and Weil and Gilbert have reported pernicions anemia in two brothers and the child of one, and Patek no less than five cases in one family. The general conclusion from Ellermann's research is that as an infectious origin is now accepted as possible for leukemia, especially the myeloid form, the same etiology may be accepted for progressive pernicious anemia. This assumption would explain the remissions and latent phases, as in malaria and syphilis; also that the only possibly efficient drug seems to be the parasiticidal arsenic, and the reason it proves ineffectual at times is because the parasites become proof against the drug, just as trypanosomes may become arsenic-proof. If the gastritis is assumed to be the first cause of the disease this does not explain the origin of the gastritis. That anemia can be an infectious syndrome is shown by Carré and Vallé's report in regard to a filterable virus as the cause of anemia in horses, and that of Trincas' for the anemia of dogs, while Ellermann's own research has demonstrated a filterable virus as the cause of fowl leukemia.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A Text-Book of Pathology. With a Final Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M.D., LL.D., Emeritus Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University, New York, and T. Mitchell Prudden, M.D., LL.D., Emeritus Professor of Pathology, College of Physicians and Surgeons, Columbia University, New York. Ninth Edition. Cloth. Price, $5.50 net. Pp. 1114, with 687 illustrations. New York: William Wood & Co., 1911.

Electricity: Its Medical and Surgical Applications, Including Radiotherapy and Phototherapy. By Charles S. Potts, M.D., Professor of Neurology, Medico-Chirurgical College, Philadelphia. With a Section on Electrophysics by Horace Clark Richards, Ph.D., Professor of Mathematical Physics in the University of Pennsylvania, and a Section on *X*-Rays by Henry K. Pancoast, M.D., Professor of Röntgenology in the University of Pennsylvania. Cloth. Price, $4.75 net. Pp. 509, with 356 illustrations. Philadelphia: Lea & Febiger, 1911.

A Handbook of Medical Diagnosis in Four Parts. I. Medical Diagnosis in General. II. The Methods and Their Immediate Results. III. Symptoms and Signs. IV. The Clinical Applications. For the Use of Practitioners and Students. By J. C. Wilson, A.M., M.D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, Philadelphia. Third Edition. Cloth. Price, $6. Pp. 1438, with 418 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

Diseases of Infants and Children. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, and Godfrey Roger Pisek, M.D., Professor of Diseases of Children, University of Vermont. Second Edition. Cloth. Price, $4.50 net. Pp. 636, with 181 illustrations. New York: William Wood & Co., 1911.

Orthopedic Surgery. By Edward H. Bradford, M.D., Surgeon to the Boston Children's Hospital, and Robert W. Lovett, M.D., Associate Surgeon to the Boston Children's Hospital. Cloth. Price, $3.50 net. Pp. 410, with 364 illustrations. New York: William Wood & Co., 1911.

Operative Obstetrics, Including the Surgery of the New Born. By Edward P. Davis, A.M., M.D., Professor of Obstetrics, Jefferson Medical College, Philadelphia. Cloth. Price, $5.50 net. Pp. 483, with 264 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Manual of Physiology for Students and Practitioners. By H. Willoughby Lyle, M.D., B.S., F.R.C.S., Assistant Ophthalmic Surgeon to King's College Hospital, London. Cloth. Price, $4. Pp. 747, with 135 illustrations. New York: Oxford University Press, 1911.

The Fourth Physician. A Christmas Story. By Montgomery Pickett. Illustrated by Gordon Stevenson. Cloth. Price, $1 net. Pp. 144, with illustrations. Chicago: A. C. McClurg & Co., 1911.

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ISTURBANCES OF RESPIRATION DUE TO NUCLEAR AND INFRANUCLEAR DISEASE *

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Among what may be termed the triumphs of modern nedical investigation, there are probably none more nteresting historically or more illuminating in their esults than investigations in external and internal espiration.

Although physiologists have greatly enlarged our iews and knowledge of the subject, respiratory phe-omena do not enlist the interest of clinical men so nuch as the growing knowledge of respiratory physiology varrants.

Physiology of respiration involves a number of probems, viz.: the lung as an aerating organ, the mass novement of blood, the partial pressure of carbon dioxid nd oxygen in alveolar air and circulating blood, roducts of metabolism and finally the nervous control f respiration which may be modified by alterations in he bulbar respiratory center cerebral cortex and pulonary branches of the vagus.

I propose to describe some alterations in the nervous ontrol of respiration which occur in several diseases we ommonly see, tabes dorsalis, sclerosis of the brain rteries, tuberculosis of the mediastinal lymph glands nd aneurysm of the first portion of the aorta.

Several years ago I read a paper before this Section n which were described some experiences with patients vho had incipient tabes. These patients exhibited grave ymptoms after receiving one-quarter of a grain of morhin hypodermically. The patients suddenly lost consciousness and ceased breathing for twenty minutes. During this period of unconsciousness with suspension f respiration there was such pronounced vasomotor elaxation in the arteries of the extremities that there vas a centripetal pulse in the veins of the hands which vas distinctly visible and palpable. Artificial respiration vas employed for twenty minutes when suddenly automatic respiration was resumed and with it consciousness eturned, the arteries and veins both contracted and the entripetal venous pulse disappeared. At that time I nade a careful search in literature to find some instances f death after small doses of morphin to see if some of hese cases might not be of the character I described. None could be found in literature but after the publicaion of the article I received several communications rom physicians who had seen such cases. One of them s of particular interest, as it ended fatally and suggests the probability of other unpublished cases. The case was reported to me by Dr. Poate of Black Creek, N. Y.

> The patient was a young man in the pre-ataxic stage of tabes who was given ¼ grain of morphin with 1/200 of sulphate of atropin on account of girdle pains. Forty minutes after the injection, the patient became unconscious and ceased breathing. The physician, who had left the house, was hastily summoned. Fully forty minutes elapsed from the time apnea and unconsciousness began until the physician was again in attendance. The patient's heart was still beating, but feebly and irregularly. Death occurred within a few minutes after the physician's return, so we can be sure the heart continued to beat for nearly three-quarters of an hour after respiration ceased.

This is the only case I know of the kind which proved fatal but, as five cases were privately reported to me directly after the publication of my article in 1907, it seems probable that among the unreported cases there are some which ended fatally. My own two cases and four of those reported by other physicians regained their tolerance for morphin after the tabes made further progress. I mention this point at present as it has some significance in common with other instances of apnea which have been ascribed to an elevation of the threshold of the respiratory center. I have seen several patients with cardiovascular disease who were greatly distressed with slumber apnea and waking hyperpnea early in the progress of their disease before air hunger from vigorous exercise during the waking hours made its appearance. And yet these same patients were not disturbed by slumber apnea a year later when the slightest muscular exercise was followed by distressing air hunger.

Some patients with cardiovascular disease develop Cheyne-Stokes breathing after a moderate dose of morphin. Other patients who suffer from Cheyne-Stokes breathing during their waking hours, or have their rest disturbed by slumber apnea and waking air hunger, seem to suffer less from the symptoms we associate with a high threshold of their respiratory center after the administration of morphin. This is contrary to our expectation if we are dealing purely with the sensitiveness of the respiratory center to the partial pressure of carbon dioxid and oxygen in the arterial blood. It is a common experience to see a patient with arteriosclerosis develop Cheyne-Stokes breathing immediately after a hemiplegia from arterial thrombosis develops and then recover from all respiratory symptoms as he recovers from his hemiplegia. Yet during all these periods there will not be the slightest indication of any change in the mass movement of blood.

A few years ago I saw a man 65 years old who had marked arteriosclerosis with a high blood-pressure, great cardiac enlargement and anasarca, whose chief distress was alternating apnea and hyperpnea. During the apneic periods, which lasted from thirty-five to fifty seconds, he became drowsy and

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when he was urged during the apnea to take a breath he would turn his head from side to side and make an ineffectual effort to breathe. He would lift the thoracic cage but did not open the glottis, as was apparent by the retraction in the suprasternal notch and the epigastrium and the absence of a respiratory murmur when the stethoscope was applied over the trachea. This man recovered from his Cheyne-Stokes respiration after the liberal use of nitroglycerin and caffein, although the anasarca was unchanged and the disease ended fatally two weeks later.

The slumber apnea seems to be associated with a light sleep in many instances, whereas, a deep sleep is undisturbed. All of these facts point to some influence on the respiratory center from the cerebral cortex. So it looks as though we are in many instances dealing with something more than an altered bulbar respiratory center.

During the past year Dr. J. J. R. Macleod and I have been making a series of observations on a patient with cardiopulmonary disease who is persistently cyanotic without dyspnea and in whom the alveolar air shows a content of carbon dioxid which ranges from 7 to 9 per cent., a percentage which no man in health can endure, yet this man always developed apnea from ten to twenty seconds as he would go into a doze while we were taking tracings of his respiratory movements in a pneumograph.

Unverricht[1] made similar observations in studying the relative effects of morphin and atropin on respiration. He saw some patients who lost their Cheyne-Stokes respiration after morphin was given. Unverricht thinks the periodic breathing sustains a certain relation to cortex excitation, as some of his patients had periodic breathing during light sleep and lost their periods of apnea in profound sleep. Unverricht says that in his animal experiments when sleep was induced by morphin or chloral a mild degree of narcosis was associated with Cheyne-Stokes breathing, but a larger dose of the drug caused the Cheyne-Stokes breathing to cease. He also mentions the fact that he has seen Cheyne-Stokes respiration appear in an animal from the mere procedure of exposing the brain.

That degeneration of the vagal nuclei play an essential rôle in apnea is well supported by pathologic evidences. But the kind of disturbances is not always the same. The case of paretic tabes reported by Egger[2] had persistent bradypnea (6 per minute) and would have apnea for one minute followed by three respirations during the second minute directly after a dozen deep respirations were rapidly taken. There was then a period of short apnea like the "hunting" of the respiratory center as described by Haldane. There was no alteration of apnea with hyperpnea when the patient was left to spontaneous respiration. That there was a heightened threshold to the respiratory center is apparent from the persistent bradypnea, and further reduction of the respiratory rate after the carbon dioxid was washed out of the blood by forced breathing. But that is a much simpler phenomenon than Cheyne-Stokes respiration in patients with arterial disease. And it also differs from the phenomenon of "hunting" after apnea has been induced in healthy subjects by prolonged forced breathing.

In the tabetic cases, we are dealing with a process which is limited to the bulbar nuclei and is not associated with disturbances in the higher cerebral structures, as we know occurs in arteriosclerosis and may play a part in experiments of forced breathing in healthy subjects.

Two cases of Cheyne-Stokes breathing from arterial disease are reported in Guys Hospital Reports.[3] Both patients were examined pathologically by Buzzard, who reported hemorrhages and marked nuclear degeneration in the dorsal nuclei of the vagus. Both these patients had high arterial pressure, cardiac hypertrophy and hemiplegia. In both patients the Cheyne-Stokes breathing was changed to a normal rhythm when oxygen was inhaled by using a mask but not when the oxygen was given through a funnel suspended over the face as oxygen is usually given. In my own experience, two such patients with hemiplegia changed from a pronounced Cheyne-Stokes to a normal respiratory rhythm when a good stream of oxygen was given through a suspended funnel. The change was very prompt. If we started the oxygen in the middle of the hyperneic period the succeeding apnea was abolished. From the physiology of external respiration we can understand how promptly the partial pressure of oxygen may be raised in the arterial blood and thus lower the threshold of the respiratory center. But this explanation either includes only a part of the process involved or different diseases of the respiratory center give varying respiratory symptoms. The changes of the respiratory rhythm which have been ascribed to some modification of the respiratory center cannot be explained purely from independent and reciprocal changes in the partial pressure of oxygen and carbon dioxid, so Haldane and Zuntz have offered the presence of lactic acid (which forms under deficient oxidation of tissues) as a third factor in causation of altered respiratory rhythm from deficient oxidation of the respiratory center. Possibly we may learn that deficient oxidation of the center and partial degeneration of the center will give different symptoms, but there remains much to be done in the way of clinical observation, physiologic experiment and pathologic studies before we can assign certain symptoms to physiologic and other symptoms to anatomic changes in the bulbar centers.

Enough has been shown, however, to clinch several practical points, viz.: (1) that the use of respiratory depressants must be employed with great caution when there is any reason for suspecting an anatomic degeneration in the respiratory center, and (2) that the use of oxygen inhalation will restore the normal respiratory rhythm when alternating apnea and hyperpnea are caused by deficient oxidation of the blood, as in mountain sickness, or when the same altered rhythm is associated with arterial disease. Thus far I have tried to show that impulses from the cerebral cortex may share in the respiratory symptoms which we have been in the habit of ascribing solely to changes in the bulbar respiratory center.

I now wish to describe some instances of disturbed respiration which originate from disturbed peripheral innervation of the lung. Symptoms may arise in several ways from this source. There may be a neuromuscular reaction as evidenced by spasm of the bronchioles resulting in pulmonary emphysema with great distress in breathing, i. e., genuine dyspnea attended with cyanosis from deficient lung ventilation, or the patient may have tachypnea without cyanosis and without impaired lung ventilation and without genuine air-hunger, although the respiratory distress is very severe.

The first instance of emphysema from this source I wish to describe was in a little girl 6 years old who had recurring attacks of emphysema from caseous tuberculous glands of the ediastinum. This child formerly had a chain of suppurating iberculous glands on each side of the neck from which the ars were very conspicuous along the anterior border of each ernomastoid muscle. For the year preceding the time I was illed to see the child she had been having attacks of asthma, hich would come on with great suddenness, last about half n hour and then cease as suddenly as they began. The tacks occurred only once in two or three months. During ie remaining time the child was regarded as being quite com-rtable, although she was recognized as poorly developed and ithout much endurance.

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[1] Unverricht: Centralbl. f. klin. Med., Supplement, p. 55, 1892.

[2] Egger: Jour. d. physiol. et path. gen., 1899, i, 68.

[3] Pembrey: Guy's Hospital Reports, lxi, 25.

As I saw the child she was cyanotic and extremely dyspneic. he dyspnea was expiratory and percussion showed that the ings filled the pleural sinuses. The pulse-rate was 120 and ie heart was not dilated. In the midst of a respiratory phase, ll traces of respiratory distress ceased so that within a few conds there was a transformation from great distress to com-lete respiratory comfort. The lower borders of both lungs scended three fingers' breadth; all sibilant râles disappeared his transformation was so sudden that it could not have curred otherwise than from some neuromuscular activity.

That vagus excitation can cause spasm of the bron-ial muscles and thus cause emphysema was clearly iown by Einthoven's[4] experiments which were con-rmed later by several observers who employed Eintho-en's methods.

After the emphysema subsided in this child the pulse-ite remained the same (120) and the patient remained osolutely at rest without any sign of discomfort. About iirty minutes after the emphysema subsided, death sud-enly occurred without a moment's warning. At the itopsy, the mediastinum was found completely filled ith caseous tuberculous glands. Both vagi were icluded in the midst of this inflammatory mass. lthough the vagi were not examined histologically the ross pathology and the character of the symptoms jus-fy a diagnosis of vagus neuritis.

Another case of similar character occurred at Lakeside Hos-tal two years ago, in a man who had an aneurysm of the rch of the aorta. Both vagi were firmly embedded in the riaortic tissue and showed by staining of a cross-section that iere was marked atrophy of the nerve elements in both nerves. his man gave a history of cough with dyspnea on exertion. ut until the day before he was brought to the hospital there id never been any severe respiratory symptoms. The dys-ica came on suddenly and with great severity, so that the tending physician described his patient as suffocating.

Physical examination revealed some striking inconsistencies. he patient was extremely dyspneic but the only assignable use for dyspnea was a moderate pulmonary emphysema. here was no pulmonary edema and no signs of bronchitis yond those which accompany the usual acute bronchial thma. There were no evidences of a severe disturbance in ie mass movement of blood, such as dilated jugular veins, igorged liver or edema. The systolic and diastolic arterial essure and the excursion of the arterial wall were consistent ith a good systolic output of the ventricle. The heart-rate as 120. It was, however, quite apparent that the man was iffering from an impairment of external respiration far eater than could be accounted for by the cardiovascular or ilmonary signs.

During the physical examination the area over the manu-ium was found quite dull and gave a distinct tracheal tone ith gentle percussion. Our interpretation of the case was ediastinal tumor with vagus disease. The patient died two ours after admission to the wards. The autopsy revealed an ieurysm of the ascending arch as large as a man's fist. Both igi showed the gross and histologic evidences briefly described. is true the man had an aneurysm, but aneurysm did not use his death. Death was due to vagus disease. The ante-ortem diagnosis of tumor with vagus neuritis was a correct iysiologic diagnosis but anatomically it was wrong.

Atropin sulphate 1/50 grain was given subcutaneously but did not affect the pulse-rate or the emphysema.

At autopsy the lungs did not reveal the slightest signs of atrophic emphysema or any other disease—a fact which confirmed the diagnosis of vagus emphysema.

It was unfortunate that oxygen was not given in this case, as its results would have some bearing on the relations between the vagi and the absorption of oxygen from the alveolar air. I think this is of importance in view of the difference of opinion which exists among physiologists as to whether the absorption of oxygen by the blood from the alveolar air is a purely physical or partly a so-called vital process. So far as my own observations go, dyspnea and cyanosis from vagus disease are intimately linked with a neuromuscular pulmonary emphysema.

The two following cases had no emphysema nor cyanosis nor extreme air-hunger, all of which characterized the two preceding cases of vagus disease. They had, however, extreme respiratory distress of quite a different character.

The first patient of this kind was admitted to Lakeside Hospital Oct. 21, 1910. He was brought to the accident ward with acute cardiac dilatation and pulmonary edema and extreme dyspnea. On entrance he was bled 20 ounces and 1 milligram of strophanthin was given intravenously.

Twelve hours later, when I first saw the patient, he was very comfortable. His personal history contained an account of an attack of articular rheumatism seven years before, since which time his physical endurance had been impaired. There was also a doubtful history of a syphilitic infection prior to the attack of rheumatism. The heart's area of dulness extended 15 cm. to the left of the median line in the sixth intercostal space and the right precordial border was 5 cm. to the right of the median line in the fourth interspace. The aortic area of dulness was 5 cm. to the right of the sternum at the right second interspace. The maximum systolic pressure in the artery was 152. The diastolic pressure was very low and the auscultatory signs confirmed an insufficiency of the aortic valves.

A skiagram showed a marked dilatation of the first portion of the arch of the aorta, which was the most essential pathologic lesion in this patient.

After the patient had been one week in the hospital and seemed comparatively comfortable, he began having attacks of dyspnea which lasted from a few minutes to several hours. The resident physician gave him injections of morphin (when the attacks were prolonged) but after a few days the attacks came more frequently and the morphin gave him unsatisfactory relief. These attacks of dyspnea occurred between November 5 and 15, i. e., from the sixth to the fifteenth day after admission to the ward.

November 15, the patient had an attack during the ward visit while we were making some observations on his condition. The man was breathing twenty times a minute and had a pulse-rate of 80. While I had my finger on his pulse the rate suddenly dropped to 40 per minute. By the time the new rate of 40 had progressed for about four cardiac cycles, very rapid breathing commenced. The rate of respiration was suddenly increased to 60 per minute. The patient had a tachypnea and not a hyperpnea. The thorax never attained the expiratory phase. The excursion of the thorax was always far above the abscissa. During the bradycardia with tachypnea, the blood-pressure, systolic and diastolic, remained unchanged. There was no change in the volume of the heart. The jugular veins were not dilated nor did their pulsations change and there were no signs in the lung nor in the heart to suggest pulmonary stasis. There was no cyanosis. The patient did not offer any sign to suggest an impairment of the mass movement of blood nor any transient change in the lung or bronchioles to impair the lung as an areating organ. Indeed, it was particularly noted there were no evidences present which we associate with emphysema.

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4. Einthoven: Arch. f. d. ges. Physiol. (Pflüger's), 1892, li, 367.

When the patient was asked if he was short of breath his reply was "yes." "But do you feel air hunger as one experiences after a long hard run?" was asked. "No," was the patient's reply, "I feel very much distressed and a strange feeling of pressure seems to strike me here (pointing to the midsternal region) which compels me to breathe rapidly."

The paroxysm of bradycardia naturally suggested the use of atropin. We were gratified to find the bradycardia and tachypnea would both subside in ten minutes after the hypodermic injection of 1/100 grain of atropin sulphate. This was given routinely morning and evening, after which treatment there was no return of the paroxysms. The patient had relief by atropin from several paroxysms before the routine treatment was adopted.

That bradycardia of vagal origin should be relieved by atropin is familiar enough, but why should tachypnea be arrested by atropin? I find a report of S. Baglioni[5] which has an interesting bearing on this experience. Baglioni discusses the experiences of his predecessors in experimenting on the pulmonary branch of the vagus, all of which seemed to prove that excitation of the pulmonary vagus branch had two effects: one was to arrest the heart-beat more promptly and with a lesser stimulus than when the central end of the vagus trunk was excited, and the other effect was an arrest of respiration.

Baglioni, however, found that what was regarded as apnea was in reality a very rapid tachypnea which played high above the abscissa in the tracings. In reviewing the tracings made by his predecessors he calls attention to the very significant fact that their tracings show apnea during the inspiratory phase whereas apnea always occurs in the complete expiratory phase.

In this patient we have an anatomic lesion, i. e., aneurysm of the first portion of the arch of the aorta which is very favorable for excitation of the pulmonary branch of the vagus. The tachypnea (without air hunger or circulatory or pulmonary impairment) came on coincidently with bradycardia and both were relieved by atropin in ten minutes after hypodermic injection.

March 11, 1911, we received another patient in the women's ward who confirmed the experience above described in a very interesting way. The patient was 43 years old. She gave a history of syphilis, the physical signs and skiagram revealed an aneurysm of the first portion of the arch of the aorta.

After the patient recovered from very severe symptoms which led to her being brought to the hospital, she commenced to have paroxysms of tachypnea. The respiratory rate was usually from 18 to 20 per minute. The attacks of tachypnea would come on with great suddenness without cyanosis or any signs of cardiac or pulmonary impairment, and unlike the former case, the tachypnea was not associated with any change in the heart-rate.

The description of the attacks which was recorded by Dr. Taylor (resident physician) is particularly interesting, as it accords so well with Baglioni's account of the results from excitation of the pulmonary branch of the vagus. February 15, four days after admission, the notes read as follows:

"Patient had a second attack of tachypnea this evening. When first seen the respiration was 36 per minute and the heart-rate 88. The air hunger consists in an inability to get rid of her air. She would take a deep inspiration and then hold it, at the same time giving the impression of numerous small respiratory efforts at the height of the inspiratory phase. Then with extreme effort, using all the muscles of expiration, she would expel the air from her lungs, only to take another deep inspiration and repeat the performance."

Atropin, 1/50 of a grain, relieved the distress in ten minutes. This patient had three such attacks which were relieved in ten minutes by atropin.

I have been able to find only one reported case which is like these last two described cases. Pal[6] describes the case of a young man with severe mitral stenosis in whom frequent attacks of tachypnea occurred. The respiratory rate would vary from 50 to 120 per minute. Inhalations of oxygen gave no relief. Pal says nothing about the use of atropin. His patient had tachypnea without slowing of the heart-rate. At the autopsy, Pal found the left vagus, at the hilum of the lung, was imbedded in a mass of enlarged lymph glands. The vagus was much thickened in this location. Unfortunately, through some misadventure, the specimen was spoiled so that no histologic examination of the nerve could be made.

1903 E. Seventy-Fifth Street.

ABSTRACT OF DISCUSSION

Dr. Yandell Henderson, New Haven, Conn.: So far as I know this is the first paper on the subject ever presented in America. During the past five years there has been an immense amount of interest shown by clinicians in the study of the circulation. The clinical aspects of arterial pressure have been studied especially by the methods of the physiologic laboratory. But a similar study by precise methods of the equally important subject of the clinical aspects of respiration has been neglected. Dr. Hoover's paper is the first step into this rich and important, yet unworked, field of clinical investigation.

One of the important points to be kept in mind is the fact that recent progress in physiology has shown that lack of oxygen is not a direct stimulus to respiration. It is not a lack of oxygen which causes us to breathe but the driving force of the carbon dioxid which is circulating in the blood. If the tension of carbon dioxid falls, there is a cessation of respiration until the reaccumulation of the necessary amount of carbon dioxid in the circulating blood again stimulates the center. In conditions of hyperpnea during and after muscular exercise, carbon dioxid, not oxygen, is the regulating factor of the amount of air that enters and leaves the lungs per minute.

There is, however, a complex reflex mechanism also involved in respiration. It determines the form of breathing—whether the breaths shall be shallow and rapid, or deep and slow. This reflex mechanism is similar to that which controls the finer movements of the legs in walking. Some of the disturbances of respiration which Dr. Hoover has described are clearly ataxic. They are wholly analogous to the phenomena of locomotor ataxia. It is interesting to notice, as Dr. Hoover has pointed out, that syphilis causes the same type of disturbances of respiration as of walking.

Another point to which especial attention should be called in connection with Dr. Hoover's observations is that Cheyne-Stokes respiration is really not a pathologic phenomenon. It is frequently met with in perfectly healthy human beings. The majority of healthy persons can readily induce in themselves a period of intermittent breathing; a couple of minutes of voluntary forced breathing is usually sufficient to start it. I have repeatedly noticed in healthy individuals, who have lain down to take a nap after a hearty meal, that this type of breathing comes on. During one of the apneic pauses the person will suddenly start in his sleep and become wide awake. This, I think, is essentially the same phenomenon as the sudden terrified awakening of Dr. Hoover's patients. They feel that they have stopped breathing. If the apneic stage has been prolonged the dyspnea would, of course, be proportionately violent. The probable explanation of this is that in such patients as Dr. Hoover has described the sensitiveness of the respiratory center is subnormal. It is probably further reduced below normal as the subject falls asleep. Accordingly the amount of carbon dioxid in the blood is insufficient to maintain breathing. The subject therefore stops breathing until half asphyxiated for lack of oxygen; then he suddenly awakes. For the relief of this condition I would suggest that before the patient tries to go to sleep a paper bag, or a mask connected with an open tube of some length (say a piece of bicycle tire for example) should be held over the patient's face. Under these conditions a slightly excessive amount of carbon dioxid will accumulate in the person's lungs and blood. This amount would probably be sufficient to keep the respiratory center at work when the subject falls asleep. The occurrence of apnea and the terrified awakening would thus be prevented. Dr. Hoover's paper is certainly a valuable contribution to the physiology of respiration.

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[5] Baglioni, S.: Arch. Ital. de biol., 1909, lii, 236.

[6] Pal: Wien. klin. Wchnschr., 1906, Nos. 47 and 48.

THE PROPER OPERATIVE PERIOD AND METHODS OF DRAINAGE IN PELVIC INFECTIONS *

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In acute pelvic infections, the mature judgment gained by long experience as to when and how to operate is of paramount importance. Rules of procedure may be laid down, but their proper application is a matter of personal equation.

To operate during the storm of pelvic flare-up frequently spells disaster. Nature must be given an opportunity to corral the infection by adhesions, and to develop immunity against the specific infection. However, if the patient is seen early and the diagnosis is positive, it is good practice to operate immediately. A history of previous attacks will aid materially in determining the course to pursue. Evidences of beginning general peritonitis, such as very rapid pulse or hyperpyrexia, with general abdominal rigidity and tenderness, are counter-indications to early surgical interference.

Cases which develop cellulitis accompanied by a full round cul-de-sac are best treated by a posterior vaginal puncture and a double drainage tube inserted for a few days. This procedure usually gives immediate relief, and entails no surgical risks. Half of these cases so treated would result in apparent cure, and further operative intervention is deemed unnecessary or is refused by the patient.

A large percentage of acute pelvic infections are gonorrheal in origin, and are best treated by palliative means. I believe that experience has taught the profession that gonorrheal infection, in a measure, runs a definite course. Early surgical procedure does not modify the course, and may only serve to spread the infection. Walling off the infected area and the production of active immunity seems Nature's method of handling the situation. The surgeon can do no more.

If there is a history of recurrent pelvic infections, more radical measures are called for than puncture and drainage. If the tubes remain enlarged and tender, and the patient complains of constant pain of greater or less severity, a radical operation should be advised. It can be performed advantageously in the interval, never during the acute attack, except when seen early. I advise waiting until three weeks after the subsidence of all acute symptoms, as evidenced by relief from pain and tenderness and the return of normal pulse and temperature. This will permit time for the absorption of exudate, thereby lessening the amount of adhesions. The inflammatory wall being stronger minimizes the danger of dissemination of infection.

In all chronic cases an operation is indicated when there is evidence of destruction of the tubes. If repeated acute attacks occur, an interval operation is safest and most advantageous. I have seen many patients treated by palliative means for long periods of time—tamponing, douching, suppositories, pessaries, posture, etc.—and receive temporary relief only.

In all these cases a long history of oft-repeated paroxysms could be elicited. These patients could have been placed in practically a normal condition if an early, careful, radical operation had been performed. During this long delay in resorting to rational surgical treatment, the repeated acute congestions and chronic inflammatory processes result in much gross pathology.

This physical and nervous distress causes the patient's nervous equilibrium to become greatly disturbed, resulting in various neuroses and occasional psychoses. And even after a radical operation these may persist for long periods of time, as it is well known that nervous tissue being the most highly organized, is the slowest of repair. This is but another very tangible and forcible argument for early causal surgery.

There are certain principles in drainage which are almost axiomatic, and failure to comply with them results in the patient's detriment and the surgeon's discomfiture. As an example: The lowest level of a cavity should be the highest point for the insertion of the drainage. In other words, a cul-de-sac drain should always be selected in preference to a drain through the abdominal wound. The only exception is that of placing a small wick as a drain in the abdominal incision as a prompt indicator of hemorrhage following myomectomy.

A double rubber tube, by offering a good deal of resistance in order to establish free drainage, is the best drain for a pus cavity. Double tubing allows of free irrigation with reflex flow, and the drain can be kept open more readily if two tubes are used. In cul-de-sac drainage for cellulitis, take a piece of tubing of the required length and bend it on itself at the middle. Place a linen stitch near the two ends and another near the middle to hold the tubes in apposition. This forms a smooth blunt end for insertion into the cul-de-sac. Then make a good-sized opening on the outer sides of the tubes near the point of flexion. The Fowler position very materially aids pelvic drainage.

In cases in which drainage is indicated following a radical operation for pyosalpinx, I prefer an iodoform gauze drain. The drain should be at least one by one and one-half yards in size. An assistant inserts a long forceps per vaginam and holds it firmly in the posterior cul-de-sac, then cuts down on the point of the forceps, when it is forced through and grasps the end of the gauze. Traction is made until the gauze appears at the vulvar orifice. The remainder of the drain is placed in folds posterior to the uterus. This disposal of the gauze facilitates free drainage and subsequent removal. This method of drainage is many times a life-saving agent, particularly in acute cases in which vitality is at a low ebb and resistance to infection and toxins is almost *nil*.

In cases of pyosalpinx of the chronic type in which there has been no evidence of an acute exacerbation for a long period, and the patient's condition is good, no drainage is needed in case of rupture during the operation. The contents of the tube are usually sterile. However, if the patient's vitality is below par or there is the least suspicion of infectivity, it is good practice to insert the drain. The method is very simple and easily executed, and has not, in my hands, added gravity to the case in a single instance.

It had been my custom to remove the gauze cul-de-sac drain entirely at one sitting after five days. The plan advocated by Wertheimer's assistant appealed to me and

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

I determined to try it. In about fifty consecutive cases I followed his technic, i. e., removal of one-half in five days, one-half of the remainder on the seventh day and the balance on the ninth day. In that series of cases about 90 per cent. developed infection of the abdominal wound, and I abandoned the method.

In my judgment, the infection is caused by a collection of the exudate above the gauze. As the gauze became saturated with exudate, drainage was impeded or entirely stopped, and before the gauze was entirely removed, sufficient backing up of the drainage content caused infection of the abdominal incision. By complete removal at the end of five days this danger is averted. It was further noted that the cases drained much longer when treated by the three-step method, than when the drain was entirely removed on the fifth day.

Since returning to my usual method of removing the gauze on the fifth day, I have had but a single case of abdominal wound infection in about fifty cases. The cavity was much more rapidly obliterated and the infection more quickly subdued.

The administration of a little nitrous oxid gas during the removal of the gauze drain is very advantageous. While I have removed the gauze without an anesthetic, patients have complained so bitterly that it has become my routine practice to induce partial anesthesia.

CONCLUSIONS

Where early positive diagnosis is possible in acute pelvic infections, especially with history of recurrent attacks, early operative interference is good practice.

Evidence of beginning general peritonitis is a positive contra-indication to surgical intervention.

Pelvic cellulitis after localization is best treated by vaginal puncture and drainage.

Palliative treatment of gonorrheal infection during the acute stage, and radical operation when gross pathologic conditions present themselves, is the routine treatment.

Interval operations are advised in the chronic form with acute exacerbations.

In all chronic cases an operation should be done when there is evidence of destruction of the tubes. The sooner done the more likely it is to avert neuroses and psychoses.

The lowest level of a cavity should be the highest point for the insertion of the drainage.

A double rubber tube is the best material in a pus cavity.

Iodoform gauze drain is best where drainage is indicated following a radical operation for pyosalpinx.

Gauze drain should be removed after five days. Three-step removal of gauze causes unnecessary torture and results in infection of the abdominal wound.

ABSTRACT OF DISCUSSION

Dr. Frank T. Andrews, Chicago: I think that perhaps ninety-eight or ninety-nine out of every 100 abdominal wounds that one makes should not be drained at all. Drainage is almost never necessary in the drainage of the abdominal cavity for pus tubes. You put the hand in the cul-de-sac of Douglas, rupture the tube and the pus pours out and soils the field of operation. If you wipe that pus out you do not have to make a toilet of the peritoneum, as we used to speak of it, but you get most of it out, close the incision and the patient gets well. If you drain you go to more or less extra trouble and there is no use in it. Almost all of these pus cases have gonorrhea for their inception; not all. That gonorrhea runs a course in the vulva, shows in the uterus and causes the pus tubes. In time that pus becomes sterile, if it is purely gonococcic pus; or, what is more apt to happen, it becomes a mixed infection, not because the infection is thrown in as a mixed infection, but there are microbes present—the streptococcus, staphylococcus, colon bacillus, the gonococcus—all in that tube, and the gonococcus is the thing that gets out first. If you wait long enough you get sterile pus. I do not like to operate within a very short time—two or three weeks. I prefer to wait. What Dr. Bowers calls an "acute attack" simply means a rupture of the tube and a little extension in the peritoneum. Every pus tube patient gets these ruptures of the sac; that is the soiling of the peritoneum. You never have a patient with a pus tube die of acute peritonitis. Nature throws pus out into the peritoneal cavity, and every time the patient gets well. The only excuse for drainage is the fear that you may have soiled the patient with your own hands.

Dr. Bowers, Dayton, O.: It has been my experience—it may have been the fault of my technic—to see cases in which the pus infection has caused repeated attacks. If you let it absorb you are much more likely to have acute infection than if you put in a drain. There is no use in saying that the pus does not cause infection and that the patients do not die, because I have had this happen and have observed it in other operative cases. Probably in one case in fifty I use the drain I do not use it promiscuously. No one is more afraid of drainage than I am, but I would rather leave in a drain than let the patient die. The drain does not complicate the case in the least. Those cases will cease draining in four or five days after the withdrawal of the drain. Before the patient gets up the cul-de-sac is closed. Another benefit is that in the cases of excessive adhesion you keep the clean gut out of the soiled field, which lessens new adhesions. I have had less infection of the abdominal wall in cases which are infected and a drain used.

TWO YEARS' EXPERIENCE WITH VACCINES IN PELVIC INFECTIONS *

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In this brief summary on the value of vaccines as an adjunct in the treatment of puerperal and non-puerperal pelvic infections, I shall attempt to describe the class of cases in which the staff of Long Island College Hospital have found vaccines to be of therapeutic use. During our three years' experience, vaccines have been used in almost every case of septic pelvic infection, which has occurred in my several obstetric and gynecologic services.

We have been able, through the courtesy and cooperation of our pathologic department, to make the necessary blood-examinations throughout the entire course of the vaccine treatment, and to study the blood-picture as it appeared before and after each vaccination; so I feel that, while this contribution is but preliminary to a more extended trial, it is our duty to give to the profession at large such data as we have gathered. So many prominent gynecologists speak of vaccine therapy, only to condemn it as useless and unnecessary, that many of the profession, instead of giving it its full clinical value, have come to look on it as a fad of the laboratory experimenter.

It is only by the reports of those of us who have had considerable experience in the use of bacterial vaccines checked by the proper blood-examination before and after each vaccination, that reliable data can be amassed. In my clinics we have applied the injection of bacterial vaccine in every septic case, irrespective of the time at

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

which it was seen, just as we take advantage of the Fowler position in every case of pelvic sepsis.

Our experience convinces us that, while it is a mistake to imagine that we have in bacterial vaccines a panacea for all infections to the exclusion of surgical drainage and general supportive measures, vaccine therapy has a place and serves a distinct purpose as an adjunct to the established forms of treatment. Our experience includes thirty-one patients suffering from streptococcic metritis, twelve of staphylococcic bacteriemia, twenty-eight of streptococcemia, thirty-seven of thrombophlebitis of the pelvic or femoral veins, thirteen of infected pelvic hematocele, sixteen of acute streptococcic salpingitis with peritonitis, fifteen of acute gangrenous appendicitis with peritonitis, forty-eight of colon bacillic and mixed pyelitis, simple and complicated with pregnancy, eleven of pelvic cellulitis due to mild staphylococcic and streptococcic infections, fifteen of pelvic abscess and two of mastitis, besides several others due to pulmonic conditions following from infected foci in the pelvis.

When the human organism attempts to overcome an infection, whether it be puerperal or non-puerperal in its origin, the battle against the bacteria and their toxins is waged by Nature, by the production of certain substances in the serum of the normal blood, known as bactericidal substances, that kill the products of these bacteria. There are also present in the blood, opsonins, which combine with the bacteria themselves and so alter them that the phagocyte can destroy them, and finally, the human organism further protects itself by the elaboration in the blood-stream of certain antitoxins, specific antibodies, which combine with and neutralize the toxins. The streptococcus, staphylococcus and gonococcus are little, if at all, affected in their activity by the bactericidal substances, but are readily opsonized and ingested by the phagocytes; consequently, if we are to carry out the processes of Nature in combating local or general infections, it is necessary to increase the phagocytes, for phagocytosis is one of the cardinal factors in producing an artificial immunity. This can be done by bacterial vaccines, if these vaccines are but used early enough in the septic process. It is when the process is local that most can be expected from vaccine therapy.

In the few cases in which we have failed to produce any degree of artificial phagocytosis by the injection of vaccines, a bacteriemia of virulent type has existed for some time prior to instituting treatment. We have further found that in a large proportion of infections, even when the clinical symptoms have shown severe manifestations, the blood-culture was sterile or that it necessitated repeated blood-cultures to isolate the organism in the blood. While theoretically it is never wise to begin treatment by vaccine injection until the organism producing the infection has been isolated, we have found that were we to depend wholly on the demonstration of the infection in the blood, much time would be lost before the administration of the vaccine. We have therefore depended largely on the culture taken from the cervix, from the interior of the uterus, from the pus or serum evacuated at the time of operation, to determine the nature of the infection.

Autogenous vaccines of a single strain have given us unreliable reactions. This, I think, can be explained by the fact that the coccus is attenuated in its strength and, after it has produced its first reaction, the leukocytes become more or less accustomed to the particular variety of coccus, and are less liable to effect a defense than when a vaccine of polyvalent strain is introduced.

The mixed vaccines of reliable laboratories have given better results than when a single variety was used. This has been shown repeatedly in the blood-picture, when an autogenous vaccine of single strain used in large doses, even up to 500,000,000, has failed to increase the leukocyte-count or diminish the polynuclear percentage, the mixed vaccines of several strains have promptly produced a marked leukocytosis. Even colon bacillus infections, such as the infection of a pelvic hematocele by the colon bacillus, have yielded more promptly to mixed vaccines of polyvalent strains than when a single autogenous germ has been used.

One characteristic which has been noted throughout all of our experience is that, even before any definite effect has been noted on the temperature, the well-being of the patient has seemed to be improved by vaccine injection. The dosage has been a matter of considerable experimentation.

It is almost impossible for the ordinary physician to figure out the opsonic index of the individual patient under his care, but it is very simple for him to determine the necessary dosage by making blood-counts and estimating the polynuclear percentage before and after the injection. It is our custom to examine the blood from four to six hours before vaccination is made; we then begin with comparatively small doses, 25,000,000 to 100,000,000, and eight hours later reexamine the blood. This shows us whether or not the dose given has been sufficient to change the leukocyte-count; if it has not made any change, the injection is repeated on the next day in larger dosage; if, on the other hand, there has been a marked rise in the number of leukocytes, or there has been any change in the polynuclear percentage, we wait for the beginning of the negative phase before repeating the injection, and when it is repeated the dose is doubled or trebled.

The foregoing suggestion has been demonstrated to be of greatest value when infection is due to the streptococcus. In mixed infections or in colon bacillus infections, we have been in the habit of giving an initial dose of from 200,000,000 to 250,000,000, as a hyperbacteriemia, resulting from the patient's incompetence to produce his own antibodies, is less liable to occur when the infecting organisms are of low or of mixed variety.

After these general considerations, it may be of interest to note the special effect of vaccine therapy in each of the several classes of cases that have come under our observation. Thirty-one patients with streptococcic metritis of septic origin, following abortion, labor or intrauterine instrumentation, were treated by injection of bacterial vaccines. In all a marked increase in the leukocytic resistance of the patient was noted immediately after the injection. Three patients died of general peritonitis, ten developed a streptococcemia, which cleared up under the continued use of polyvalent strains of streptococci.

Of the twelve patients with staphylococcic bacteriemia, eleven recovered under the vaccine treatment alone. The one fatal instance is of special interest as it occurred after a normal labor in my hospital service, in which the house surgeon, after waiting an hour and a half for the third stage to terminate, removed the placenta from the interior of the uterus. This removal was done with the gloved hand.

The patient at the time of delivery had a hemoglobin of 39 per cent., a white-cell count of 6,000 and a red-cell count of 2,100,000. Within forty-eight hours her temperature rose to 105 F. and continued to range between 100 and 106 F. for thirty-two days, making marked and sudden remissions two and three times daily. No local focus was ever demonstrated before death or at the autopsy. Staphylococci in large numbers were isolated from the blood. Autogenous, stock and mixed vaccines and serums were used repeatedly and continuously, without any effect on the leukocytosis. The blood-count steadily decreased and the patient died of a complicating pneumonia.

Of the twenty-eight cases of streptococcemia, six ended fatally. The patients were all very sick and the infection well developed before their admission to the hospital. It was noted in these cases, in which the streptococcic vaccine of an autogenous strain was used, that the leukocytic resistance which was produced was much less positive than when polyvalent stock or mixed vaccines were used.

In the thirty-seven cases of thrombophlebitis of the pelvic and femoral veins in which bacterial vaccines were used, we believe that we have demonstrated that the thrombophlebitic extension is arrested and that the recovery is hastened by the use of vaccine therapy. In all of these cases we have used the mixed vaccines of polyvalent strain, such as suggested by my colleague, Prof. J. M. Van Cott of the Long Island College Hospital. The effect after injection in this class of cases has been almost miraculous. The temperature has promptly dropped after injection, the well-being of the patient improved and the pulse correspondingly strengthened.

Mixed vaccines were again used with noticeable effect in thirteen cases of infected pelvic hematocele following undiagnosed or neglected ectopics. Here again the effect of vaccination on the character of the drainage was promptly noticed. How much vaccination has accomplished in the management of the sixteen cases of acute streptococcic salpingitis in which vaccines were used is not definitely determined, for the patients were treated, not only with vaccines, but with the Fowler posture, starvation, the Murphy drip, etc. We have noted, however, that injection of the mixed vaccines in this series seemed to produce a more prompt and a higher leukocytic resistance than was noted in a corresponding series in which no vaccines were used.

Again, in acute gangrenous appendicitis with peritonitis, fifteen cases of which are included in this report, the vaccines have been useful as an adjunct in the individual defense, but we feel that it was the surgical methods rather than the vaccines that resulted in these recoveries.

Of the forty-eight cases of pyelitis included in this series, fifteen were complicated with pregnancy, two patients aborted spontaneously, one abortion was induced and the remaining patients were treated by posture, the copious ingestion of water, the free use of hexamethylenamin and vaccination with the mixed vaccines of the colon bacillus, the streptococcus and the staphylococcus. All the patients recovered.

The effect of mixed vaccination was very impressive and stands in marked contrast to vaccination in pyelitis, when said vaccination was made with the colon bacillus alone. In all, the temperature improved within twenty-four hours after the first injection and in but six cases was there any rise after the second injection. It is a fact that colon bacillus could be demonstrated in the urine for a considerable period after all general symptoms and local tenderness had subsided.

The eleven patients with pelvic cellulitis who were treated by vaccination in conjunction with the Fowler position, ice and an enema, all recovered, but showed no special changes for good or bad, either in the blood-picture or in the clinical evidence which could be attributed to vaccination. This also holds good in the fifteen cases of pelvic abscess, in all of which the treatment was incision and drainage, in conjunction with vaccine therapy.

In contrast with these last two classes of cases, I want to mention two cases of parenchymatous mastitis. In each, stab-wound discharge had been repeatedly made by the attending physician without avail. In both of these cases injections of mixed streptococcic, staphylococcic and colon bacillic vaccines, were used, which had a most marked effect on the local condition in changing the character of the discharge, diminishing the glandular infiltration as well as reducing the temperature and improving the pulse.

In this summary of our experience we must admit, biased as we were against vaccines, that in thrombophlebitis, in colon bacillic and mixed pyelitis, and as an adjunct to incision in mastitis, vaccines have proved their value beyond question.

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ABSTRACT OF DISCUSSION

Dr. F. T. Andrews, Chicago: I would like to ask a few questions; for instance, the laboratory work and the work of Dr. Polak's predecessors, on which he founds his own work, have gone to show that it is a dangerous proposition to use vaccine in cases of acute infection. Acute infections are not the kind of cases that Wright indicates, yet Dr. Polak seems not to hesitate to include the acute with the chronic. Another question: How great is the local reaction at the seat of the lesion, not the seat of injection? We have always been taught that the immediate effect is to increase the local inflammation very much. It seems on that account also a reason that we do not dare to do this thing, and if we dare, we all want to do it. He speaks of three deaths from streptococcic infection; were those acute cases or chronic?

Dr. John O. Polak, Brooklyn: The acute cases in the very early stage are favorably affected by vaccine. Where there is a distinct bacteriemia with very little leukocyte defense in the acute stages, I think that vaccines will decrease rather than increase the resistance of the patient. There are very few bacteria to each cubic centimeter of blood withdrawn and sometimes even these are lost. Six examinations were made on one patient with a virulent infection and I did not succeed in getting the bacterium until the last culture. Take the septic abortions, of which we have a large number, and treat them with the usual local procedure and there is immediately the exacerbation of temperature from manipulation. Now if we give a dose of mixed vaccines we do away with the exacerbation and the temperature continues along without the elevation we formerly got from manipulation. I have no fear in using it in acute stages when it is used early enough. Unless we do that, it should be used in small doses. In a case of septic endocarditis with puerperal sepsis with streptococcic infection, the patient came in with a leukocytosis of 4,000; polymorphonuclears, 91 per cent. She was turned over to my service by the medical men and watched throughout her treatment. I began with injections of 10,000, increasing to 25,000 in six-hour injections instead of the heroic dose advocated by so many. I could see after the second injection a marked increase in leukocytic count. I continued the injections until the leukocytic count was very high and the patient showed a corresponding clinical improvement. This was the only case of extreme virulence which showed such marked reactions as to be definitely apparent in the blood-picture. The local reaction has been absolutely negative. I think vaccine adds to the defense after local reaction has been established by Nature. In exudate cases, after everything has quieted down, if we continue the vaccine we get exacerbations. The three streptococcic deaths were in puerperal and miscarriage cases. I get these patients, as a rule, about four or five days after the confinement or miscarriage. These cases are usually injected within the first week.

HE PROBLEM OF STATE CARE OF DRUG AND ALCOHOL HABITUES *

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Whenever a problem concerning the body politic or e stability of society or its well-being presents itself the general public for solution, that general public is its interest aroused and held by sociologic societies, vic and women's clubs, pulpit speakers, chambers of mmerce, newspapers and innumerable other agencies. his combined public interest points the way to the verning civic bodies and helps them to a greater or sser degree in the matter of arriving at the most satis- ctory solution.

Whenever a problem of public hygiene and health hether of white plague or black or red, whether of eningitis or acute infantile paralysis, confronts the inds of the public, that public turns instinctively to e opinions and plans of the medical advising and verning bodies for advice and direction.

In the matter of the first problem, leadership is ver lacking; leaders are not slow in collecting in their ake a sufficient following to lend weight and strength their investigations and conclusions.

In the problem of the second sort, the workers in the ld seeking the solution present less diverse types than the first. It usually rests with men whose minds are epared by special education, by professional training d the instinct which develops with such training, to ek the basic cause of the difficulty. This located, the edical profession has never been averse to pointing rectly to the answer.

We are coming now to a third type of problem, viz., at problem which presents a civic and politico-eco- mic side on the one hand and a distinctly medical side the other. In the consideration of one of this type, have the necessary coordination of the lay or purely vic organizations and the medical bodies which are ore or less exclusively scientific. Each, strong in its n field, is prone to revolve in the circle of its own ken d in the end the scientific man must invade the field the civicist; that is, he must trespass on ground thout the scope of his own direct work, in order to ing the results of his own investigations to a practical monstration.

Sometimes in the solution of all three types of prob- ms, thinking, conscientious men are attacked, their vestigations are interfered with and belittled, and eir conclusions are assailed. This especially applies those cults and isms which approach any conclusion the legitimate medical profession as one prompted by lfish interest and worthy of attack. However, these tacks have their virtues, for they constitute a "prov- g by fire" which makes for more thorough investiga- on. At any rate, it has a more salutary influence than s the deadly indifference to both investigation and nclusion, which so often is encountered in the con- leration of any question which is really stupendous d far-reaching.

While all of this is trite and savors much of plati- de, it is the history of the lay, civic and medical con- leration of the disease, the neurosis, the habit, the ime—whatever one wishes to call inebriety.

The medical profession has long called this incubus a sease, while the general public has looked on it merely as a vicious habit due to the wilful immorality of the habitué and there remains in the mind of the public the almost ineradicable idea that if this is a disease it is incumbent on the medical profession to cure it. We have pointed the way, but because of the unbelief of much of the public and the limitations of the medical man in the course of his treatment, we have been and are, in the main, unable to answer to the challenge: "Cure."

With the limitations placed on us, and the hopeless indifference of the public both in private and civic capacity, the majority of medical men have tacitly acquiesced in the *laissez-faire* policy which has hemmed this subject about since cognizance has been taken of the futility of the usual police court dealing with the inebriate.

Every writer on this subject prefaces his remarks with a definition of the condition and does what he can to make deductions as to the pathologic states and their needs. The first legislation on the subject was the Inebriates' Act of 1879 in England. In a footnote in the first report of the Inspector for Ireland for 1903-1904 (p. 16) the following comment is made:

> "'An habitual drunkard' (or inebriate) is defined under the Act of 1879 as meaning a person who is, by reason of habitual intemperate drinking of intoxicating liquor, *at times* dangerous to himself or herself or to others or incapable of managing himself or herself or his or her affairs."

Dr. Irwin H. Neff in a paper before this section last year read six conclusions which, in his own words, "may be considered as an attempt to establish a clinical entity for inebriety."

I will quote only the first:

> "Inebriety is an expression of nervous weakness or nervous instability; used in the simplest sense it could be called a psychoneurosis, many cases showing symptoms which are found in neurasthenic states and allied conditions. Addiction to alcohol is a symptom of an unstable nervous system, and the contrary view, expressed by laity, is not justified by clinical observations or experience."

Inasmuch as the first serious attempt to deal with the question was made in England, a few words on the working of the inebriate law there will not be amiss.

INEBRIETY LEGISLATION IN ENGLAND

After thirty years of more or less effective legislation in England, the Home Secretary desired a report from a committee appointed to investigate workings of the Inebriates' Act. The committee was appointed in 1908, and consisted neither of agitators nor officials concerned in the administration of the acts, but of magistrates, members of Parliament and representatives of the medical profession. During this hearing before the committee, the following facts were brought out:

> "During the years between 1865 and 1870 public opinion became impressed by the need of some means for the proper treatment and control of inebriates, the then existing method for dealing with them being simply the resort to fines with the possibility of repeated short sentences of imprisonment. . . . The futility of short sentences of imprisonment was widely recognized alike among prison authorities, visitors to prisons, and magistrates who saw the same drunkards coming habitually before them, in no way improved by the 'short prison sentence. . . . The feeling culminated in the appointment of a select committee in 1872 and the subsequent presentation to Parliament of a bill designed to meet obvious requirements. The report of that select committee was emphatic. Some of its suggestions have not yet been carried out, although their truth and efficacy has become more and more obvious." (Minutes of Evidence Relating to Inebriate.)

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* Read in the Section on Nervous and Mental Diseases of the erican Medical Association, at the Sixty-Second Annual Session, d at Los Angeles, June, 1911.

The act of 1879, as presented to Parliament, consisted of two parts; one providing for the voluntary commitment and a second providing for the compulsory commitment of inebriates. But the people were not prepared for such a far-reaching measure, and probably shied at anything partaking of the nature of temperance legislation as quickly then as they do now, and the act was shorn of its compulsory phase.

In 1892, active interest in the subject was again displayed and a departmental committee was again appointed. Their recommendations led to the passage of the act of 1898 which permitted the incarceration of inebriates who came within the purview of the law, because of crimes in which drink was a contributing cause, and those who had been convicted of drunkenness three times within a year. Under the act of 1879, during thirty years, thirty-two private licensed or certified institutions were established, an average of twenty have been in constant operation, and 7,500 patients have entered voluntarily. These voluntary entrances are really entrances under the effect of much pressure on the part of relatives and friends.

During the five years ending in 1908, Lady Henry Somerset's Retreat housed about 500 inmates and only twenty of these came absolutely of their own accord.

Under the act of 1898, fourteen institutions were in operation, handling a sum total of 2,770 patients. The number of reformable persons sent to these institutions is much less than was anticipated. A considerable number of persons committed from police courts were violent, unmanageable persons, who required stronger measures than it was desirable to enforce in certified reformatories. During the first twenty-one months of the act's practical existence, eleven inmates proved themselves too uncontrollable to be dealt with in certified reformatories, and had to be discharged. This led to the establishment of state reformatories, in which were received only the refractory cases.

The first home established provided no special occupation for men, and provided no means of segregation. The women were provided with a certain amount of outside work and were to some degree segregated.

The principal difficulties confronting those who were seeking the solution of the problem in England were and are:

1. Popular indifference and unbelief.

2. Establishment of homes or retreats by inadequately endowed charitable organizations.

3. Absence of police control in the retreats established. Refractory patients were perforce discharged if they were only bad enough, and a premium was thus placed on misbehavior.

4. Lack of trained attendants in the retreats. This, in the words of Lady Henry Somerset, "constitutes one of the greatest secrets of the weakness of the plan."

5. Lack of classification of cases. Many people are classed as inebriates who are in reality habitual criminals with inebriety added.

6. Lack of practical knowledge as to the time necessary for care of curable patients.

7. Lack of a definite uniform system of identification and parole.

There is an old saying about experience being an unfailing teacher and some one has added to that: "But not the other fellow's experience." "The other fellow's experience" has been a long time in making any impression on the voting and tax-paying public in America. On the few enthusiastic souls who have been laboring in the field, both the medical men, officers and sociologists, it has left its imprint, and they have struggled courageously if somewhat vainly to pass the message on to the public.

The campaign of education which they have instituted has resulted in a few states in well or badly balanced efforts in the direction of care for cure and control of the inebriate user of alcoholic liquors and narcotics.

But this is a representative form of government and the American public stands somewhat aghast at anything which savors of paternalism. Some one has said: "This is a government of the people, for the people, *and by the representatives* of the people." Unfortunately, representatives of the people stand aghast at any measure which requires missionary work to make it acceptable, and especially when it centers or revolves about anything which savors of that politically tabooed word "temperance." Again, granting that legislators are willing to enact legislation along this line, they have before them the question of patronage; and patronage has ever been a potent word to the politician.

In the establishment of some at least of these institutions in the past: (1) politics have not been eliminated; (2) attendants have not been chosen with close attention to their absolute fitness; (3) means have not been placed at the disposal of the staff, if trained, to enable that staff to accomplish the best results; (4) the type of commitment has been wrong; (5) the time of commitment has been too short; (6) opportunity for proper occupation has been lacking; (7) the governing boards have not been chosen with a view to their fitness in the direction of such institutions.

In several states, laws have been passed permitting the incarceration of inebriates in hospitals for the insane, for cure and control. At the annual meeting of the California State Medical Society, this year, this policy was defended by a medical man who had been engaged in the work in Pennsylvania. He considered that the results were very satisfactory. In connection with this, permit me to quote Dr. Frank Woodbury, secretary of Committee on Lunacy of the Commonwealth of Pennsylvania:

> "These patients, strictly speaking, are not insane, and do not come under the supervision of the Committee on Lunacy, and are really intruders in the hospitals for the insane. Not being insane, they constitute a very troublesome class, as they are very discontented and are constantly exciting the other patients to insubordination and are plotting their escape from the institution." (Personal communication.)

Dr. George Donahue, superintendent of State Hospital for Inebriates at Knoxville, Iowa, says:

> "While I can conceive that the commitment of the inebriate to the state hospitals for the insane is not the most desirable plan, it is the one that has usually been adopted by the older states as a beginning of an inebriate institution. After they are cared for at the state hospital for the insane for some time a separate hospital is soon established for them." (Personal communication.)

During the months from September, 1910, to March, 1911, I sent out approximately 500 letters of inquiry concerning:

1. The need of a state institution for the care of inebriates, with or without pay beds for those able to pay.

2. The wisdom of a state institution as above, plus the licensing of private institutions for the care of patients for cure and care of patients for control.

Approximately 300 replies were received. Out of all of these writers there were *five* who denied the wisdom of such a policy, stating that the law of some states permitting the incarceration of inebriates in hospitals for the insane to be quite sufficient.

One medical man who had had ten years' experience in state farm work wrote:

> "To put the case in a nutshell, state institutions have been disappointing for the reason that the majority of the patients sent to state institutions do not have a sincere desire to be cured. I believe that every state should have a good moderate-price institution where inebriates could be given proper care at moderate cost, or at the cost of the state if necessary, but I have no faith in spending money trying to cure people who do not care to be cured."

Thirty-one agreed as to the need of a state institution but emphasized the need of licensing private institutions for the care of those able to pay, for two reasons:

1. Desires of patients to go to private rather than public institutions.
2. Large amount of capital invested at present in thoroughly equipped private institutions.

Fifteen condemned the licensing of private institutions under state supervision as always being inefficient and characterized by lax supervision.

Ten writers approved state institutions for legal commitments of alcoholic offenders and both types of institutions for voluntary commitments, but considered the delegation of any police power to a private institution to be injudicious and impractical.

Twenty-one approved of some pay beds in state institutions for voluntary commitments, and enforced payments of costs of maintenance by those under commitment following arrest, if such individuals were possessed of sufficient means to pay.

The remaining replies assented to state control plan without comments. The analysis of these replies, sent from representative men and organizations all over this country and from England, places practically all of them on the endorsement side of state institutions for care and control.

The licensing of private institutions is sparingly endorsed, the quality of the supervision is questioned, the delegation of police power is condemned, and a serious question is raised as to the ability of such private institutions to provide occupations for inmates. This makes a limited endorsement of the voluntary curable patients only, for private institutions under state license. Private institutions as places of mere detention are out of the question.

If then it be admitted that a state institution is necessary, there remain two things to consider:

1. What has been accomplished?
2. How may the results be increased?

The limits of this paper permits considering the nethods and results in but a few institutions and of hese we will choose the following:

1. Foxborough State Hospital (Massachusetts).

During the time from April 1, 1908, to Oct. 1, 1910, there vere 777 new admissions; of these, 324 were counted favorable, . e., cases of patients likely to be cured or to receive marked enefit from treatment. The unfavorable numbered 453.

Abstinent since discharge, 28 per cent.

Much improved, earning livelihood, 21 per cent.

Unimproved, 36 per cent.

Of sixty-two subjects of morphin addiction discharged, 18 er cent. have remained abstinent. Many of the cases were not t all desirable from a hospital point of view.

Foxborough has asked for, and lately received, somehing like 1,200 acres of ground for use in connection vith its institutions and they are expanding both in the umber of occupations possible to follow and in the amount of work done along any one occupational line. They are, however, still struggling with the problem of voluntary commitments terminable at will, and with the problem of handling the mildly insane in the same institution.[1]

2. Knoxville, Ia.

The authorities at Knoxville, Ia., sent out 774 letters of inquiry concerning inmates who had been committed and released during the previous two years and received 365 replies. Of the individuals concerned in these replies, thirty-eight had never returned home, 214 had not relapsed, fifty-four greatly improved, twenty-nine relapsed after a year or two, thirty began drinking at once and eight were reported worse than before commitment.

Of the entire number treated, 214 known to be cured plus 105 who are making regular reports, but concerning whom answers to the letters were not returned, gives us 41⅓ per cent. cured and living up to their parole.[2]

The present needs of the institution are greater opportunity for industrial occupation, shops of various types where, after an inmate had recovered sufficiently to do a reasonable day's work and had become profitable enough to cover some of his own expenses, a wage allotment could be made to him, to go to his family or to be reserved for him on his parole.

One of their chief difficulties is the restraint of their patients and this is emphasized by their experience in failing to control them while they made use of the insane hospital plan, prior to adopting this present one.

A personal communication from a member of the Board of Control of State Institutions of Iowa says:

> "While the institution has done a great deal of good, it has only been partially successful. If run along the lines that we have been using, we do not think it would be advisable for your state to start such an institution. This institution should be conducted as a hospital and the supervision and control should be similar to that in the state reformatory or penitentiary. We intend to do that with our institution in the near future."

3. Duxhurst, England.

This institution, a private licensed one founded by Lady Henry Somerset and superintended by her, emphasizes occupation, relaxation and *religious influence* in the care and control of these cases. Refractory patients are sent to state farms.

In a personal communication, in March this year, she says:

> "We take no patients under one year. Our medical man reckons that, taking the sixteen years over and calculating cures only at two years, we have about 60 per cent. of cures."

Her testimony given before the investigating committee emphasized the need of *intelligent* supervision of licensed institutions, trained staffs and more complete segregation of cases.

New York City, enabled by a special act of the legislature, is now perfecting and putting into force what will probably prove to be the most complete example of meeting the problem that has yet been devised. It consists of a proper system of identification and parole, sentences for repeaters graduated from a minimum sentence of six months to three years at the State Hospital, under parole regulations and on the undeterminated sentence plan, sending repeating incurables to the state farm for three years and recommitting them on release as necessary.

This serves to emphasize what this body already knows about this subject, and if one will turn to the reports of state boards or of the National Conference of Charities and Corrections, one will see it all stated clearly and explicitly. But, unfortunately for the progress of the plan, the general public does not read them, and up to this time the reports have not found an audience through the columns of the public press.

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[1] Annual Report, Foxborough, 1911.

[2] Supt. Second Biannual Rep., Knoxville, Iowa, 1908.

If Neff, Crothers, Homer Folks, Bailley Burritt and many others equally well informed could gain the public ear, there would not be so much evasion in the handling of a subject which the whole world is forced to admit has been dodged rather than met.

Rosanoff's statistics showing 28 per cent. of cases of insanity in New York, and 30.6 per cent. of the cases in Massachusetts to be due to alcohol, together with the investigation of others showing a percentage greater than either of these in the causation of imbecility and epilepsy, must of necessity bring to the minds of all who cease their running long enough to read, the necessity of legal intervention in the matter of control of the incurable and in the direction of the cure of the curable alcoholic.

Statistics concerning alcoholism, imbecility, epilepsy, idiocy, crime and poverty are always incomplete and misleading. But if one will take the time to go through one institution for the cure of defectives; if one will investigate as far as possible, and in the incomplete way that such things must be investigated, the life history of one small group of exceptional children, one can draw conclusions that can be made interesting and instructive to the public. If one will consult with active members of any board of charities and will direct one's attention merely to the cost to charity of the mighty problem of alcohol, some further facts of the value to the public can be elicited.

If one will direct another line of inquiry to any board of charities in any given place, and exclude all doubtful cases, one will be appalled at the number of homes disordered and disorganized by the same agency.

If, in still another direction, one will turn one's attention and estimate the tremendous cost in jail and police court expense, to say nothing of the cost of maintaining such patients in public hospitals and almshouses, where again they constitute an exceedingly trying and disturbing element, one can easily gather data to show the tax-paying and tax-voting public the economic value of institutions for cure of curable and control of incurable drug and alcohol habitués.

Inebriety absolutely surrounds the questions of the spread of tuberculosis and the red plague, and if the medical profession will include it in its campaign of education on the latter subjects and individually and collectively seek to induce the general public and the mouthpieces of the general public to become interested in this, it will make tremendously not only for the saving of much now ill-spent public money but also, what is of infinitely more importance, it will mark an epoch in the conservation of human values.

CHRONIC ALCOHOLISM

WHAT CAN AND WHAT CANNOT BE ACCOMPLISHED BY TREATMENT *

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Until the last quarter of a century, alcoholism was almost universally regarded as a mere moral perversion, a bad habit entered into and continued because of moral degeneracy. Numerous efforts were made to reclaim and reform the drunkard. Almost all of these consisted in an appeal to the moral and emotional nature of drinking men and many were thus influenced to abandon the use of alcohol, but a large majority were unreached by these efforts. In more recent years, the wretched condition of these men has appealed strongly to scientific men who were students of human nature as well as of abstract science, and the causes or influences which lead such men to enter on and continue the use of alcoholic beverages has been studied from every view-point. These studies have fully established the fact that only in a very small percentage of cases is alcoholism a mere moral perversion, but that it is in the truest sense a disease, a disease having a well-defined and demonstrable pathology. Since the disease theory of chronic alcoholism has been accepted, the questions have naturally arisen: What can be done by treatment for this disease? Is it curable? To this last question both an affirmative and a negative answer can be made and each will be correct when applied to a certain class of cases.

Chronic alcoholism is not only a disease itself, but in many instances it springs from other diseases and it is certain that other diseases grow out of it. These diseases may be either physical, mental or moral. To cure any disease, the cause must be removed. In some cases of alcoholism this can be done by treatment, in others it cannot; hence the question naturally arises: What class of cases is curable and what is not? In endeavoring to answer this question, it is necessary to consider the type of the addiction as well as the influences which led to its formation. For the purpose of study, as well as for treatment, it is best to divide alcoholic subjects into two general classes, regular drinkers and periodical drinkers.

There is wide difference between the influences which lead the periodic alcoholic to go on a spree and those which prompt the regular drinker to continue the use of his beverage.

REGULAR DRINKERS

Probably 80 per cent. of all persons who habitually drink alcoholic beverages form the habit inadvertently, unintentionally and without any definite purpose in view. Among them may be found persons of the highest aims who, primarily, had sound bodies and minds and good habits, but who began the use of alcoholic beverages in a social way or with the erroneous idea that the effects of the alcohol would protect them from some prevalent disease, such as malaria, etc. Such persons continue the use of alcoholic drinks without mature thought as to their effects on them and certainly without any purpose to go to excess or to dissipate in any way; but no matter how begun, the frequent use of even a small quantity of alcohol creates a demand for increasing quantities, and this grows by almost imperceptible degrees until there is a daily consumption of considerable quantities of some alcoholic drink.

For a time the effects of this beverage seem to improve the health, to impart greater mental and physical vigor and generally to promote the well-being of the subject, but these benefits are more apparent than real. In fact, they are not real at all. The effects of this agent having merely built up a state of apparent hypernutrition by increasing fatty metabolism and decreasing waste. In this manner an unwholesome bodily state is brought about in which the demand for the effects of alcohol is increasingly felt, and because of which the victim is only comfortable when under the influence of alcohol. Almost imperceptibly the demand for stimulants grows, the victim becomes more and more depend-

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

ent on them and larger and larger quantities are required to meet this demand.

The daily consumption of these considerable quantities of alcohol necessarily brings about such changes in the system as to create an imperative demand for their continuation.

After reaching this stage, the victim feels that he cannot begin his day's work without his morning drink; there is a degree of lassitude, a lack of vigor which he seems totally unable to throw off without the aid of his stimulant. As the disorders growing out of the use of alcohol progress, one drink is not sufficient to give the desired support, then two, three or more are taken in close succession and this bracing process is continued throughout the day, from day to day and from week to week.

The effects of this prolonged and free use of alcohol bring serious impairment of the digestive organs, the appetite is variable or absent altogether unless freshly stimulated by an extra drink and if, at this or any subsequent stage, the victim makes an effort to discontinue drinking, such a state of nervousness arises as to drive him to resume the stimulant. The entire system has by this time become so saturated with toxic matter that a condition of intolerable nervousness arises whenever the system is allowed to get from under the now sedative effects of alcohol, and no matter how acutely conscious the victim may have become of his slavery to alcohol or how heroically he may struggle to throw off the yoke, he finds himself unable to do so by his own efforts. The prolonged free use of alcohol brings on such disorders of the system as to lead the best of men, when in its grasp, to continue to seek relief from these disorders by increasing the quantity of alcohol consumed. Whether that course is imperatively necessary or not, it appeals to them as being the one readily available remedy, the panacea for every ill, and it is so used.

A majority of habitual users of alcohol in this country belong to this class, and many of them would gladly quit drinking if they could ever get the poison out of their systems and reach a state in which they could live in comfort without it, but they seem never to be able to do so. They never become entirely sober and their systems are never normally free from the products of tissue waste; on the contrary, they are habitually in an extremely toxic condition and are comfortable only when the paralyzing effects of alcohol blunts their sensibilities to the irritating effects of this poison.

In habitués of this class, the addiction has a purely physical basis which is the product of alcohol alone. This consists of both structural lesions and functional derangements, but the structural lesions have little influence toward impelling the victim to continue the use of alcoholic drinks. The functional derangements are the only disorders growing out of the use of alcohol of which he is conscious, but these throw him into extreme distress when he attempts to go without the aid alcohol gives him. These functional derangements consist mainly of a chronic catarrh of the stomach, accompanied by an intensely toxic condition of the system, but as these yield readily to proper treatment, alcoholic patients of this class are curable. It is folly to talk to a man in such condition as this about reforming his life and stopping the use of stimulants by his own efforts. The forces which impel him to continue the use of alcohol are stronger than any will-power he is able to exert. In order to put him in condition so that his own will, his normal impulses may control him, his system must be thoroughly renovated and the physical demand for the effects of alcohol removed, then his moral nature can assert itself and then, and then only, can he control himself by the exercise of his will-power.

In the second class of regular drinkers I would place a small percentage of persons who were born with, or who from disease in early life acquired, a defective physique and an unbalanced nervous system, persons who, because of such defects have never been normal either in nervous system or physical organization. When such persons, in seeking something to overcome their habitual discomfort, experience the effects of alcohol they readily fall victims to its seductive influences. For a time it seems to fill the vacant place and to be the one thing lacking in their lives; it overcomes that discordant nervous condition which they so much dread, and they feel that they have found a panacea for all their ills, but this relief is of short duration. The demand for the effects of alcohol grows very rapidly in such persons and its continued use brings on the same pathologic changes that it does in others. The system soon becomes extremely toxic. This irritating matter greatly aggravates their former nervousness, so that the two conditions together now make such an imperative demand for the effects of alcohol that the victim cannot resist it and he keeps himself constantly saturated with alcohol; in fact, after reaching this stage, he must do so to enjoy the least degree of comfort.

But little can be expected from treatment in this class of cases unless it is found that the original discordant nervous element can also be removed by treatment. When it is found that these causative conditions are such as to be amenable to treatment, and the treatment for the addiction embraces not only such treatment as would be necessary to give relief in an ordinary case, but also such other measures as may be required to restore the primarily unbalanced nervous system to a normal condition, much benefit may be derived from treatment even in these unpromising cases, provided a reasonable degree of moral fiber was originally present.

In a third class I would place another, relatively small proportion of regular drinkers. To this class belong those who drink as a pure dissipation, persons who are deficient in moral fiber, lacking in purpose, supremely selfish, willing to gratify the desires of the present moment at any cost to themselves or others; those who are simply drifting through the world without rudder, compass or objective port.

These defective traits of character may be due either to inherited tendencies or to early environment. Persons of this class drink because they prefer to do so, and they would return to the use of alcoholic drinks even if some one took them up and gave their system a thorough renovating and removed all physical necessity for the effects of such drinks. In cases of this class, more than human agency would be necessary to effect a cure. Not only would it be necessary to renovate their bodies and put them in normal physical condition, but it would be necessary to effect a most radical change in their moral nature, a complete transformation of their purposes in life, and nothing short of the grace of God is sufficient for such a work. Human agency will not avail.

Fortunately, only a small proportion of the regular drinkers belong to either of the two classes last mentioned; the great majority are of the class first described in this paper. They are men of good families, of excellent traits of character, of high aims, chivalrous, generous to a fault, truthful and honest; in fact, most of them are men with whom no fault can be found, except this one weakness, and that due to the fact that they have fallen into the clutches of this monster. Victims of this class continue to drink only because their will-power and self-control and their ability to estimate correctly their own condition, have been so undermined by the effects of alcohol that they cannot extricate themselves from its clutches, they cannot of themselves retrace their steps. On arising in the morning, they find themselves totally unable to begin their day's work without the bracing effects of alcohol, and because of the urgency of this physical demand they continue to seek what relief they can get from it from day to day. When such men as these are freed from the domination of alcohol, when the physical demand for it is overcome and they are put in a normal condition, they almost invariably remain permanently free from it. Failure to benefit permanently such men as are described in the second and third divisions above mentioned should not be allowed to discourage us or to render us less enthusiastic in our efforts to rescue the more numerous and really noble army of enslaved ones.

PERIODICAL ALCOHOLISM

There is a wide difference between the influences which lead to periodic alcoholic sprees and those which lead the regular drinker to continue the use of his beverage. Periodic alcoholism may spring from a variety of causes, but these may be studied to advantage under four types which may be enumerated as follows: (1) dipsomania, real or symptomatic; (2) moral cowardice; (3) bad environment, with lack of stability of character; and (4) bad environment, with an ever-present but usually successfully resisted appetite for liquors.

Dipsomania

Dipsomania is defined to be "an uncontrollable desire for strong drink," but this term should be restricted to those cases in which this desire or impulse springs from a real mental disorder, a true mania. It should not be applied to cases in which the desire for drink only becomes uncontrollable when it is excited or intensified by some general physical derangement, or to cases in which the desire is continuous. A better definition would be: Periodic insanity taking the form of an uncontrollable desire for strong drink.

Real dipsomania is very rare, but that it does exist cannot be denied. Most writers leave the impression that such attacks are due entirely to some obscure structural brain lesion or inherited mental defect. It is doubtless true that there are persons in whom a real mania of this type occurs because of an inherited mental bias or perverted nervous organization, independently of the general physical condition, but, in my judgment, such cases are extremely rare. In a large majority of cases which are thus classified, the attack occurs only when excited by an added general systemic derangement, such as an acute intestinal toxemia. The irritating effect of this toxic matter serves as an exciting cause of an outbreak. In many instances these attacks may be warded off or prevented altogether by keeping the system free from toxic matter.

Where outbreaks of this kind occur solely as the result of an inherited mental defect, treatment cannot be expected to be of material benefit; but in cases in which such attacks occur only when an exciting cause, such as an acute toxemia, contributes its influence, then treatment can be a material benefit, provided it embraces such instructions in the manner of living as to enable the victim to avoid the occurrence of these toxic states.

Moral Cowardice

Another and probably the most hopeless class of periodic drinkers are those who drink as an expression of moral cowardice. These are men who have no particular craving or appetite for liquors who will say at almost any time that they do not care for the taste or primary effects of alcoholic drinks, but who have learned from experience that alcohol will blunt their sensibilities and bring them surcease from cares and worries which they have not the manhood and moral courage to take up and bear, and from time to time they seek forgetfulness in the effects of alcohol. A man of this class will quarrel with his wife or a friend and go off and get drunk for spite, or he may have some adverse business experience which to others would be trivial, but he, not having the moral courage to face it, runs from it and seeks oblivion in the effects of alcohol.

Little if any good can come from treatment in patients of this class. Therapeutic measures cannot remove from their lives these defective traits of character or impart to them that degree of moral courage which is needed to fit them to fight the battles of life in the open and resist the adverse currents which drift them from a safe and sober mooring.

Instability of Character with Bad Environment

In another class of periodic drinkers the sprees are due to bad environment coupled with instability of character. These are the social drinkers who lose control of themselves as soon as one drink is taken. Many of these are men of estimable qualities, amiable, chivalrous, good-hearted, kind, and in every way lovable men, but they are deficient in self-control, fixed purposes and positive traits of character. They are good-natured fellows who drift with the current and allow others to dictate their course. These men, when away from their drinking associates and out of temptation, remain entirely sober and would not think of going alone and deliberately beginning to drink; they have no craving or appetite for liquor which they are not fully able to control, but they are negative characters and when thrown with drinking associates they do as others do. They are of the type of social drinkers who lose control of themselves as soon as they are slightly under the influence of liquor. When once started, such men continue to drink until some one takes control of them and assists them to get out of the adverse currents. Then a period of entire sobriety follows, only to end in another spree when they again come under these unwholesome influences.

Treatment in such cases can be successful only when followed by an entire change of environment. Not only must the old associates be given up, but the one seeking to reform his life must be thrown with sober and moral people whose positive influence for good over him will be sufficient to enable him to stand firmly in his new position, notwithstanding his defective traits of character.

Bad Environment with an Ever-Present but Resisted Appetite

Another type of periodic drinkers are those who have an inherited or acquired thirst or craving for liquor which is ever present with them, but who, from strong convictions, contend against this weakness with a courage that in many cases is really heroic, and, under favorable circumstances, they succeed in controlling themselves but, when thrown with drinking associates, or when brought under other strong temptation, they find themselves unable to resist both the ever-present thirst and the temptation. Under these circumstances they begin to drink, and as soon as one drink is taken their resisting power is gone, and they throw themselves into the spree with a vigor and abandon which is not known to the more timid or less resolute. They continue to drink until the stomach rebels and will no longer retain the liquor; then they go through a period of extreme distress and remorse, and finally get back on their feet.

Periodical drinkers of this type are more amenable to treatment than any other form of periodical drinkers, because the craving, the thirst against which they contend, can be overcome—in fact, entirely destroyed. In addition to this, their attitude toward liquor can be so changed as to render its taste, smell and effects repulsive to them. When men of this type are given this much aid, they find themselves quite able to contend successfully against the influence of drinking associates and to resist other currents of influence which, when associated with their former craving, would have been sufficient to cause them to fall.

PRINCIPLES OF TREATMENT

Before undertaking to treat any disease, we should endeavor to ascertain the nature of the condition to be met; whether such a condition has a real, structural pathology or is only functional derangement, and whether it is a physical or a mental disorder. That the prolonged use of alcoholic drinks does cause serious structural lesions of the brain, liver, stomach and other organs cannot be denied, but such lesions are not the only or even the principal reason for the continuation of the habit. In some cases, as we have seen in the preceding, the use of liquors is continued from preference, or because of some mental or moral defect, but in the great majority of cases alcoholic drinks are continued because of a strong demand in the system for their effects. The habit has a real physical basis. This demand for the effects of alcohol is due mainly to the toxic condition of the system. Alcohol blunts the sensibilities of the nervous system and retards the excretion of the products of waste. The life of the human organism is a continuous process of waste and repair. When the excretion of this waste is retarded, even to a slight degree, day by day, the system finally becomes so saturated with poisonous matter as to cause serious functional derangement of every organ in the body. One in this condition finds it necessary to keep the nervous system constantly blunted with the effects of alcohol or other narcotic in order to obtain a reasonable degree of comfort. While it is true that alcohol has caused these disorders, still its effects relieve the acute distress springing from them more promptly and in a manner more acceptable to the sufferer than anything else with which he is familiar, therefore he continues to seek what comfort he can get by taking more alcohol, and thereby burns the taper at both ends.

In endeavoring to bring about such a change in this condition as to render the further use of alcohol unnecessary, the first and most important step is thoroughly to cleanse the system from the products of waste which the effects of alcohol have forced it to retain. In doing this the bowels, kidneys and skin should all be made to do their full share; in fact, for a time these should be made to do many times their ordinary duty.

Just in proportion as the excess of toxic matter is eliminated will the nervous system become quiet and the urgent demand for the effects of alcohol disappear. As a rule, in the course of three or four days the system may be so cleansed of toxic matter as to permit the withdrawal of alcohol without risk or discomfort to the patient. I do not consider it safe, or at all advisable, to withdraw alcoholic liquors abruptly from one who has been using them in large quantities without first preparing the system for such withdrawal. After the system is properly prepared for the withdrawal, it may be made with safety and without discomfort, but I cannot agree with the arbitrary rule of cutting off the alcohol as soon as the patient is taken in hand.

Up to this point, the treatment in the several classes of alcoholic cases is practically the same, as all of them require elimination of the toxic matter and the withdrawal of alcohol, but from this point on, the several classes will require radically different lines of treatment. The particular nature of the treatment required to complete the cure will depend on the cause, or set of causes, which originally led to the formation of the habit, as well as those which have had an influence in its continuation. If these were purely mental, then treatment calculated to overcome a mental disorder should be given; if they were moral or social, then these influences should be looked into and every effort made to direct the patient's future life so as to protect him from these damaging influences and prevent a return to his old haunts and habits.

If the patient belongs to the more promising class, the regular drinkers in whom the habit was continued because of the usual mental bias favorable to the use of alcohol, and because of the deranged physical condition resulting from its effects, then the succeeding step in the treatment should be to neutralize or eliminate the remnant of alcohol remaining in the blood, to overcome any appetite which may remain for it, and to supplant the mental bias favorable to alcohol with a dislike or complete disgust both for its taste and effect. The means available for these purposes are so numerous and their application so varied that they do not admit of detailed discussion in an article of this kind. In addition to the well-known therapeutic agents—static and other forms of electricity, vapor, shower, neutral or electric baths — suggestion, and in some cases even hypnotic suggestion, discipline and physical training can be used to advantage.

While these corrective measures are being employed, active therapeutic measures calculated to overcome the catarrhal condition of the stomach should also be used. This condition is the remaining disorder which would exert the greatest influence toward a return to the old habit, because of its effects in impairing digestion.

Fortunately, catarrh of the stomach yields readily to treatment in these cases after alcohol has been discontinued, but active treatment for this disorder is essential, and it should be continued until all trace of it has disappeared and the patient's digestion is perfect. He should be able to eat and enjoy three good meals a day. Patients of this class need the strength derived from a hearty breakfast to take the place of the support they formerly received from alcoholic stimulants. No part of the treatment is of greater importance than this, since, if it is not successfully carried out, the patient will not be so secure from relapse as he should be. Impaired digestion, with its attendant lack of strength, operates as an ever-present influence suggesting the need of some stimulant, some outside supportive, and this amounts to an autosuggestion to take a drink. This is a dangerous condition for the patient to be left in.

The indications to be met in some cases of alcoholism are simple, and the treatment can be easily carried out, while in others they are so complicated that the resources of the best-equipped institution as well as the skill of the most resourceful physician will be taxed to the uttermost; but with the aid afforded by a well-equipped institution a competent physician can effect as large a percentage of cures in cases of chronic alcoholism as can be effected in any other serious ailment. The most skilful physician cannot treat patients successfully at their homes. The disadvantage due to their home surroundings and to lack of complete control over the patient will defeat his best efforts. Even a general hospital does not assure the physician such control and protection as this class of patients require.

I do not feel that I should close this paper without a warning against any institution or physician offering to send a home treatment for alcoholics or drug victims. Such an undertaking is worse than folly, and when a proposition of that kind does not spring from entire ignorance of the conditions to be met, it is prompted by criminal avarice. Especially fraudulent is the offer to send a remedy that can be administered in coffee, etc., without the patient's knowledge, and thus overcome the desire for liquor and break up the habit.

THE THREE-DAY LIQUOR CURE

The time required for the successful treatment of a case of chronic alcoholism varies from two weeks to two months. Those who promise to effect a cure in much shorter time than that, promise more than they can perform. A "three-day liquor cure" is being advertised extensively throughout the country, and a number of institutes have recently been opened for the employment of this method. This treatment consists of the administration of a dose of cathartic pills and after that the hourly administration of an emetic in liquid form, the emetic consisting of either lobelia or ipecac or of the two combined. An hour and a half from the time of giving the first dose of the emetic, the patient is required to take a drink of whatever alcoholic liquor he has been using and this is repeated every half hour until four drinks have been taken. All of these are promptly given over to the slop-jar with interest. The liquid emetic is kept up every hour for the first day, but only the four drinks are offered to the patient. If he asks for more liquor, it is given and this is followed by an extra large dose of the emetic, sufficient to insure immediate and prolonged vomiting. The second and third days' treatments are the same, only the emetic is given at less frequent intervals, and only two drinks are required to be given on the second day. If the patient asks for more on that or on the third day, it is given and this is followed by a double dose of the emetic.

The extreme nausea and vomiting from this course, if the patient can be made to take it, is supposed to disgust him so completely with whisky that he will not take it again. By the time he has been kept in this condition for three days, he is so disgusted with whisky, himself and everything else that an effort to swallow anything will cause him to vomit. It is true that he does not want whisky, because he is not in condition to take and retain anything, but he is no more cured of the whisky habit than he would have been had he drank until his stomach rebelled and had vomited three days and nights from the effects of whisky. His system is still in a badly disordered condition; he is extremely nervous and cannot sleep, is totally unfit for business and if he recovers it is because of the restorative forces of the system and not because of any curative effect the treatment had on him. Such sleight-of-hand fake methods cannot be too strongly condemned. There is no curative value in them and the public should be taught to avoid them.

In undertaking the treatment of alcoholic patients, the physician should take a comprehensive view of the patient and his surroundings and endeavor to estimate correctly every influence which has in any way contributed to his enslavement, and to direct the life of the patient thereafter so as to remove every one of the hurtful influences, as far as is possible. The physical man must be completely renovated and every function of the body restored to normal activity. The mental bias favorable to the use of alcoholic liquors must be eradicated and in its stead a positive aversion to alcohol must be established. The patient is to be given a new chance in life by being put on his feet with a clear head, in full control of all his faculties and free from the dominating influence of alcohol. The consummation of such a work is certainly worthy of the best efforts of any man.

958 South Fourth Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. CROSBY AND PETTEY

Dr. S. Grover Burnett, Kansas City, Mo.: In 133 years, China and Eastern Asia paid to the Eastern India Importation Opium Company $2,100,000,000 profits, or over $1,600,000 a year. They used annually 42,000 tons of opium; of the 430,000,000 of people, 25,000,000 were addicted to opium, one in four of the entire population, 50 per cent. of the men in the cities, and 20 per cent. of the women. Not one mother in 1,000 can read or write her own language. This opium addiction has been going on 600 years, until they have practically obliterated their educational memory centers, losing all desire for choice recreations such as are enjoyed by our civilization. I should have said that they have twenty-six opium addicts to the square mile. I have forgotten the figures that America has in her consumption of opium and cocain, but it is more than fifteen times what we should be using. We can simply look back and see China's acquired psychology, her mental obliteration, and what we are coming to in this country if we do not put a stop to it. Dr. Crosby has given us something to think about, and a method of doing it.

Dr. A. W. Hoisholt, Stockton, Cal.: I am fully in accord with Dr. Crosby and his paper, and the part particularly that refers to the fact that the asylum is not the place for the care of the alcoholics. Our chairman from Minnesota states that his state cares for them on a farm for inebriates. I think that is the ideal way. They should be cared for in institutions gotten up especially for them. I have had some twenty years' experience in a hospital for the insane and I can say that all the hospital has done for them is to keep them from liquor, partially. It hasn't even done that thoroughly, because the Stockton Asylum is inside of the city limits. The city has two hundred saloons, and you can imagine what happens when a patient is given parole. It happens frequently, and the situation is far from satisfactory. When I visited Germany some years ago, at Dahldorf, near Berlin, they at that time received alcoholics in a building on the grounds of the institution, and the physician in charge said it was very unsatisfactory. Now it has been done away with, and in Germany a few years ago it was the unanimous opinion that the public should not care for the alcoholics in the hospitals for the insane. In California the last legislature passed a law that says all cases of alcoholism, as a punitive measure, should be sentenced to six months or a year or more in a hospital for the insane. Well, I pity the patients who will be sent there. I wrote to the governor and tried to get him not to sign the bill, but it was signed; the commission wanted it signed, and it was done; but when you realize that the hospitals of this state are so crowded that patients are sleeping on floors, and that the asylum at Stockton is inside of the city limits, in a town of two hundred saloons, you will understand that it is not the proper place. They do not at all get the social surroundings nor educational influences that they should have; they are not influenced in the right direction.

Dr. H. G. Brainerd, Los Angeles: The paper of Dr. Crosby telling us that 38 or a larger per cent. of the insanity of the patients in the insane asylum is directly due to alcohol, and the diagrams which Dr. Patterson so graphically presented to us of the feeble-minded, showing the number produced by alcohol, would seem to me to be strong arguments in favor of some provision for the care of those who are breaking down through the use of alcohol. We say that tuberculosis is a preventable disease. We should get at the root of the matter and prevent the spread of the disease. Certainly if tuberculosis is a preventable disease, alcoholism is a preventable disease. What opium has done for China is being done for America by alcohol. The opium in China is certainly no more disastrous in its effects than alcohol in America. The opium habit in China was due simply to the rapacity and greed for money of the authorities. The continuation of the alcoholic habit in America is due certainly to a lack of provision for the effects of alcohol in some direction. It seems to me that the effort should be not alone towards taking care of those ruined through alcoholism but in preventing alcoholism.

Dr. Ross Moore, Los Angeles, Cal.: We are at the present time establishing a municipal farm at which men who are convicted or accused of alcoholism, who would otherwise be put on the chain gang, or in jail for sixty or ninety or a hundred days, will be given an opportunity to reform—a work cure, with a physical examination, diagnosis and proper treatment, together with a reasonable degree of freedom. No doubt it can be worked out so the physician will determine whether or not a man is capable of staying on the farm with only a reasonable degree of restraint; that is, whether he is a degenerate criminal, or whether he is a man who is drunk and might be cured of drunkenness. Our insanity commission has met with the problem of the drunkard with reference to the asylum. The judge here has tried two or three times to send some men there for habitual drunkenness. When I have been on the commission he has not succeeded. I don't know whether he has sent anybody up there at any other times or not. I don't believe they belong there under the present constitution of the asylum. With reference to Dr. Pettey's paper, I think I have not heard for a long time as elaborate a classification of the drunkard. My own experience with drinkers has caused me to make a diagnosis before I take them for patients—a differential diagnosis as to their mental capacity. If I decide that a given patient has sufficient mental capacity, I make a contract with him to be under my care or supervision for at least six months. Then, I am in the habit of givin a three- or four-day treatment, possibly a modification of the belladonna treatment, and then, having this contract with the man, if he does not show up when I want him, I go where he is, or I have my office girl 'phone for him, and thus I keep in touch with him for some months. Almost every patient has several rough places during the first six months. He has a hard time in many ways, and is just on the verge of taking a drink; he is tired, or other causes are at work. During these six months, seeing him many, many times, he gets to see himself as I see him. He begins to analyze himself, and the cause for his drunkenness, as I do, and in that way I secure a permanence of cure which I never succeeded in securing before. Therefore, my idea of the treatment of a drug or alcoholic habitué consists in a vigorous eliminating treatment to begin with, and six months of care afterwards, during all of which time I have practically absolute control of the patient.

Dr. G. H. Moody, San Antonio, Tex.: After an observation of a great many of these cases I am convinced that Dr. Crosby has brought out very clearly and strongly in his paper that getting complete charge of his patient for a specific length of time is necessary to get results. There are a few cases, both of the drug and alcoholic habit, whose hereditary condition is favorable, as expressed by Dr. Pettey, in whom we are justified in trying a short course of treatment, either at home with the physician supervising, wisely, as Dr. Moore has suggested, or in a private sanitarium; but I believe that the plan of this state, and that of several other states, as given by our chairman, is the only salvation for those patients who have been treated a few times with futile results. I would not have opposed the bill passed in this state for the want of a better one. I would much prefer it to none. I agree that the asylum is not the best place for these patients, but in the absence of a better place I believe they should have it. As it is, the patients who go to such an institution or asylum go there because they are crazy from the drug. In two or three weeks, as we all know, they are all right, and the superintendent lets them out, and they get no good results. If we had a way of committing them to these state institutions for a certain number of months or years, and the superintendent had no more power to turn them out than the officer of the penitentiary has to turn out his prisoners, then a great many would get well, and I believe it ought to be done. Of course, I think we ought to have, preferably, an institution for inebriates. Until we get it, I think the plan of California is better than no plan whatever.

Dr. J. W. Robertson, Livermore, Cal.: My experience has taught me that there are two entirely distinct classes of alcoholic patients. The first are such as the Keeley treatment appeals to. They have no hereditary compulsion. They drink because they want to drink; they drink because their associations lead them to drink; they drink because of their moral irresponsibility; they have not the strength of character to refuse an invitation to drink. This class is very easy to cure. Eddyism, suggestions which the Keeley treatment give, or willpower properly directed, are usually sufficient to control them, and for that reason I believe that a month of quiet and rest, with building up of the body and nerves, gives a temporary cure. But there is another class of patients that I must confess I regard as a more serious problem. They are those whom Dr. Crosby's suggestions appeal to. They have to be forcibly restrained. You cannot persuade them; you cannot argue with them. Very often they have such a hereditary diathesis that they are compelled to drink, and nothing but enforced abstinence for a period of six months or a year would be of the slightest benefit. Even then, after I have restrained such patients for periods of months, after the physical health has been absolutely rebuilt, and they have regained their full moral as well as physical tone, they have gone off and again become drunkards. I have met these men in after years and found them reformed and honorable members of society, and have asked them how the thing was done. I had failed with them; others had failed with them. Their only reply was that they had made up their minds to quit, and they had quit. Until a man comes to this conclusion it is absolutely impossible to do anything with him. No amount of personal restraint will do more than build up the body, and possibly build up the moral character. When they have once made up their minds to reform, and then only, have I found that they absolutely do reform.

Dr. Daniel Crosby, Fruitvale, Cal.: The subject of inebriety is so big that most medical men have been unwilling to classify and talk about it. Men of Dr. Pettey's type have been able to cure inebriety, while the remainder of us have looked on. Dr. Burnett says we are not getting at the right end. Theoretically, prohibition is the proper course, but practically we know that prohibition fails. As far as getting at the right end is concerned, we do not desire to conserve the alcoholic as such, but neither do we want the chronic alcoholics filling our city prisons and county jails; we do not want them filling our almshouses and adding thousands on thousands of dollars to the cost of maintenance of our county hospitals every year. The state inebriate hospital and farm have so far offered the best solution and England has been following the plan to a greater or less degree for twenty-five years. Minnesota, a little before New York, and the latter state now, are working out two of the best plans before the public to-day for the control of the chronic inebriate. We do not desire to conserve a worthless life, but neither do we want the worthless fellows coming up for 1,100 commitments, as did one man in New York. If this plan is not beginning at the right end, then those who are paying most attention to it are going awry in their calculations. It is not to the credit of the medical profession of California to-day that the inebriate is locked in already overcrowded asylums for the insane. The first offender should not come before the court at all, but should go before a referee and never have a court appearance. If he will be bound by his parole, very well; if he does not, then the time for court appearance is in order. It has been proved repeatedly that 25 per cent. of these individuals can be restored to normal life if they are only held long enough. Now if 25 per cent. can be rehabilitated, why tie the hands of your hospital services with delirium tremens patients and alcoholic ruins when, as a matter of fact, they can be maintained at a great deal less cost in the open air of the country than under the present plan. If the tax-paying and tax-voting public could have placed before them in plain, straightforward fashion the results of care for cure as elucidated by Dr. Pettey, and the cure and control as shown by the reports of the successfully operated state inebriate hospitals, we would not see much longer delayed this very necessary inebriate legislation.

Dr. George E. Pettey, Memphis: Some more efficient method of handling inebriates than is now provided for is certainly badly needed. Under our present system a man may waste his income, spend his fortune and pauperize his dependents by alcoholic excess and make himself a nuisance to his family and everyone about him, but so long as he commits no overt criminal act the law does not interfere and neither his family nor the community have any way of reaching or controlling him. We have gone to such extremes in our efforts to safeguard "personal liberty" that the state has lost its right to interfere with the inebriate in time to protect itself and the innocent dependents of such inebriate from the gravest wrongs. This right should be reasserted and freely used. No man should be allowed to destroy his usefulness, his productive powers, and foist himself and his dependents as a charge on the community under the guise of personal liberty. A state farm, to which the inebriate could be committed for treatment and detention and where he would be compelled to expend his energies in a productive enterprise, would, in my judgment, be the ideal way, not only to reform our present generation of inebriates but to prevent inebriety in the future. If men who abuse their personal liberty by going to excess in the use of intoxicants knew that they could be taken in charge and committed to a state farm and required to work for the public instead of themselves, they would be brought to "think upon their ways" before they had lost self-control. The existence of such a provision would furnish the most effective means of preventing the development of inebriety as well as the most practical method of dealing with it where it does exist. Our present method of haling the inebriate before a criminal court and inflicting punishment, which often falls more heavily on his innocent dependents than on himself, is as unreasonable and inefficient as it is unjust.

Energy of Radium.—Attention has repeatedly been drawn to the enormous quantity of energy stored up in radium and its descendants. That in its emanation niton is such that if what it parts with as heat during its disintegration were available, it would be equal to three and a half million times the energy available by the explosion of an equal volume of detonating gas—a mixture of one volume of oxygen with two volumes of hydrogen. The major part of this energy comes, apparently, from the expulsion of particles (that is of atoms of helium) with enormous velocity. It is easy to convey an idea of this magnitude in a form more realizable, by giving a somewhat mechanical turn. Suppose that the energy in a ton of radium could be utilized in thirty years, instead of being evolved at its invariable slow rate of 1,760 years for half-disintegration, it would suffice to propel a ship of 15,000 tons, with engines of 15,000 horsepower, at the rate of 15 knots an hour, for thirty years—practically the lifetime of the ship. To do this actually requires a million and a half tons of coal. It is easily seen that the virtue of the energy of the radium consists in the small weight in which it is contained; in other words, the radium-energy is in an enormously concentrated form.—Sir William Ramsay, President's Address before British Association for the Advancement of Science, 1911

PREVENTIVE MEDICINE SECTION COMMITTEE REPORTS

REPORT OF THE COMMITTEE ON ADMINISTRATION METHODS OF PHYSICAL EXAMINATION OF SCHOOL CHILDREN *

The committee has confined its report to the discussion of the following:

I. Object of physical examinations.
II. Present methods and their results.
III. Fundamental problems to be considered.
IV. Specific recommendations.

I. OBJECT OF PHYSICAL EXAMINATIONS

Physical examinations are conducted for the purpose of detecting variations from the normal that interfere with the health, growth and development of the child. The normal educative process is possible only when the physical and mental conditions of the child do not vary too widely from the established standards recognized as the normal. Evidence at hand shows that large numbers of defectives are present in every school.

II. A STUDY OF THE PRESENT METHODS AND RESULTS ACCOMPLISHED

A survey of the available statistics shows that there are relatively few cities of the United States giving complete physical examination of school children, or even sufficiently complete to be of assistance to the teachers to enable them to direct activities of the pupil.

The examinations are at present carried on for the most part by the city boards of education. When the boards of health conduct the examinations little effort is made to detect defects aside from those of sight and hearing. These examinations have also been made by the teachers, nurses, medical inspectors or physical instructors, according to local conditions.

A careful comparison of the result obtained by the various methods of conducting the examinations shows that the greatest benefits are obtained in instances in which a preliminary examination is made in the grammar schools by the teacher and defective or suspicious cases reexamined by trained medical men who devote enough of the school day to this work to be free from interruptions of private practice during these hours, and in the high school, where the examinations are conducted by the physical director, and especially in instances in which the director is medically trained.

The examinations made exclusively by nurses and untrained or uninterested medical inspectors are often incomplete, inaccurate and of slight value, and little information is secured that is of use to the teacher in her education of the child.

III. FUNDAMENTAL PROBLEMS

The committee feels that there are a number of factors with their closely related interests which demand consideration before presenting specific recommendations on methods; these are the city boards of health, the boards of education, the parents, the family physician, the teacher, the pupil and the school physician, and their relation to one another.

The board of health is the organ of the state and has the authority of the law in carrying out its provisions. It deals with diseased conditions and enforces the sanitary standards prescribed by the state. Beyond this it ordinarily has little interest. With the board of education the condition is different. Its function is educative, and to it merely carrying out the provisions of the law is not sufficient. It must provide conditions, physical and mental, that make for the greatest efficiency of the individual. It must remove from the environment of the child factors that interfere with these conditions. This necessitates competent and constant supervision.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Many families through ignorance or pride object to having their children examined by the school authorities, and feel that their rights are being infringed in this respect. This will not be so if sympathetic cooperation is secured.

Family physicians have protested against the "unnecessary examinations" sometimes not without cause, especially in instances in which unscrupulous examiners are employed.

The family physicians are not all of the regular school. We find in addition eclectics, homeopaths, osteopaths, naturopaths and science healers, with their diversity of interests and training. Their points of view must be respected and their cooperation secured. To the child the examination should be interesting and instructive.

Objection to the teachers conducting the preliminary examinations has been raised on the ground that they have neither training nor time. The teacher's first duty is to the health of the child and her training should be sufficient to enable her to do this work.

The expense necessary in establishing and maintaining a thorough system has been a serious objection. A careful study, however, shows that it is even more expensive to neglect this important work.

IV. SPECIFIC RECOMMENDATIONS

In view of the facts revealed by a study of present conditions, the committee feels that a simple, efficient and uniform standard of methods is desirable.

The committee recommends: That city and county boards of education should secure the services of trained medical inspectors; that these inspectors be sufficient in number to instruct all elementary school teachers in making preliminary physical examinations or health surveys, and thus enable the inspectors to make more thorough supplementary physical examinations when indicated; that city boards of education maintain departments of medical inspection, the heads of such departments to be medically trained men; that the cities be divided into districts with a medical inspector in charge of each district.

That each child be given a physical examination each year, preferably at the beginning.

That this examination be sufficiently thorough to detect defects that interfere, or are liable to interfere, with the health, growth and development of the child, such examinations to include the examination of the eye, ear, mouth, nose, throat, posture, nutrition, mentality and nervous functions; that in all cases showing defects or in which defects are suspected but undetermined, reexaminations be made by trained medical examiners, such reexaminations to include the eye, ear, nose, throat, teeth, heart, lungs, thorax, shoulders, spine, hips, inguinal region, feet, nutrition, mentality and nervous system.

That the preliminary examination or health survey in the elementary schools be made by the teacher or nurse who should be instructed in making these examinations by a trained medical inspector, and in the high schools by the director of physical education, or one of his assistants.

That the supplementary physical examination be made in the elementary schools by the trained medical inspector, and in the high schools by the director of physical education, if he be medically trained; otherwise by the medical inspector; that in cases in which a defect is found the teacher be informed as to its nature and effect on the physical, mental and social development of the child and be instructed in the best methods of overcoming these defects, that a careful record be kept of the results of the preliminary and supplementary examinations, such record to include the dates of the examinations and condition of pupil at that time, and only such other data as would be of future use to the teacher or director.

That these records be kept by the teacher and passed on with the promotion slip as the child advances, a duplicate being retained in the office of the health inspector.

That whenever feasible the physical examination be conducted preferably by examiners who are employed by and are under the direction of the board of education. When this is not feasible the appointee of the board of health should be approved by the board of education.

The committee recommends further:

That a greater effort be made to establish hearty cooperation between the school physician, the teacher, the family physician, the home and the free dispensaries in following up and in securing the correction of physical defects.

Respectfully submitted,

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REPORT OF COMMITTEE ON MEDICAL INSPECTION OF SCHOOLS *

EDUCATIONAL HYGIENE: HEALTH AND DEVELOPMENT SUPERVISION

To the Section on Preventive Medicine, American Medical Association: In response to the invitation of your chairman your committee herewith presents a report for your consideration as to what is or should be the essential and vital work of a department of medical inspection in the public schools, or the equivalent department of educational hygiene, or as the work is termed in California, the department of health and development. This report is submitted as a general plan which of necessity must be modified in different ways so as to form alternative systems which shall meet the needs of local conditions.

Two divisions of this field of work are advisable.

A. *Under the control and direction of boards of education*—that part of the work essential for the intelligent handling of pupils and students throughout their period of educational training; and for the maintenance of hygienic environment and hygienic activity—the field of *educational hygiene.*

B. *Under the control and direction of boards of health*—that part of the field of work concerned with the care and control of contagious and infectious diseases as a part of the field of *public health.*

EDUCATIONAL HYGIENE—UNDER THE CONTROL AND DIRECTION OF BOARDS OF EDUCATION

PURPOSES OF THE WORK

1. The establishment of biennial, annual, and, when necessary, more frequent skilled physical and developmental examinations of pupils and students by a staff of experts. The establishment of initial examination of pupils by the teaching force of the schools, as far as the teaching force is qualified, prior to the skilled examinations by experts.

2. By effective action, based on the data of these examinations, to secure (a) the correction of physical anomalies and thus remove the growth-barriers of children and youths, and (b) whenever possible and practicable, to adjust educational activities to meet the requirements of physical and mental health, growth and development, and thus establish a special field of education for the maintenance of continuous health and development supervision of pupils and students.

3. To maintain a scientific and systematic study of mental retardation and mental deviation of pupils and students by skilled examination, and whenever possible and practicable, by skilled training in special schools.

4. To establish skilled physical and health examinations of candidates for teachers' positions prior to their election to determine vital fitness for their work, and thereafter to maintain continuous supervision of health and efficiency to teachers as related to the work of the schools.

5. (a) To organize and supervise courses of technical instruction in hygiene for pupils, students and teachers, in the means of conservation of physical and mental health, growth and development; in the means of correction and pre-

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

vention of defects, disease and degeneracy; (b) whenever necessary for efficiency, to give practical and technical instruction to the teaching force of the schools, while engaged in teaching, in the initial physical and developmental examination of pupils; and in the skilled physical and developmental and psychoclinical examination of exceptional pupils, abnormal and supernormal.

6. To establish and maintain well-equipped medical anthropometric and psychoclinical laboratories in the public schools which shall afford opportunity and equipment—

(a) for sufficiently skilful medical, anthropometric and psychoclinical examination of exceptional pupils and of all pupils requiring special examination.

(b) for such technical training of teachers in the laboratory and experimental phases of educational work, connected with the physical and mental examination of pupils, in clinical psychology and in experimental pedagogy as is essential for the intelligent handling of pupils.

(c) for essential work in hygiene and sanitation.

7. To exercise expert sanitary supervision in the planning and maintenance of school buildings and grounds.

8. To bring about the establishment of dental and medical clinics for pupils whose parents are financially unable to provide essential medical and dental aid.

9. Whenever possible and practicable, to cooperate with state, county and city health officers in the detection of and reporting of contagious diseases.

10. Each department of educational hygiene to constitute a bureau of practical investigation and research in educational hygiene, and as such to cooperate with state bureaus of educational hygiene whose functions will or ought to be the organization and supervision of state-wide work and investigation in this special field of education—looking forward to the establishment also of a national bureau of educational hygiene.

SKILLED PHYSICAL AND DEVELOPMENTAL EXAMINATIONS BY A STAFF OF EXPERTS: A GENERAL PLAN

BIENNIAL DEVELOPMENTAL EXAMINATIONS—APPROXIMATE OCCURRENCE

	Age
Upon entering school	6
Prior to transition period	8
Subsequent to transition period	10
Prepubertal period	12
Pubertal period	14
Post-pubertal period	16
Approximate attainment of physical growth	18

Annual and More Frequent Examinations.—Following a general plan of biennial examinations the frequency of examination must depend on the conditions of health and growth of individual pupils. Groups of pupils will stand out for whom annual examination will be essential. Other groups will require more frequent examinations. Examination should condition all work permits issued to pupils by school authorities. Examination in all instances should be at such intervals and of sufficient thoroughness to establish continuous and efficient health and growth supervision of pupils and students.

Scope of the Examinations.—Physical and developmental examinations should be sufficiently extensive to ferret out and determine, as far as possible, the causes of arrested growth, physical and mental.

1. The data of these examinations should serve as skilled information to parents and teachers in recommending and advising medical and dental aid essential for health and development.

2. When taken in connection with the school curricula and sociologic factors of the pupils' environment, the data of these examinations should form the *essential basis* for the adjustment of educational activities, both physical and mental, to meet the requirements of physical and mental health, growth and development.

The recommendations of the staff to the school authorities in this field of education should be:

1. General in their nature, applying to educational work as a whole.

2. Special in their application to the needs of individual pupils.

3. Advisory and cooperative, as a general working plan.

4. Administrative, when from the standpoint of educational hygiene, the health and development of pupils and students require and demand a change of educational activities or of environment, or both, and when such changes are possible under existing conditions.

The recommendations of the staff, when administrative, should be reversible only by the board of education and superintendent of schools.

This field of work is essentially administrative and constitutes a special field of the superintendency of schools—city or county. Modern educational hygiene is far-reaching in its demands. It looks not only to securing the correction of developmental and acquired defects, physical and mental, which interfere with health, growth and efficiency; not only to the maintenance of hygienic environment in the planning and construction of school buildings and in the arrangement and maintenance of school grounds, but in addition thereto, it maintains "that not only the content of education, but all the processes of education should be considered in relation to the health and growth of pupils and students. It challenges every subject of instruction and every principle and every method in education." Its central problem is growth and development. To this end physical and developmental examinations ought to determine defective physical and mental conditions, developmental periods of growth and stages of development, physiologic age, and, as far as possible, mental age. The staff conducting these examinations should recommend such agencies as are essential and effective in bringing about the best possible growth and development of pupils and students, and the school organization should be such as to afford ways and means of carrying out these recommendations through the cooperation of the staff, superintendents, principals and the teaching force of the schools.

For efficiency in this work it is essential that there exist continuous cooperation between a skilled staff of experts and the teaching force of the schools, which force, as far as qualified, should conduct initial physical and developmental examinations as an aid to the staff and as a matter of the more intelligent handling and training of pupils by the teaching force.

For definiteness the committee submits the following:

GENERAL ILLUSTRATION OF AN ESSENTIAL PHYSICAL AND DEVELOPMENTAL EXAMINATION

By a staff of experts and trained assistants, *for all pupils.*

General Health and Growth, past and present. Family history (exceptional pupils). Height, weight and vitality (growth indicators).

Eyesight.—Visual acuity, approximate determination of hyperopia, hyperopic astigmatism, myopia, myopic astigmatism, esophoria, exophoria, hyperphoria. Contagious eye defects, other diseased conditions and exceptional features. Color blindness (exceptional pupils).

Hearing.—Auditory acuity. Defective hearing as due to middle-ear defects or to nerve deafness. Diseased conditions, exceptional features. Pitch discrimination (exceptional pupils).

Teeth.—General conditions and cleanliness of temporary and permanent teeth, amount of decay, exceptional features. Examination of teeth to be conducted by skilled dentists whenever possible.

Mouth and Palate.—Malformation and indications of degeneracy.

Speech.—Defects of articulation, lisping, stammering, etc.

Nose and Throat.—Presence or absence of nasal obstruction, diseased or enlarged tonsils, presence of adenoids, polypi, catarrh, etc., and exceptional features.

Glandular Conditions.—Enlarged submaxillary or cervical glands.

Lung Action and Respiratory Development.—Normal. Rough or bronchial breathing. Râles—mucous, sibilant, sonorous, pleuritic. Chest development and expansion (tuberculosis or tendencies to same). Respiratory development. Exceptional features.

Heart Action.—Normal, irregular. Murmurs, functional or organic. Transition period (8 to 10 years). Any abnormal condition requiring modification of school conditions or exercises. Thorough examination conditioning physical training.

Deformity.—Deformities of head, trunk, limbs, spinal curvature, bone disease, deformed chest, shortened limbs, etc.

Nervous System.—Normal. Nervous instability, incipient, marked. Neurasthenic or hysterical tendencies. Chorea, tics, epilepsy, other nervous disorders. Examination of nervous pupils with especial reference to conditioning school activities.

Sex Examination.—Thorough sex examination when advisable. Parents should be present.

Mental Condition.—Signs of overstrain, fatigue, response, etc. General intelligence, bright, fair, dull, backward. Mentally defective. Imbecile. Imagery, memory, attention, association (exceptional pupils). See psychoclinical examination of exceptional pupils.

General.—Any weakness, defect or disease specially unfitting pupils and students for ordinary school life and activities, physical or mental, and requiring modification of school activities, especially more complete examination for the determination of physical training whenever advisable—tests of strength and endurance, results of training, etc.

Physiologic and Mental Age—Development Periods.—The determination of the physiologic and mental age of exceptional pupils, abnormal and supernormal, and the adjustment of educational activities to growth and development needs (see psychoclinical examinations), and certain modifications for all pupils at transition periods of development—8 to 10 years, and at puberty.

An Approximate Grouping of Pupils.—Based on the data of physical and developmental examinations which ought to follow the examination of pupils and students.

1. Those for whom medical and dental aid is essential.
2. Those whose respiratory or circulatory systems are defective or are poorly developed, for whom a larger amount of out of door life and physical activity is essential, or other modification of school activities necessary.
3. Those whose nervous systems are defective or poorly developed and who require an unusual amount of out of door life, physical activity, special care and skilled training.
4. The segregation of pupils requiring an unusual amount of physical activity for possible mental growth—both sexes.
5. Segregation of pupils of truancy and criminal tendencies or otherwise showing more or less degeneracy, and assignment to special schools with special training.
6. Segregation of mentally defective pupils and assignment to special schools.
7. The segregation of supernormal pupils and assignment to special schools.
8. As far as practicable, the grouping of pupils in accordance with development age.

PSYCHOCLINICAL EXAMINATION OF PUPILS AND STUDENTS

The building of a stable nervous system and a well-balanced mind is the most important work of education. For this purpose physical and developmental examinations, educational and clinical psychology and experimental pedagogy furnish the essential data by which to shape educational activities.

The correction of physical defects interfering with health and development is an established field of work, definite, clear-cut and unquestioned. The physiology, psychology and hygiene of educational training, however, is to all intents and purposes a more or less unexplored field, full of possibilities and suggestions. The educational work of the past has been all too little adapted to the biologic requirements of the child at its different periods of development.

This phase of education is of the highest importance. There is a vast army of pupils in our public schools whose growth is more or less arrested. Statistics from all sections of the country show this condition. It is a safe estimate that out of 18,000,000 pupils in the public schools of the nation 3,000,000 are repeating a grade a second, third or even a fourth or fifth time at a cost of approximately $100,000,000 annually, an expense largely wasteful and preventable, to say nothing of the loss of life-efficiency.

The more extreme stages of arrested growth, namely, the idiot, the imbecile, the feeble-minded, afford features of marked educational value to the public schools. The mental age of the idiot is never greater than that of a child of 2 years, no matter what his chronological age. The mental age of the imbecile has never exceeded the 8-year level. The mental age of the feeble-minded ranges from 8 to 13 years, never exceeding the 13-year level.

Passing these extreme levels of arrested growth into our schools and homes, all grades of mental age and all stages of more or less marked arrested growth stand out. Further, we know that the predisposition to insanity and degeneracy is marked in the more extreme stages of arrested growth, markedly greater in the feeble-minded than in the ordinary population. We know further that arrests of development of the more marked type grade insensibly into the higher levels of arrested growth found in large numbers in our public schools and in our homes, and that the same predisposition to degeneracy to a greater or less extent is an accomplishment of all stages of arrested growth. However important it may be to take intelligent care of the feeble-minded, the insane, the idiots, and imbeciles, it nevertheless is these higher retardation levels that should especially concern us because of their close kinship with feeble-mindedness on the one hand, and with adult deterioration on the other.

There is a marked need of systematic and scientific study and investigation of the moral and criminal traits of delinquent and abnormal pupils of our schools; how criminal tendencies and moral defect vary with, or are related to, physical defectiveness, with type of disease, with transitory states as exhibited in certain forms of epilepsy, in delusional and maniac depressive forms of insanity and which show themselves in kleptomaniac and suicidal tendencies and other forms of degeneracy.

There is marked need to safeguard all pupils, and especially defective pupils, by skilled training, against overpressure and unintelligent handling, particularly at the transition periods (8-10 years and 13-15 years).

The marked increase in juvenile crime and juvenile insanity during pubertal years is a known condition which ought to mean much in the safeguarding of all pupils during transition periods of growth against possible weakness and inefficiency.

It is especially important to exercise essential skilled oversight of pupils prior to transition periods of growth before immoral and before criminal tendencies become fixed; before weakness and inefficiency are allowed to develop; before excellence and superqualities, physical and mental, are allowed to remain undeveloped.

SUPERNORMAL PUPILS

There is most marked need of skilled determination of the supernormal pupils of the public schools and the adjustment of educational activities to their growth and development needs. The highest excellence and genius of the race for the future is found in potential and evolutionary form in supernormal children who embody in quantitatively superior forms those capacities that are exhibited in less degree by the masses of the young.

There is a marked need of *skilled investigation* by a skilled staff of their mental capacities and of the physiologic, anthropologic, sociologic and hereditary problems underlying their evolution and of skilled handling of these pupils. No type of pupil has been so neglected as the pupil of highest excellence and possibilities. Exceptional talent, superior capacity and intelligence that remain undeveloped or are directed in lower lines of action, is a loss not only to the individual, but to the state and to the nation. For these purposes it is essential that in addition to the general physical and developmental examination of all pupils by a skilled staff, psychoclinical examinations of exceptional pupils, abnormal and supernormal, shall be established.

The committee submits the following statement of the problems to be met and the work to be done and of the scope of the psychoclinical examinations:

1. A practical study and investigation of the hereditary personal history, of the medical history, and of the growth and development of pupils.
2. Skilled examination for the determination of—
    - a. Essential medical and dental aid.
    - b. Endurance and functional development.
    - c. Physical growth and development as compared with a measuring scale of normal growth of pupils of the same physiologic age.
    - d. A fundamental intellectual measuring scale and the determination of mental age.
    - e. The acceleration or retardation of mental growth and development by comparison with this fundamental intellectual measuring scale. This will make possible and practicable the determination of the acceleration or arrests of mental

functions and the character of specific accelerations or arrests of growth; and the improvement which various capacities or traits undergo from month to month and from year to year under the training which pupils receive, and the improvement resulting from medical and dental aid.

f. The establishment of a measuring scale of motor development and of manual dexterity development.
g. The skilled determination of educational activities for these pupils.

To meet these problems of educational science it is essential that universities and normal schools and the public schools shall determine by measurements and tests of the growth and development of large numbers of normal, supernormal, and retarded pupils comparative standards of physical and mental growth, so that we may measure the differences in the capacities of the various classes of pupils, normal, supernormal and defective; also measure the differences in the rate of improvement of these capacities and adjust educational activities to meet the demands of physical and mental health and growth. These are problems for *investigation and research* and future progress. Certain definite work has already been accomplished.

The following is not given as a complete list, but for illustration of the more important part of the work. As stated above:

1. *Developmental Tests.*—Skilled physical and developmental examinations should be held for the determination of arrested growth and development; for the determination of endurance, physiologic age and functional development; of essential medical and dental aid, etc.

2. *Tests of General Intelligence.*—Binet and Simon have succeeded, after years of experimentation, in working out a series of tests by which they are able to grade with considerable accuracy the general intelligence of children. These tests make it fairly easy to determine whether a child is to be graded as idiot, imbecile, feeble-minded or normal. It is conceded by skilled specialists that these tests "give us the most satisfactory *preliminary survey* of the child that is available."

Goddard at Vineland, N. J., Huey at Lincoln, Ill., Kuhlman at Faribault, Minn., Wallin at Skillman, N. J., and others as a result of their work with the subnormal, feeble-minded and epileptic all agree with the following statement of Goddard: "I believe it is true that no one can use the Binet-Simon tests on any fair number of children without becoming convinced that whatever defects and faults these tests may have, and no one can claim that they are perfect, the tests do come amazingly near what we feel to be the truth in regard to the mental status of any child tested." At present these same men, together with other excellent scholars, are working to amplify and perfect these tests, particularly for the higher levels, and to adapt them to public school conditions. There can be no reasonable doubt but that these tests will be markedly improved.

3. *Tests of Particular and Special Abilities.*—In addition to these determinations of general intelligence, certain tests of special abilities have been successfully used in such recently established psychoclinical laboratories as those of the University of Pennsylvania, Chicago Public Schools, Vineland, N. J., Chicago Juvenile Court, Lincoln, Ill., Faribault, Minn., Clark University, Skillman, N. J., etc., as follows:

a. Motor ability as determined by the tapping test, reaction time, etc.
b. Sensory ability as by the estimation of weights, lengths, the discrimination of tones, etc.
c. Perception as by the various types of form boards.
d. Association time—controlled and free.
e. Memory-span as by a series of digits or syllables, by aussage, narrative, etc.
f. Imagination: (1) probable type of sensory imagery as determined by greatest ease or readiness of response to different sensory stimuli; (2) power of creative imagery as by solving of puzzles, various types of constructive tests, and by the completion test of Ebbinghaus.
g. Ease and accuracy of acquisition of motor skill as tested by the learning of any simple, new motor coordination, e. g., mirror-drawing.
h. Ease and accuracy of mental acquisition by association of a known with a new arbitrary symbol.
i. Logical processes as by mathematical problems, puzzles, etc.

4. *Exceptional and Unusual Abilities.*—No series of tests for the accurate determination of supernormal or exceptional abilities either general or special has as yet been worked out and standardized. It has, however, been shown in many instances that the application of the two classes of above-mentioned tests supplemented by careful observation and further testing along lines wherein the results of these tests suggest that remarkable abilities may lie hidden, do frequently make possible the discovery of that sort of talent, the recognition of which is most highly important. The desirability of standardized tests for this special purpose needs no further emphasis than that afforded by the statement that the peculiar type of genius with which we are here concerned very frequently escapes the notice of teachers, parents, and the child himself, and that frequently it is not called out by any of the ordinary school work nor by the ordinary environment.

Until standardized tests are developed we shall be compelled to use systematic observation of interests in art, music, mechanics, languages, mathematics, sciences; systematic observation of traits and capacities favorable to development along these or other special lines, systematic observation of the *acquired interests* and special *habits* derived from reading, companions, chance happenings, etc.; further by taking pains to see that the pupil's range of activities is sufficiently wide to call forth any special capacities which he may possess. Especially desirable is it that children who do not fit well into the usual order of interests and activities of home and school be given such opportunity.

Investigation and research in this field of education in universities, normal schools and public schools; in institutions for the feeble-minded and for the insane, is being energetically carried forward to-day and is establishing a reliable series of general and technical tests for the examination of pupils which are eventually to become invaluable in the determination of normal and arrested growth, physical and mental; invaluable in the science of education and of human efficiency. The field of the expert in this work is medical, psychologic and pedagogic. It is difficult to say where it should begin and where it should end.

INITIAL PHYSICAL AND DEVELOPMENTAL EXAMINATIONS BY TEACHERS; TECHNICAL INSTRUCTION OF TEACHERS; SCHOOL NURSES

Efficiency in education requires a certain degree of skill and proficiency on the part of teachers to give initial physical and developmental examinations; to make reliable preliminary health and development surveys of the pupils over whom they have charge. Adequately intelligent handling of pupils is not possible without the cooperation of a teaching force, adequately skilled in these regards, with a staff of *experts* in educational hygiene.

The committee submits the following illustration of an initial health and development examination which may reasonably be expected of teachers who are working with a skilled staff:

Health.—Good, fair, poor. Frequent colds. Lack of vitality. Has been sick a good deal.

Eyesight.—Eyes inflamed, watering or painful. Crusts on lids. Nervousness, dizziness, indigestion, squinting, scowling. Holding head to one side or book close to face. *Frequent headaches—blurring of print.* Lack of application.

Visual Fractions ....

Hearing.—Normal. Deficient, left, right. Variable. Discharge from ears. Mental dulness apparently due to poor hearing.

Teeth.—Apparently good. Decayed. Filled, crowded and irregular. Need attention. Transitional stage.

Nose and Throat.—Indications of adenoids or enlarged tonsils, mouth breathing, variable hearing, nasal voice. Lack of vitality, arrested growth, adenoid face.

Speech.—Poor articulation, lisping, stuttering or stammering. Poor resonance of voice.

Chest Development.—Flat chest, stooped shoulders, shallow respiration.

Heart Action.—Shortness of breath, fatigue, pallor, poor circulation.

Nervous Condition.—Undue nervousness, easily confused, poor control.

Vitality.—Endurance: Good, fair, poor. Fatigues: Easily, slowly. Cause ....

Physical Development.—Growing well—poorly—undergrown. Muscle coordination—good, fair, poor.

Development Age.—Exceeds—is less than—numerical age.

Mental Development.—Good, fair, poor. Arrested growth—precocity. Response—quick, slow, strong, weak. Type—sensory-motor. Memory—good, fair, poor. Attention—good, fair, poor. Association—good, fair, poor.

Ability to Do School Work.—Good, fair, poor. Excellent in .... Deficient in ....

Repeating the grade ....

Retarded in normal progress.........................years.

Causes of Retardation.—

Special Data.—

Further, efficiency requires that teachers of special classes and special schools should develop to a considerable extent the insight of the skilful diagnostician. Special classes and schools constitute the nascent field of educational advance and require the highest order of skill in education.

That effective work and cooperation of a skilled staff and teaching force may result, it is, therefore, essential that the members of the staff give more or less technical and laboratory instruction and demonstrations to teachers, in the initial and skilled examinations and technical instruction in educational hygiene. There is a marked need at present of more or less practical and technical instruction of this order.

The universities and normal schools in the past have not organized their courses of education with sufficient emphasis on the thought that health and development was the first purpose of education and that informational work was secondary and accessory.

Whatever the university and normal instruction may be, there will always be more or less need of practical and technical instruction of teachers by a staff of experts in the field of educational hygiene, when teachers are engaged in field work, in which educational problems are nascent and full of meaning to teachers, pupils and to the state.

SCHOOL NURSES

In this program, school nurses are assistants to the staff. Their field work is essentially as follows:

To assist members of the staff in the skilled examination of pupils and otherwise as assistance is needed.

To assist teachers in making preliminary surveys of their pupils and in giving initial examinations, notifying parents of essential needs of pupils, etc.

Visiting parents and in all justifiable ways establishing effective cooperation between home and school.

Further, the function of the school nurse is that of the social educator in the field of hygiene. As such, the work of the school nurse is one of high order.

The staff of experts, the teaching force of the schools and school nurses, *working from the standpoint of education*, form an educational corps to secure the effective cooperation of home, school and school authorities in meeting the requirements of the physical and mental health and growth of pupils. When educational means fail, the law must remedy instances of neglect of health and growth of children.

THE TEACHING OF HYGIENE

One of the most urgent vital needs of the schools is the practical and effective teaching of certain phases of biology, physiology, psychology, educational and public hygiene. It is the field of prophylaxis in education as well as in medicine, a field requiring the effective cooperation of both education and medicine.

This field of education is yet in its infancy. An efficient department of educational hygiene in the schools under the direction of a skilled staff is essential for its growth and development.

PHYSICAL AND HEALTH EXAMINATION OF TEACHERS

The health of the teachers is one of the most important factors of the pupil's environment. Whatever action is essential ought to be taken by school authorities to insure physical and mental health as a fundamental characteristic of the teaching force of the public schools.

For this purpose skilled physical and health examinations furnish the essential data and should be required of all candidates for teachers' positions prior to their employment, and thereafter in whatever particulars may be essential to protect the schools against inefficient teaching due to lack of vitality and poor health of teachers on the one hand; and on the other hand, to exercise such hygienic supervision of school environment and curricula as may be essential to safeguard the teachers' occupation against unhygienic requirements and conditions of work; to act as an educational force in establishing such hygienic conditions and requirements of teachers as shall make possible the highest efficiency in the teachers' profession.

The health of the teaching body is an important aspect of educational hygiene and as such requires the effective carrying out of some reasonable and practicable course of procedure in regard both to the actual health of teachers and to the conditions and requirements of the teachers' work.

THE PLANNING AND MAINTENANCE OF SCHOOL BUILDINGS AND GROUNDS

The planning and maintenance of proper hygienic and physical conditions of school buildings and grounds is a work of which the main purposes and facts are well known, and one which in the past has been most markedly disregarded.

Reliable authorities, as a whole, agree in saying that there has been no place where all consideration of health has been so disregarded as in the construction of school buildings, churches, public halls and the buildings of the average college or university. A recent writer states (1909) the total value of all public school buildings of America is $700,000,000, but in point of fact one-half of them are so abominable that they should be torn down forthwith and a quarter more of them should be reconstructed. Recent school buildings are much better, and yet any number of faulty constructions are still going on. What is needed is yet a more vigorous educational campaign in what hygiene, sanitation and efficient living require. What is needed still more is:

1. The endorsement of certain standards and requirements in the planning and maintenance of school buildings and grounds by state and national educational and medical organizations.

2. The enactment of legislation which will define these standards and insure the erection and modification of school buildings in accordance therewith.

The committee submits the following as some of the essentials which ought to be incorporated in needed legislation. The "Ten Commandments of Schoolhouse Construction," by William E. Chancellor of Norwalk, Conn., are hereby abbreviated, modified and submitted as excellent:

1. Whenever possible, the school building should have sufficient ground and be so oriented on its plot that into every schoolroom the sunlight will come directly at least one hour each day.

2. Every schoolhouse, whether in city or in country, when over one story should be strictly fireproof.

3. Every schoolhouse should have at least two outer doors, for entrance and exit, with doors opening outward, and one outer door for every two rooms above four ground-floor rooms; and at least two stairways, with an additional stairway for every two rooms above four upper-story rooms, stairways not over 5 feet nor less than 4½ feet wide. In other words, the fireproof building should be as nearly panic-proof, also, as human ingenuity and material sources permit.

4. In every schoolhouse the halls should be well lighted from end to end.

5. The toilet conveniences, when possible to avoid it, should not be placed in basements; either isolated towers or separate buildings should be used.

6. Every child is entitled to at least 20 square feet of floor-space in each class-room attended, and to at least 300 cubic feet of air-space, to a complete change of air every eight minutes, and to playground space at least equal to class-room space. With artificial heating and ventilating systems the

problem is extremely difficult. Fresh air taken into the heating chamber should be taken from a height of 10 to 12 feet above ground. All air-ducts should be kept free from dust. The heated air should contain the proper amount of moisture. The air-ducts conveying the foul air from class-rooms should be of sufficient size and construction that the change of air is possible.

7. Unilateral or quadrant lighting has come to stay as the standard. With it has come the standard of not less than 20 or more than 25 square feet of floor space as the lighting area. The arrangement of this lighting is a technical problem not well met thus far.

8. Each class-room should have its own separate wardrobe.

9. Each class-room should have two or three sets of lockers for books so that day and evening pupils, or morning, afternoon and evening pupils, may use desks without interference with one another's property and without the resultant contamination and disease infection.

10. Hitherto, the notion has been to fit the school pupils into desks and chairs for book study. The new idea is to give them space and opportunity for activity and development. It follows that the school, instead of being the mold for the pupils to fit, must itself be molded by the course of study. The old unit idea of fifty children to a room and as many rooms of a standard size as there are classes of fifty children each is giving way to the idea of the universal school with such rooms as these also, viz.: (a) assembly and music halls; (b) physical training drill-rooms or gymnasiums; (c) drawing rooms; (d) offices and rooms for principal, head teachers, janitor, etc.; (e) science and art museums; (f) libraries and reading-rooms; (g) work rooms for manual training, trades, handcrafts and domestic science and art. In every instance in which desks are used in class-rooms, the desk should be adjusted to the child and not the child to the desk.

A BUREAU OF INVESTIGATION AND RESEARCH

Each department of educational hygiene should act, as far as practicable and consistent with the required established work, as a bureau of investigation and research.

The functions of departments of educational hygiene are twofold:

1. Carrying out certain established work of the schools.

2. Investigation and research of problems of health and development, of clinical psychology and of experimental pedagogy.

Luther Gulick gives the subject good and timely expression essentially as follows:

"Notwithstanding the great damage or degeneration that the vision of American school children is constantly undergoing, there are few school boards in America that have in their employ technical experts to decide on questions relating to eyesight. Schoolbooks are adopted but no standards have been established based on adequate research as to the length of lines for the various ages, size of type, size and shape of letter in connection with the lines; the width of the margins, the use of half-tones as compared with outline drawings, the use of dead-finished as compared with coated paper, and similar problems. There are authorities but no experts in the employ of departments of education who can speak authoritatively from the standpoint of special study made of these conditions as they exist in American schools.

"This extraordinary condition with reference to the problem of vision does not stand alone. Through the school we have changed the life of the child from one of predominant activity to one predominantly sedentary in character. During five hours of the school day for ten months in the year children are obliged to be seated for the major portion of the time. So extensive a readjustment of the life-habits of the young of a species has never before taken place. Its effect on digestion, circulation, nutrition and posture are as yet unknown. Yet there is not employed by any board of education in America one expert to make a special study of this group of problems centering about the changed conditions of life as they exist under the conduct of the modern school.

"We know that growth is more fundamental than education; that when educational demands are too severe, growth is interfered with; yet there is not a school in America that systematically weighs and measures its children to ascertain whether or not they are growing normally, and then readjusts the school tasks to fit this fundamental physiological condition.

"We know that nervous diseases among children are increasing. We believe that these disorders are related to the increased tension on the children. Many believe that this is due in part to the tasks imposed by school life, and yet there is not a board of education in America that is employing an expert to ascertain the facts with reference to these problems."

When we add to these illustrations the problems connected with the physiologic and mental age of pupils, the standardizing of tests for the establishment of more reliable measuring scales of growth and development essential before education can become a real science, the need of technical skill of the highest order stands out forcibly. Dr. Gulick well puts the matter thus: "The need of skill and power within departments of education to see that the fundamental conditions of human life, health and growth, are properly conserved."

EXPERTS IN EDUCATIONAL HYGIENE

Two classes of experts stand out as preeminently qualified for work in this special field of education:

1. The psychologist-educator. An expert in child hygiene, in educational and clinical psychology and in practical experimental pedagogy; skilled in physical and mental diagnosis, of normal and abnormal growth and development and having a knowledge of elementary medicine; a thoroughly trained, broad-gauged expert in education.

2. The skilled physician who has had sufficient training and acquaintance with educational work.

ACCESSORY AND ESSENTIAL IN THE FIELD OF EDUCATIONAL HYGIENE

Accessory and essential in the field of educational hygiene are the following:

1. The establishment of medical and dental clinics for pupils whose parents are financially unable to pay the customary fees for medical and dental services is essential to efficiency in such phases of this work as pertains to essential medical and dental aid. Cities and counties throughout the United States abound in large numbers of homes in which parents are unable to meet customary fees, but many can pay partial fees. The embarrassment concerned with making known financial need by parents and many other difficulties make the establishment of medical and dental clinics a marked necessity. Clinics of this order have been and are being established and the results are essentially valuable, since they give a tangible meaning to the work where the need is most evident. Both parents and teachers appreciate this tangible result. The further development of the whole field of work thereafter becomes easier.

2. The cooperation with city, county and state health officers in the problems of public health as they stand out in the schools.

The care of contagious and infectious diseases and related problems of public health as a matter of expediency and efficiency should be controlled and directed by boards of health.

This is the older and more crystallized form of medical inspection of schools and is admirably carried forward in many of the best cities of the nation. The scope of this paper does not permit its further discussion.

A RECOMMENDATION

The educational progress of the future is largely conditioned by the right solution of the problems of educational hygiene. No field of educational endeavor is more beset by perplexities and problems.

Your committee, therefore, joins in a recommendation already made by Dr. Terman of the Department of Education of Leland Stanford University, essentially as follows: That steps be taken to bring about a conference of representatives from the United States Department of Education, the National Educational Association, the American Medical Association, the American Institute of Homeopathy and other national medical associations and the Russell Sage Foundation for Child Welfare, which committee, after joint consideration of the problems involved, shall formulate and recommend alternative systems of educational hygiene which in time would be accepted as standard requirements in this special field of education.

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Committee.

REPORT ON METHODS OF SCHOOL VENTILATION BY THE CHICAGO COMMISSION ON VENTILATION *

In the publication called "Open-Air Crusaders," information is given as to three types of schools—open-air schools, cold-room schools and ordinary schools. It is well to bear in mind that these are three different types and that they are suited to three different types of children.

OPEN-AIR SCHOOLS

The open-air school is expensive to maintain. It is unnecessary except for a small group of children. Its field is the clinically tuberculous children, the distinctly subnormal children from a tuberculous environment, and a certain small percentage of distinctly subnormal children from non-tuberculous homes. It might be argued that children of this class are better off if they are not in school at all. There is an occasional child of whom this is true, but it is not true of the great mass of children of this group. The years of school are immensely valuable from both a pedagogic and a physical standpoint. The child should have an education if it can be had without physical prejudice. But these children are very much better off in a physical sense in the proper physical environment of open-air schools, under the proper control of such schools, learning the lessons of right living, than they would be at home; and, finally, the educational value of such schools to the family and to the neighborhood is to be taken into account. These are the things which make open-air schools worth while, even though the number of children taught in them is small. Open-air schools require extra clothing, extra food, sleeping or quiet rest periods, medical supervision and individual instruction. In such schools there is shielding against wind, snow and rain. Otherwise, the weather conditions are about as they are in the open. "Open-Air Crusaders" gives instructions in dressing and feeding the children in such schools.

COLD-ROOM SCHOOLS

Cold-room schools are probably slightly more expensive to maintain than ordinary schools, but the difference is nominal. Their field is caring for a group of children who are more nearly normal than the group properly cared for in open-air schools. In them there should be no children with open tuberculosis or in the contagious stage of any other infection. However, they should take care of the great majority of children who have subinfections and latent infections, but which are not contagious. The field of cold-room schools includes the following groups of children:

Pale anemic children, flabby children, children with enlarged neck glands and tonsils, adenoids, children who are mouth-breathers, children with frequent headaches, all children who catch cold easily, children who contract contagion easily, and all children who fail to make grade.

This means that there should be a cold room in every school except in the very congested parts of a great city where schools are very close together. In such places the cold-room children from three or four schools can be sent to one school and half or all of that school can be operated on the cold-room basis.

In cold-room schools the windows should be thrown wide open; a few screens for diverting the air can be used to advantage. The temperature of such rooms should be around 55 F. It should not go higher than 60 F. on days when artificial heating is maintained. It should not go lower than 50 F. Effort should be made to keep it at 55 F., as shown by thermometers so placed that they will show the temperature of the occupied part of the rooms and not that of dead spaces or walls.

Children taught in such rooms do not need to have clothing or food furnished them. They are comfortable in street wraps and gloves, such as they get at home. The usual desk arrangement of ordinary class rooms is not adapted to cold schoolrooms. The proper arrangement is one which lends itself to a good deal of moving around by the pupils. Such pupils need, say, 10 per cent. more than the usual amount of medical supervision. The service of the teacher is at least 10 per cent. more individual.

Only a few of the children who come to the cold-room schools would be better off if kept out of school. In the cold-room school group belong most of the children who by reason of poor physical condition are now kept out of school for fractions of school years by their parents. Almost everyone of these children would be better off in such a school with its good hygiene, good control and educational opportunity than he would be in his home. And, in addition, the educational influence of such schools on the students, the families and the neighbors is magnificent.

For the authorities to furnish food and clothes in such schools is a mistake. Their great value lies in driving home the idea that this large group of children can be inexpensively cared for; that curative methods are right at hand; that they are inexpensive and that they may easily be applied.

ORDINARY SCHOOLS

But very much the most important group of children is that comprised of just the ordinary children who are taught in the ordinary schoolrooms. They are the most important because they constitute much the largest group. How can we get better ventilation for them? Air-borne infections are numerous in spite of the present tendency to doubt the existence of certain of them. We still have air-borne infections, especially when we include subinfections and latent infections. There are the air-caused conditions, such as frequent headaches, pallor, muscular flabbiness, enlarged glands, tonsils and adenoids, and increased susceptibility to colds and infections with the usually described contagions.

The agencies causing harm in air in the order of their importance are: (1) bacteria, (2) improper temperature, (3) low humidity, (4) lack of air movement, (5) dust, (6) carbon dioxid, (7) carbon monoxid, (8) other agencies.

The measures necessary to prevent harm being done by these agencies are as follows:

1. Bacteria.—To exclude from the schoolroom all carriers of infection.

A. All cases of typical, atypical and carriers of diphtheria and typhoid fever.
B. All cases of typical and atypical scarlet fever, measles and whooping-cough.
C. All open cases of tuberculosis.
D. All unvaccinated children.
E. All children with colds.
F. All special contagions under special circumstances.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

2. *Temperature.*—The temperature of the schoolroom should not go above 68 F. during the days when the rooms are artificially heated.

- A. There should be a thermometer in every schoolroom.
- B. It should be placed about 4 feet above the floor. It should be attached to an inside wall in such a way that it is insulated therefrom.
- C. An hourly record of the schoolroom temperature should be a part of the school routine. Such a record should go to the governing authority. If there is much difference between the temperature in different parts of the room this should be of record.
- D. The temperature of the schoolroom should be 60 F. when the students come in from play. It should reach 68 F. within twenty minutes after the children are in their seats. If at any time it goes above 72 F., the children should be dismissed from the room.
- E. When the children are at play the windows should be thrown wide open and the room aired.

3. *Humidity.*—The humidity of artificially heated rooms is always too low unless special humidifying provisions are made. Artificially dried air predisposes toward infections by drying up the membranes of the respiratory passages. It especially predisposes toward subinfections and latent infections.

- A. The air of a schoolroom should have a relative humidity above 40 and as near 70 as possible.
- B. Window sweating and frosting softens the light in the room and releases some heat. It is therefore an advantage rather than a disadvantage.
- C. Wall sweating does no harm except where it harms the wall; therefore it may or may not be objectionable.

4. *Air Movement.*—Air which is too still does harm because the air in the aerial envelope gets too hot and too foul. The same is true in a lesser measure of the air in the breathing zone. Such air being in contact with the body or just from within it, is the hottest, foulest air in the room. There is no comfort or well-being unless this air is displaced promptly. Appreciable currents are needed for its displacement. Where there is no air movement, the aerial envelope will overheat. The necessity, then, is for appreciable air currents. These are needed in cold weather, just as they are in warm weather. Diffusion currents do not suffice.

5. *Dust.*—Dust does harm by assisting in infections, subinfections and latent infections. Schoolroom air is generally not very dirty. Measures for its betterment are as follows:

- A. Control of blackboard dust.
- B. Control of cleaning methods.

6. *Carbon Dioxid; 7. Carbon Monoxid; 8. Other Agencies.*—These slightly harmful agents are well cared for under the use of prevailing measures.

METHODS OF VENTILATING SCHOOLS

There are few ventilating problems which are so difficult as those of the schoolroom. The children come from many sources. Therefore they bring in many varieties of bacterial life. The pupils while at work are inactive physically, therefore they generate but little heat and their feet get cold easily. They are fixed in their occupation of every part of the room. Those who are near the outside windows must stay there. Those who are near the inside wall must stay there. Therefore there is the maximum need for a uniformity of heat and air distribution. The pupils are highly susceptible to infection. Their bodies are highly impressionable. Here is a combination the difficulties of which are hard to duplicate.

The difficulties are almost wholly connected with the necessity for heating. In warm weather ample air movement is had through open windows. On very dusty days wiping the desks with a moist cloth is easily done and removes the only objection to window ventilation. In cold weather, and especially in cold weather in a very severe climate, the difficulties appear.

If the school is heated by stoves the result will be disastrous unless special provision is made for fresh air and its conditioning. The best outlet is through the fire itself. If it be argued that there is no ventilation of the upper 4 feet of air in such rooms, it can be answered that such unoccupied space does not need to be ventilated. But an arrangement providing for all the air outgo through the stove would furnish too much heat and at the same time be inelastic and sometimes inadequate. Supplementary outlets should be provided around the stovepipe, thus getting the benefit of the indirect draft at that point.

Where feasible some of the inlets should be through floor-ducts opening under the stove. Windows used as accessory inlets should have deflectors extending the width of the sash. The bottom of the deflector space, the window-sill and the window-sash should have an outward, downward slant to facilitate the removal of cinders and dirt and so that water may drain out. If the school is heated by steam or hot water, the air preferably should be heated by indirect radiators in the basement and introduced through flues. Where this is impracticable air may be introduced through direct radiators supplied from openings in the outside walls. Such radiators are called direct-indirect radiators, and in practice it has been found necessary to have enough plain direct radiators to heat each room independently of those used to warm the air-supply. Eduction flues must be provided, and these should have both floor and ceiling openings, the latter for use in most effective ventilating and cooling; but these must be provided with closing devices and must generally be closed when heating the rooms.

Where the rooms are heated and ventilated by a warm-air system, the inlets should be about 8 feet above the floor, and the outlets near the floor line on an inside wall. Such installations will not be satisfactory without some accessories for stirring the air. Electric fans, where there is an electric current, will convert a bad installation with a still, morgue-like air into one which is satisfactory. No system which makes use of diffusion currents alone is satisfactory, even where 2,000 to 3,000 cubic feet of air per hour per occupant are furnished. When the temperature is kept down, the humidity kept up, and currents are always perceptible, the quantity of air supplied need not exceed 1,000 cubic feet per occupant per hour. In very exceptionable installations where there is little waste space and the air can be kept moving actively, as, for example, in street-cars, the Chicago ordinances require less than 500 cubic feet per hour per occupant. Where there is no electric current and fans cannot be used, we know of no way to create perceptible currents except through windows. Such openings must be covered by deflectors. The air which is to be heated should never be brought in contact with iron hot enough to char the dust and make the air smell burnt.

TO INCREASE HUMIDITY

Where heating is done by stoves, pans of water on the stove and in other places around the room help to increase the humidity. If the heating is done by steam radiation, buckets and pans can be hung on these, but the greatest good will come from allowing steam to escape into the room from the radiators. If the heating and ventilating is done by a hot-air system, jets of steam should play into the intake ducts.

The heat required for the evaporation of water to bring the relative humidity up will be compensated for by the lower temperatures which can be maintained in the schoolroom.

TO DECREASE DUST

Blackboard dust may be kept down by using erasers which are very slightly moistened.

Floor dust may be obviated by (a) vacuum cleaning, (b) sweeping at proper times, (c) sprinkling or sawdust preliminary to sweeping, (d) moist dusting, (e) making the students wipe their feet.

SUMMARY OF RECOMMENDATIONS

1. Schoolrooms should not be heated to a point above 68 F.

2. The thermometer should be located about 5 feet from the floor on an inside wall not closer than 6 feet to an air outlet.

3. The thermometer should either be suspended, or so attached to the wall that it will record the temperature of the air (and not that of the wall).

4. The temperature of the schoolroom should be 60 F. as the pupils enter the room after they have been taking exercise, and it should reach 68 F. within twenty minutes. The temperature of the schoolroom should be recorded each hour and this record should be sent to the proper authority.

5. The air in the room should be kept actively in motion. A sense of stillness is always to be avoided. Electric fans for this purpose are advised.

6. During all recess periods the windows should be opened wide and the rooms "blown out."

7. The air inside should not be drier than that outside.

8. The air inside should have 50 per cent. to 70 per cent. relative humidity and the outside walls should be built with air spaces or other insulation so as to make it possible to reach this humidity before wall-sweating begins.

9. Window-sweating, so far from being a disadvantage, is a distinct advantage, in that it softens the light.

10. Dust should be kept down in the schoolroom by using blackboard erasers which are faintly moist; by vacuum-cleaning, or by opportune and proper sweeping.

11. With proper wall insulation very little heat is required for a schoolroom even on days of zero weather.

12. All windows used for continuous air-supply should be provided with deflectors, preferably of glass, placed at their bottoms. These should extend the width of the sash and be so arranged as to deflect the air upward when the windows are open.

13. In buildings equipped with ventilating systems when the windows are raised to flush out the rooms, all rooms should be flushed simultaneously, in order to interfere as little as possible with the proper operation of the ventilating system.

14. In climates where the air must be heated before it is discharged into the room the simplest procedure is to take this air in through indirect radiation.

15. So far as we know, the best results are obtained by forcing the air through the indirect radiation by means of fans, delivering it upward in each room through a multiplicity of openings in the floor and removing it at the ceiling.

16. Where fans are not used the inlet to the rooms is best placed near the ceiling, with a foul-air outlet at the floor for use when heating the room and a foul-air outlet at the ceiling for use when ventilating or cooling the room, the latter opening to have a device whereby it may be closed at will.

17. The method of ventilation known as direct-indirect, in which the cold air enters through openings in the walls of each room and passes through radiators, is effective only when outside conditions are ideal and the use of this system except as a makeshift is deprecated.

18. Where schoolrooms are heated by stoves some of the air should be taken into the rooms through windows provided with deflectors. Some of it should enter through a duct in he floor and discharge around the stove.

19. Where steam is available steam jets should be employed o humidify. Where steam is not available, pans of water n the radiators, kettles on the stove, containers filled with water or other moistening devices should be used around the oom. These should be abundant. The usual small pan is not dequate.

20. People with the following diseases, either through conact or infection of the air, are capable of doing harm and hould be excluded from the room: small-pox, measles, scarlet ever, diphtheria, whooping-cough, chicken-pox, poliomyelitis, erebrospinal meningitis, influenza, colds, coughs, tuberculosis, yphoid fever, trachoma, itch, lice, and some others of no onsequence in Chicago.

21. Where schools are ventilated by unsatisfactory methods reat improvement can be effected if to them the following dditions are made:

1. If fans or other forms of agitators are installed.
2. If humidifiers are installed.
3. If the temperature is kept at 68 F. or below.
4. If the windows are raised and the air blown out at least hree times a day.

22. Open-air schools are schools for tuberculous or other efinitely subnormal children. In them the temperature and umidity is that of the open air. The only change from the traight open air is that there is some shielding from the wind, ain and snow. The children in such schools require special od, special clothing and special rest hours.

23. Cold-room schools are those in which there is some ielding against cold, wind, rain and snow. The temperature ould be 55 to 60 F. and the relative humidity around 70. uch rooms are for children who have enlarged glands, denoids or are pale, anemic, headachy — in a phrase, children who are moderately below par. Such children wear their own wraps during school hours. They do not need school feeding or nourishment more than other children require. They do not need an hour for sleep.

The Chicago Commission on Ventilation:
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George Mehring,
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S. R. Lewis,
Illinois Chapter, American Society of Heating and Ventilating Engineers.

A RAPID METHOD OF INOCULATION AGAINST TYPHOID FEVER

METHOD OF ADMINISTRATION OF VACCINE IN SOME 3,500 INJECTIONS IN THE EIGHTEENTH UNITED STATES INFANTRY, MANEUVER DIVISION SAN ANTONIO, TEX.

KENT NELSON, M. D.
Major, Medical Corps, U. S. Army
AND
W. E. HALL, M.D.
First Lieutenant, Medical Reserve Corps, U. S. Army
SAN ANTONIO, TEX.

Our experience covers the administration of the vaccine in 3,500 separate injections and we feel that this number is sufficiently large to justify confidence in our method. In the administration of the vaccine there are several essentials which are of the greatest importance, as follows:

1. It must always be clearly borne in mind that this vaccine is a bacterial suspension and not a solution, for on a thorough understanding of this one point will rest much of the success or disaster attending its administration.

2. The necessity of cleanliness in its administration is imperative.

Soon after the regiment arrived in San Antonio an order was issued making it obligatory to all (officers, enlisted men and civilian employees attached to the regiment) to submit to the inoculation.

The regiment was in camp under service conditions as far as supplies and equipment were concerned. The medical department had only the equipment necessary for a regimental infirmary for the administration of first aid. This infirmary is in no sense a hospital and sick are never retained in it, always being transferred to the field hospitals. With this meager medical equipment four problems confronted us:

1. The administration of the vaccine in a cleanly manner so as to insure against infection and subsequent admission to sick report.

2. The protection of the individuals, one against the other, by not using the same needle twice without reliable sterilization.

3. The equalization of the reactions by administering uniform and accurate doses of the vaccine.

4. Inoculation of the command with the maximum degree of rapidity.

EQUIPMENT, PERSONNEL AND TECHNIC

In this regiment the equipment and personnel used for the rapid inoculation of a large body of men was as follows:

Equipment.—One alcohol stove with a shallow pan of about 1 quart capacity. Two hypodermic syringes of a make which permits sterilization by boiling, with six sharp needles for each. One bottle each of tincture of iodin and collodion with camel's hair brushes. Two boiled medicine glasses, some clean towels and a small quantity of sterilized gauze.

Personnel.—Two medical officers; one sergeant, hospital corps, in charge of the individual record of the inoculation; one private, hospital corps, to apply iodin to the arms; one private, hospital corps, to apply collodion to the needle punctures; one private, hospital corps, in charge of the stove with constantly boiling water.

A box or something suitable for use as a table is covered with clean towels and on these are placed a few pieces of sterilized gauze to receive the sterilized syringes and needles and the sterile medicine glasses containing the vaccine.

The inoculator immerses the needle in the vaccine in the medicine glass; after filling the syringe he stirs the vaccine by discharging the syringe into the glass; this is done several times and should be repeated at frequent intervals throughout the inoculation because of the fact that, the vaccine being a suspension and not a solution, precipitation of the bacilli will occur and dosage (as far as numbers of the bacilli administered) would not be uniform.

So far as the inoculation is concerned, it is immaterial whether or not the subject has had a bath the same day or a week before.

On arrival at the infirmary the men are directed to roll their sleeves well up to their shoulders. An assistant with iodin then paints an area about 15 mm. in diameter at the insertion of the deltoid muscle. This completed, the man steps forward to the physician, who is ready with a syringe with sterile needle attached and filled with well-mixed vaccine. The needle is plunged into the skin through the iodin-painted area, the proper quantity of vaccine is discharged and the needle withdrawn, when the man passes to the assistant who applies collodion to the needle puncture, thus sealing the wound at once. The man is directed not to roll his sleeve down until the collodion has hardened when the operation is complete.

After an injection has been given, the inoculator detaches the needle used and it is transferred to the boiling water by the assistant in charge of the stove, who returns a clean needle from the boiling water to the inoculator. The needles are withdrawn from the water in the order of their entrance. This arrangement and the number of needles used permits one needle to be in use and five needles to be constantly boiling.

In this regiment and with this method, by which each man has a freshly boiled needle and a sterile hypodermic (which, by the way, is reboiled once every hour), we have been able to vaccinate men at the rate of 300 inoculations per hour. The efficiency of our cleanliness and the accuracy of our dosage has been demonstrated by our results which we now enumerate.

1. In this series of 3,500 injections of the vaccine we have not had a single case in which the temperature rose to 102 F.

2. No infection of any character has been observed, not even a suspicion of such an accident.

And last but not least, there has not been any evidence of any ill effect of any nature whatever which, in our opinion, can be traced to the vaccine.

These results we attribute, of course, to the accurate preparation of the vaccine and also to our method of administration, in which the iodin, careful sterilization of instruments, and most careful mixing of the vaccine in each syringe dose given were used.

Care must be observed to give the vaccine subcutaneously and not intravenously, as happened in one case which was noted by us, but did not occur in our regiment. In this case of intravenous inoculation the puncture was not made at the insertion of the deltoid muscle but well down on the anterior aspect of the arm.

In this case the reaction was extreme, temperature high, diarrhea, malaise and herpes labialis were marked and prostration existed for three days. At the site of puncture absolutely no local reaction was noted, not even redness—and the reaction commenced almost immediately after the inoculation—significant evidence that the vaccine entered intravenously.

STAGES AND DEGREES OF REACTIONS

In this series of inoculations, not a single case reached a temperature of 102 F. and in not a case did the reaction exist longer than twenty-four hours; in the vast majority the reaction was over in twelve hours. The reactions are considered under the heads of local and general.

LOCAL REACTIONS

Frequency.—As a rule the local reactions were more numerous after the first dose, less so after the second dose and of least frequency of occurrence after the third dose.

Character.—To us a typical reaction consists of an acutely inflamed area surrounding the point of inoculation. The size of this area may vary from 1½ to 3 or 4 inches in diameter. It does not look like an abscess. It is hard and indurated and has considerable local temperature, the entire arm may ache more or less and the axillary glands are somewhat tender.

Time.—The height of this reaction is reached within eight or ten hours and by the end of twenty-four hours, although the area around the point of inoculation is still red, it has ceased to be painful and the patient ignores its existence. In our opinion, a local reaction extending over a period of time greater than twenty-four hours is caused by some other agent than the vaccine.

GENERAL REACTION

Frequency.—In this series of inoculations a systemic reaction was noted in about 7 per cent., and was most frequent after the second dose, next after the first and of least frequency after the third dose. It consisted of a temperature of about 100 F. and malaise; these were consistent and, in exceptional cases, diarrhea, insomnia and nervous symptoms, herpes labialis and, most rare of all, an acute general erythema with an occasional spot not unlike a "rose spot."

The other symptoms noted are irregular in character and vary in duration. Insomnia and nervous symptoms may last for forty-eight hours, but as a rule are over within twenty-four hours.

In this regiment provision was made for these reactions by excusing the men treated from all duty for twenty-four hours after inoculation and instructing them to avoid alcoholic drinks, muscular exertion and exposure to the sun, for it is our belief that failure to observe these precautions after inoculation will, in a large percentage of cases, result in a sharp reaction which can be prevented by strict observance of these instructions.

During this encampment at San Antonio, Texas, of 12,000 men approximately, there has occurred one case of typhoid fever. This man was a civilian teamster and had never been inoculated against typhoid.

With this case of typhoid and the undoubted presence of typhoid carriers in this command, it is our opinion that sanitation alone would never have kept this command free from an epidemic of typhoid fever, and that its present typhoid-free condition has been brought about by the energetic employment of vaccine prophylaxis against typhoid. From a sanitary standpoint, the health record of the present encampment of the United States troops at San Antonio, Texas, has probably never been equaled.

Note.—Since this article was written there has occurred in this division an additional case of typhoid fever. This case was in the person of a private of the hospital corps and was of the ambulatory type. This man had had two doses of the vaccine, which so modified the disease that clinically it would not have been recognized, the symptoms consisting only of a little fever and malaise, which lasted for a few days. This additional case and the case previously reported in this paper are cited for the purpose of emphasizing the fact that typhoid fever is present in this camp.

IDIOPATHIC NON-PURULENT ACUTE THYROIDITIS

REPORT OF A CASE, WITH COMPLETE RECOVERY *

HOWARD V. DUTROW, M.D.
ANCON, CANAL ZONE

This case was presented at the sixty-second meeting of the Canal Zone Medical Association, on account of the rarity of this diseased condition of the thyroid gland, at least on the Isthmus, this being the only case diagnosed as such among the records of Ancon Hospital.

History.—The patient was a male laborer, from St. Lucia, aged 30, seven years on the Isthmus, and in fairly well-nourished condition. His father was still living and healthy; his mother had died of senile debility. The patient had never been admitted to the hospital before. He had had rheumatism from time to time; but no attacks of shortness of breath, nor history of previous illness of any kind. His venereal history was negative. Ten days before admission to the hospital, the patient's throat began to swell; two days after the initial onset, the swelling in the region of the thyroid gland became painful.

Examination.—When the patient was admitted, the swelling was not acutely painful to pressure but became so two days later. The mass conformed to the movements of the larynx and adjacent structures during the act of deglutition. There was no dysphagia or dyspnea. There was no pain on firm pressure over the manubrium of the sternum. The swelling gradually increased and a small area of bogginess could be made out on palpation in the median line on a level with the cricoid cartilage. The eyes were negative and the heart's action was slightly accelerated. The temperature was 102 on admission; on the morning of the following day it was 99 and in the evening went up to 101½. For the next ten days it ranged from 100 to 101½, then it dropped to normal and remained so until the date of the patient's discharge. The buccal cavity and pharynx were found to be negative. Laryngoscopic examination of the larynx showed nothing except a slight congestion of the mucous membrane. There was no impairment of the voice. The patient had a leukocytosis of 12,000; chemical and microscopic examinations of the urine were negative. The condition of the blood was not ascertained in this case. A differential diagnosis has to be made between Ludwig's angina, cervical adenitis, mediastinal, peritracheal and periesophageal abscess.

Operation and Treatment.—An exploratory incision was made in the median line over the isthmus of the gland and both lobes explored for the presence of pus but none was found. A small amount of colloid material mixed with blood exuded. A small gauze drain was inserted which was removed after forty-eight hours and the wound allowed to close. Ice in an ice-cap was used constantly as a local application, while the constitutional treatment consisted of brisk purgation together with tonics and a full nutritious diet.

Course.—The swelling gradually subsided and the patient made a complete recovery, except for a slight discoloration of the skin over the gland. Whether he will have any subsequent local or general manifestations as a result of the acute inflammatory process in the gland, I am not prepared to say. He had no signs of myxedema when he left the hospital.

Acute thyroiditis may be purulent or non-purulent. When pus is present it is usually in the form of small abscesses scattered throughout the gland. In this case, no apparent cause could be found, either local or constitutional. The etiology of this form of acute thyroiditis is in most cases a mooted question as is the physiology of the gland itself.

I have reported this case because I thought it would be of general interest to the profession, as well as to those who are engaged in special work pertaining to the thyroid gland and its allied pathologic conditions.

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* From the Eye, Ear, Nose and Throat Department, Ancon Hospital. This case is reported with the approval of Colonel W. C. Gorgas, Chief Sanitary Officer.

AN UNUSUAL FOREIGN BODY IN THE INTESTINE

EDWARD H. MOSS, M.D.
CINCINNATI

The following interesting case is reported, not only as a curiosity, but also as showing to what an extent the human digestive tract can accommodate itself to a large foreign body for so long a time.

In November, 1910, Mrs. H., aged 27, was placed in a private sanatorium, suffering with acute mania, in which she was very destructive, tearing up everything within her reach. The patient afterward told me that the nurse tied her feet with a small piece of rope and that she chewed through it and swallowed it so that the nurse would not know what she did with the rope. She also chewed her gown, bed sheeting and hair and swallowed them.

She left the institution in December, 1910, cured, and did not suffer any inconvenience, having a bowel movement daily, although she states that at times she had a little pain in the pit of the stomach.

Sept. 13, 1911, she came under my care for a gastro-intestinal disturbance following the eating of canned lobster, in which she vomited every few minutes matter consisting mostly of water and a little bile. The temperature was 100, pulse 96. Examination of the abdomen revealed nothing abnormal.

September 14 the vomiting still continued and the bowels were very much distended with gas. The temperature was normal and pulse 86. Examination showed no evidence of appendicitis. I directed the administration of a high enema of soapsuds and turpentine which was repeated an hour later. After the second enema the patient evacuated a small, clay-colored, watery stool with a good deal of gas.

September 15 patient had ceased vomiting and taken some light nourishment. As her bowels had not moved, her stomach being settled, I gave her four drops of croton oil in milk, and ordered the nurse to give a high enema within two hours if the bowels did not move. Following the enema the patient had a copious, watery stool, blackish in color and very foul. On the 16th and 17th the patient was comfortable and ate light diet; the pulse and temperature were normal and she was up and around.

September 18 at 9 o'clock she commenced to vomit again and complained of "awful bearing-down pains." Her bowels were moved by a high enema of Epsom salts (stool very loose, black and foul). She complained of intense pain all day.

September 19, about 11:30, after the nurse had given a high enema of Epsom salts, the patient started to use the vessel, when she screamed out with pain and told the nurse that something was cutting her rectum. The nurse reached down and found a piece of rag protruding from the rectum, on which she started to pull, and a mass came down into her hand. She put her fingers up into the rectum and felt another mass which was connected with the first. She started to pull this mass and the patient fainted. The nurse pulled the rest out and placed the patient in bed, and then called me. On my arrival we examined the mass and found that the specimen, filled with fecal matter, weighed 2 pounds and 8 ounces. After washing, the mass was found to consist of hair, rope and cloth which the patient had swallowed during her maniacal attack nearly a year before.

I have looked up a good deal of literature on this subject but can find no record of any case in which the patient retained so large a mass in the intestines for so long a time and then passed it per rectum. There are instances in which obstruction has occurred from foreign bodies in the intestines necessitating operation.

18 West Seventh Avenue.

WOODY PHLEGMON OF RECLUS

E. J. PANZNER, M.D.
DETROIT

The patient was a woman, aged 25, in good general health, who had been married two years and had no children. Past history was negative, except for a number of attacks of follicular tonsillitis. Two days following an attack of pharyngitis she noticed a swelling develop in the cervical region of her neck. This swelling became larger and gradually extended up the left side of the neck, just posterior to the mastoid process, whence it traveled anteriorly to the submaxillary space and forward almost to the trachea. The mass was very hard and, except for a very small area which was soft and fluctuating, had a board-like feeling on palpation. The skin was not discolored at this time, nor was it adherent to the lump beneath. There was no pain, no rise in temperature, no dyspnea, in fact nothing, either subjective or objective, except the swelling referred to. I saw the patient one month later and the same condition prevailed. This time an aspirating needle was introduced into the necrotic focus, but no pus escaped. The Von Pirquet test was tried for tuberculosis but proved negative. Actinomycosis and sarcoma of the skin were excluded. A diagnosis of woody phlegmon or *Holz-Phlegmon* (as it is known in Germany) was made. The board-like mass was deeply incised, and a small quantity of pus escaped. A drainage-tube was introduced and retained for two weeks, but pus discharged slightly. This condition prevailed for four months, during which time the mass became smaller and softer, the skin bluish, and pus discharged in a small amount from several sinuses, whereupon recovery became uneventful.

The literature of this disease is very meager. Reclus was the first one to report this peculiar condition in 1893, and since then a number of similar cases have been put on record. Recently, Powers of Denver reported a number of cases.[1]

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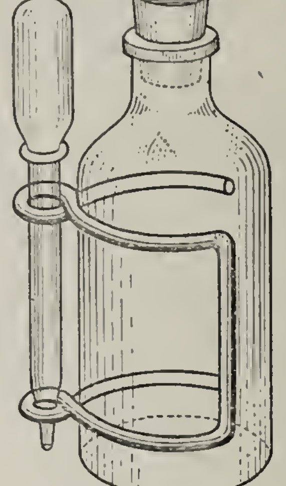
[1] Powers, Charles A.: Woody Phlegmon of the Neck (Reclus), The Journal A. M. A., July 1, 1911, p. 365.

Credulity.—"In fact, we are all credulous on subjects of which we have no actual knowledge. . . . A young physician, or surgeon, on the point of commencing practice, having read in a medical journal a statement of a wonderful cure produced by some new medicine, may not doubt it to be true; while a more experienced practitioner will say, 'It may be so; but, according to my observation, in nine cases out of ten such stories prove to be without foundation.' "—Sir Benjamin Collins Brodie, 1842.

A NEW MEDICINE-DROPPER CLIP

PERCY R. WOOD, M.D.
MARSHALLTOWN, IA.

My first medicine-dropper clip did not prove satisfactory. The pipettes on the market vary so widely in caliber that they will not fit any single loop of standard size. When the pipette is too small the tip rests on the table, exposed to infection and displacement; when too large it cannot be inserted into the loop or removed without undue effort. Moreover, the single clip does not cling securely to the vial, besides being too difficult and expensive to manufacture.


A new medicine-dropper clip.

I have now contrived a clip, illustrated herewith, which overcomes these objections. It can be made by any one with the aid of a bit of wire and a pair of pincers, and will fit a bottle of any size. There are two loops, the top one sufficiently large to engage loosely a pipette of any size, while the lower one engages and supports the tip. The pipette can be easily removed and replaced.

New and Nonofficial Remedies

The following additional article has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Its acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

FERMENTDIAGNOSTICUM.—Solution of Glycyltryptophan Kalle.—Fermentdiagnosticum is a specially prepared solution of glycyltryptophan for use in determining the presence of a peptolytic ferment.

Actions and Uses.—Glycyltryptophan is decomposed in the presence of certain ferments into tryptophan and glycocol (amino-acetic acid). The presence of tryptophan is determined by the characteristic test for that substance. If tryptophan is found in the solution after incubation with a suspected solution (stomach contents) it is concluded that a peptolytic ferment was present in the substance tested.

As peptolytic ferments are not present in stomach contents except after regurgitation from the intestine, or in the presence of cancer, it is claimed that fermentdiagnosticum may be applied as a reliable test for the diagnosis of cancer in the stomach.

Dosage.—Each bottle contains a quantity sufficient for one reaction, the solution being covered with toluene for preservation. The material to be tested should be examined for bile and blood and tested with bromine water or bromine fumes for the presence of tryptophan. If these tests give negative results, the stomach fluid is suitable for the application of the fermentdiagnosticum.

The bottle is filled to the mark with filtered stomach contents and placed in the incubator for twenty-four hours. It is then taken out and 2 to 3 c.c. of the solution underneath the toluene layer are removed and tested for the presence of tryptophan.

Manufactured by Kalle & Co., Biebrich a. Rh., Germany (Kalle & Co., Inc., New York). German trademark; no U. S. patent or trademark.

Therapeutics

ANESTHESIA AND ANESTHETICS

(*Continued from page 1697*)

CHLOROFORMUM U. S. P.

Description.—Chloroform. $CHCl_3$, is a heavy, clear, colorless liquid, with a sweetish characteristic odor and taste, slightly soluble in water, but mixes in all proportions with alcohol and ether. It is a very remarkable solvent; is very volatile; and its vapor is heavier than air. In the presence of light and air it undergoes slow decomposition with the production of irritating substances, and consequently it should be kept in tightly stoppered bottles.

Chloroform was discovered in 1831, by Samuel Guthrie, of Sacketts Harbor, N. Y., and about the same time by Soubeiran, in France, and Liebig, in Germany also.

It was employed as an anesthetic by Sir James Y. Simpson, of Edinburgh, on Nov. 4, 1847, and soon afterwards he published a report of fifty successful administrations. Its apparent advantages over ether caused it for a while to supplant the latter in a large part of the world, New England being the most important exception.

Local Action.—On the skin its action is similar to ether though more intense, and vesication is more easily produced.

Systemic Action.—Internally its action is similar to that of ether with the following slight differences: It is less depressant to the respiratory center, and it does not increase the arterial tension, as it is not a stimulant to the heart. On the contrary, it has a direct depressant action on the heart muscle.

Therapy.—Its principal use is by inhalation for surgical anesthesia. Locally it is used as a counter-irritant, and as such is an ingredient of several liniments. Chloroform has been used as a styptic, and a 2 per cent. solution in sterile water has been found efficient where the bleeding vessels were small.

Internally it acts as a carminative similar to the volatile oils. Chloroform inhalations to the point of anesthesia, lasting a few minutes, has been found to greatly modify subsequent paroxysms in whooping-cough. Whether its antiseptic property is the reason for such improvement, or whether the irritability of the nervous system is for some time reduced, has not been determined. If a patient with whooping-cough had paroxysms that were dangerous for the welfare of his blood-vessels and heart, certainly chloroform should be resorted to. On the other hand, it should not be forgotten that a patient must remain quiet for some hours after chloroform anesthesia. As a routine treatment, therefore, chloroform should not be used, probably, in whooping-cough.

Official Preparations.—*Aqua chloroformi*, chloroform water. Dose 15 c.c. (or ½ ounce), a tablespoonful in cracked ice. This is sometimes used as a menstruum.

Linimentum chloroformi, chloroform liniment, chloroform 30 per cent., soap liniment 70 per cent.

Emulsum chloroformi, emulsion of chloroform, chloroform 4, expressed oil of almond 6, tragacanth 1, water to 100. Dose, 10 c.c. (or 2 fluidrams), 2 teaspoonfuls.

Spiritus chloroformi, spirit of chloroform (chloric ether), chloroform 6, alcohol 94 (strength 6 per cent.). Dose, 2 c.c., or 30 minims.

CHLOROFORM NARCOSIS

Chloroform has been extensively used as an anesthetic in Scotland, where it was first used by Simpson, in England, Ireland and throughout Europe. It has maintained its popularity with very many experienced surgeons in spite of the fact that it has been accused of having produced many more deaths than are produced by ether, which latter anesthetic, on account of its reputation of greater safety, has been especially used in the United States, although chloroform has enjoyed moderate popularity in the south and west.

The knowledge of the use of chloroform as an anesthetic has been in recent years systematized through the work of the special Chloroform Committee of the Bristish Medical Association, which, having been appointed in 1901, made its final report to that association in 1910. To that committee the profession is indebted for the establishment of many important facts in connection with chloroform anesthesia. When inhaled into the lungs with the air in a certain definite proportion it is taken up by the red blood corpuscles, and perhaps also in part by the protein of the serum, with which it is held in unstable combination, and is carried to all parts of the body. On the nervous system it acts primarily on the higher centers of the brain. It does not act on all parts of the nervous system equally, and it is this fact which makes it useful as an anesthetic, for if its primary effect was equally strong on the centers of respiration as on the centers of intellection and sensation, it would not be available as an anesthetic for operative surgery. It passes from the air in the lungs to the blood in the capillaries, and with equal facility passes back again from the blood to the air of the lungs when that does not contain chloroform. In this way the chloroform is quickly and readily eliminated from the body when its inhalation is discontinued.

When too large a dose is administered at first, there is stimulation of the vagus center and there is danger that this will cause immediate cessation of the action of the heart. Consequently, it is an inviolable rule that a small quantity of chloroform should be administered at first. This should be gradually increased until the patient is fully anesthetized. After this has taken place, the amount administered should be generally lessened, else it is likely to produce disastrous results.

Chloroform acts on the heart by reducing the strength of the ventricular contractions, and it has been shown that the strength of the heart is most diminished a few moments after the anesthetic has been begun. Later the heart muscle recovers and remains improved during the subsequent careful anesthesia. This emphasizes the danger of heart failure during early chloroform anesthesia. The progressive fall of blood-pressure under chloroform is largely due to vasomotor depression.

The committee already mentioned, through its various members and co-workers, determined that the proper strength of chloroform which should be inhaled in order to produce anesthesia is 2 per cent. This, however, should not be used at the beginning. The strength at first should be 1 per cent., which should be rather rapidly increased until 2 per cent. is used. After the patient becomes fully anesthetized, this may be reduced to 1.75 to 1.5, or even to 1 per cent., as the circumstances demand.

In order to obtain this exact percentage of chloroform in the inspired air a number of inhalers have been devised, all of which have some merit and perhaps all have some disadvantage. It will readily be seen, however, that only by the use of suitable apparatus can the percentage of chloroform in the inspired air be definitely determined and adjusted. Consequently, it is one of the things which must be worked out in the future to obtain an apparatus which is practicable to use and which will enable the exact proportion of chloroform to be determined and administered.

Of course the same facts are applicable to chloroform when an inhaler is not available. Under these circumstances the anesthetist must aim to administer the chloroform as nearly as possible as above suggested. This can probably best be accomplished by an ordinary wire inhaler on which is stretched a single layer of stockinet or a loosely woven flannel. This should be applied closely to the face of the patient, after the skin has been lubricated with petrolatum, and the chloroform dropped on this flannel, a single drop at a time, the drops being repeated with a frequency about equal to normal respiration. When chloroform is administered in the method described, anesthesia should be completed in from 8 to 12 minutes.

A large proportion of the deaths from chloroform have occurred while the anesthesia is being induced, and have probably been due to a too high percentage of chloroform in the air inhaled. Undoubtedly in many cases as much as 4 or 5 per cent. of chloroform has been mixed with the air, and this amount is certainly dangerous.

Much discussion has been held in regard to whether deaths from chloroform are due to paralysis of the heart or of the respiration. When a very strong vapor is administered at first, as has already been stated, the heart may stop through excessive stimulation of the vagus center. If the amount administered is not sufficiently strong to produce death in this way, it may produce it by direct action on the heart muscle. When excessive amounts of chloroform are administered there is a very notable diminution of the blood-pressure, and this together with the impaired action of the heart is likely to cause paralysis of respiration. In other instances where the action of the heart is not entirely stopped the lessened blood-pressure in connection with the direct action of the chloroform on the respiratory center may cause cessation of respiration before the heart stops.

In order to diminish the proportion of chloroform in the air and so to render its administration more safe, it has been proposed to dilute it with alcohol or with ether, or with both, but such admixtures so complicate the problem of the administration of chloroform that it would seem wise to discontinue their use.

The so-called A C E mixture, viz., alcohol, chloroform and ether in the proportion of 1 part of alcohol, 2 of ether and 3 of chloroform, has been many times recommended and has been largely used by some surgeons. It is, however, a dangerous combination, as it causes the anesthetist to use the anesthetic as he would ether, while the danger is that of chloroform. Consequently, the use of this combination should be discouraged.

As it has been noticed that chloroform is given with less danger in warm climates and during summer weather, it has been proposed to administer the chloroform, as suggested for ether, warm rather than cold.

When chloroform is not administered by one of the mechanical regulating inhalers, but by the so-called open method, the chloroform should always be used by the drop-by-drop method, and should never be used by the so-called douche method, i. e., to pour a half teaspoonful or more of chloroform on the flannel of the inhaler, as it is a dangerous practice.

Children usually require a relatively smaller percentage of chloroform to induce anesthesia than do adults, and some thin adults are found to require less than the average amount necessary for anesthesia, while fat patients often require very much more. It has been suggested that the reason fat patients require more chloroform is that the fat tissue in all parts of the body takes up the chloroform, and it therefore requires more to act on the nerve cells and thus to produce anesthesia. Alcoholic patients often require a large amount of chloroform, and consequently chloroform is more dangerous in these patients, they already often having weak hearts.

INDICATIONS FOR THE USE OF CHLOROFORM AS AN ANESTHETIC

1. Labor.
2. Renal or hepatic colic.
3. Convulsions.
4. Very high blood-pressure.
5. Arteriosclerosis.
6. Aneurysm.
7. Renal disease.
8. Lung lesions, such as chronic bronchitis, serious asthma, emphysema, pulmonary tuberculosis.
9. Obstruction to the upper air passages and when ether anesthesia by the rectum is not advisable.
10. Laryngeal irritation or inflammation.

CONTRA-INDICATIONS TO THE USE OF CHLOROFORM

1. Weak circulation: myocarditis, dilatation, fatty heart, a condition of shock after loss of blood.
2. Very long operations.
3. Operations in which the patient's head and shoulders must be raised; in other words, in which the patient cannot be recumbent.
4. Prolonged septic processes, or serious abdomina conditions, as intestinal obstruction, and where there i jaundice.

If a patient must be moved after being anesthetize by chloroform, the head must remain lower than th body and the feet more or less raised during the transfer.

It should be remembered that ether is more or les stimulating to the heart, and when there is fatty degeneration or myocarditis, and perhaps in most cases o valvular lesion, ether should be the choice, and the puls tension will often improve under its administration.

Chloroform for short operations on children has bee the anesthetic of choice, and was largely used fo adenoid and tonsil operations. If it was carefull administered, the results were generally good, but number of fatalities occurred, whether from pushing th chloroform too rapidly in the first stage of anesthesia, o because operations were done in primary anesthesi before the patient was really anesthetized, or because th patient in these operations is often not recumbent, b is simply inclined backward, does not appear. Prol ably all of these causes produce death. Consequentl ether is generally now used for these operations.

While there is always danger of fire or explosion i using ether after dark when the light is furnished b gas, still it should not be forgotten that in the presenc of gas light the vapor of chloroform may be broken u not only into chlorin and hydrochloric acid, but als into an oxychlorid of carbon, phosgene ($COCl_2$), whic is a violent poison

COMPARATIVE DANGER OF ETHER AND CHLOROFORM

Ever since these two anesthetics made their almost simultaneous appearance there has been more or less controversy as to which is preferable and which the safer. The particular indications and contra-indications for ether and chloroform have already been stated. There have been many carefully investigated statistics offered, both early and more recently, and the percentage of deaths from the two anesthetics continues about the same. Doubtless these percentages are unfair to chloroform, because there are ether deaths from bronchitis and pneumonia which are not recorded as ether deaths. Also the statistics are unfair from the fact that a careless or unskilled anesthetizer may use ether with impunity, but chloroform with dire results.

From these accumulated statistics it seems that there is one chloroform death in each 2,000 anesthesias, and one ether death in each 10,000 anesthesias; i. e., chloroform, as used, is five times as dangerous as is ether. Again, however, it should be suggested that the statistics of etherizations generally come mostly from hospitals where the anesthetist is now generally skilled in the art of administering anesthetics, while chloroform is administered for short anesthesias by anyone in any place, and without his having special knowledge of the administration of anesthetics.

DELAYED CHLOROFORM POISONING: POSTANESTHETIC GLYCOSURIA

The completion of the operation and the withdrawal of the anesthetic does not terminate the danger for the patient. While the most common cause of a fatal result following operation is connected with the pathologic process for which the operation is undertaken, in a small proportion of cases a serious illness or a fatal result is due to an unusual action of the anesthetic. This is seen most frequently after chloroform has been administered, but is also observed less frequently after the inhalation of ether, of nitrous oxid, or of ethyl chlorid. Its more frequent occurrence after the administration of chloroform has led to its being commonly designated as "delayed chloroform poisoning." It may come on a few hours after the administration of the anesthesia, or it may not appear for two or three days. It may continue from a few days to a week or ten days, and may end in recovery, but usually terminates in death.

It has long been recognized that glycosuria occasionally occurs in the urine of patients who had been anesthetized by chloroform. It can also occur after etherization, but this is rare. An actual acid intoxication seems to occur occasionally after chloroform anesthesia. This poisoning has been thoroughly described by H. G. Wells, of Chicago (*Arch. Int. Med.*, July, 1908). He thinks that these cases of poisoning may be grouped into two classes. One occurs mostly in children, with the prominent symptoms of vomiting, cerebral excitement, breathlessness, disturbed heart action, with cyanosis and finally coma. The urine shows various acetone bodies, and the breath is sweet. In other words, the condition is one of acidemia, as occurs in diabetes. The other type occurs in older individuals with almost similar symptoms, with the exception that the symptoms are likely to last longer, jaundice may occur, and there is a tendency to hemorrhage. The liver shows marked disturbance, leucin and tyrosin may appear in the urine, and the symptoms may resemble acute yellow atrophy of the liver. The above symptoms may occur within from 10 to 150 hours after the anesthesia. Autopsies have shown the principal disturbance to be in the liver, which shows great congestion and degeneration, somewhat similar to that found in acute yellow atrophy of the liver.

Bevan and Favill (THE JOURNAL, Sept. 2, 1905, p. 691) studied this subject very carefully, and reported that they had found at autopsies that the liver showed fatty degeneration in sixteen cases, acute yellow atrophy in three cases, and no distinct changes in four cases of deaths from chloroform anesthesia. Other organs showed fatty degeneration. Ether can readily cause these disturbances. Predisposing causes to such serious results from anesthesia are diabetes, chronic disease of the liver and kidney, exhaustion from hemorrhage or from starvation, a previous or present severe infection, repeated anesthesias or recent anesthesia; and, other things being equal, the younger the patient.

The frequency of the occurrence of this serious toxemia has not been determined, but Swan, of Watkins, N. Y. (*Arch. Int. Med.*, July, 1911, p. 58), reports an examination of sixteen patients with reference to glycosuria. Ten of these patients had no glucose in the urine either before or after the administration of ether; one had no glycosuria before the administration of the anesthetic, but showed glycosuria in one test afterwards; two had glucose in the urine both before and after the administration; two had no glycosuria before anesthesia, but showed it in considerable quantities after the anesthesia.

Various writers have reported varying proportions of cases in which glucose appears in the urine after the anesthetic, and it is interesting to note that P. B. Hawk, of Urbana, Ill. (*Arch. Int. Med.*, July, 1911, p. 39), reports that in dogs glucose constantly appears in the urine after the administration of ether, unless the dogs have been previously starved, and the glycogen of the body has for this reason been more or less used up.

As this poisoning appears to be an acidemia, a prophylactic measure would certainly be not to have the patient long starved before the administration of the anesthetic; perhaps he should receive sugar in some amount a few hours before the operation. Also, as soon as possible after the anesthetic, oatmeal gruel or some similar starch should be given. If symptoms of such poisoning appear, solutions of dextrose should be administered, either by the mouth or by the rectum, and alkalies like sodium bicarbonate are indicated. It seems, however, that most patients who actually develop this condition die. In other words, the condition is very serious.

From what investigations and observations have shown, it seems that some individuals may have an idiosyncrasy against chloroform, and if such iodiosyncrasy is ever discovered, certainly this anesthetic should never be repeated. On the other hand, in septic processes, and especially in prolonged suppuration where the vitality of the patient has been diminished and the liver is more or less worn out with combating poisons, chloroform should not be used; nor, when there is obstruction in the intestines, or jaundice, and the liver is therefore in serious trouble.

From all that has been said of ether and chloroform, no other conclusion can be drawn than that chloroform should generally be used only in cases in which ether is contra-indicated. On the other hand, as above stated, statistics and general professional and lay opinion seem to be unfair to chloroform. Chloroform when properly administered by a skilled anesthetist has so many advantages over ether that it is a pity that it has come to receive such a bad name.

(*To be continued*)

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ALIMENTARY BACTERIA IN A NEW LIGHT

It is not necessary to turn back many years to reach the period when marked synthetic powers were regarded as preeminently, if not exclusively, the property of plant structures. To the animal economy was relegated the capacity primarily to disintegrate complex compounds, with the exception of a few isolated examples of synthetic activities. The modern researches in the chemistry of digestion, to mention only one field of study, have placed the questions of constructive reactions in nutrition in a new light. Foodstuffs, once supposed to be absorbed and "assimilated" after only slight preliminary digestive alteration, are now known to be disintegrated in the alimentary tract into relatively simple chemical fragments which are in turn resynthesized into compounds specific for the individual and specially adapted for its nutritive needs. Flesh and blood no longer are vaguely assumed to represent slightly metamorphosed food—they are a product of actual reconstruction from the débris of the alimentary tearing down.

Thanksgiving

Now, while the land rejoices in the close of a fruitful year, it is the privilege of our profession to join with all sorts and conditions of men in giving thanks for the common blessings of peace, health and prosperity. Ours, too, it is to offer special thanks for benefits vouchsafed to us in particular. For fresh glimpses into the secrets of Nature—for new weapons against the ancient foe, disease—for the inspiration of heroic lives, whether spent in the blaze of publicity or in obscure and lonely ways, and of noble deaths, some bravely challenged in the line of duty, others peacefully crowning a life-time of splendid work—for joy in the exercise of faculties trained to the service of high endeavor—for the opportunity to prove the faith that is in us, if need be, by surmounting hardship, danger and temptation—for all these let us give earnest thanks—and thanks not least for the moment of clear vision that shows their worth. It will often enough be obscured by daily vexations and trivialities. Before we turn to the holiday feast, therefore, let us not forget to light up the coming year with candles of true thanksgiving for the year that is past.

This modern conception indicates how completely digested foodstuffs—in particular, the proteins—can still serve the purposes of adequate nutrition. Numerous experiments have shown that nitrogen equilibrium can be maintained even when mixtures of the amino-acids resulting from complete hydrolytic cleavage of proteins form the sole source of nitrogenous intake. There need be no loss of body protein. Mixtures of this sort have already been administered successfully to man.

If, then, it is true that the animal organism has the power to build up body proteins out of comparatively simple cleavage products resulting from the digestion of food proteins, what is the fate of other similar nitrogenous products which are widely found as accessory constituents of the diet? Such non-protein nitrogenous substances constitute a very large element in the food-supply of the herbivora, in the form of alkaloids, nitrogenous glucosids, amino-acids, amids, phosphatids, nitrates, ammonium salts, etc. They are by no means foreign to the dietary of the omnivora or of man. The question resolves itself into this inquiry: do these non-proteins furnish energy and have they value for the maintenance or production of body protein?

The topics under discussion form the subject of an interesting monograph by Professor Armsby,[1] director of the Institute of Animal Nutrition of the Pennsylvania State College.[1] The investigations there reviewed make it evident that amino-acids and amids, such as ordinarily constitute the larger part of the non-protein nitrogenous constituents of vegetable substances, are catabolized in the animal body. In carnivora and omnivora this type of compound has not yet been demonstrated to be capable of performing the functions of protein. For ruminants the story is different:

> "A conversion of non-protein into protein appears to be effected by the microorganisms of the digestive tract. The extent of the conversion appears to be relatively greater in the case of ammonium salts and asparagin than in that of vegetable extracts. The protein formed thus from non-protein seems to be digested subsequently. . . . By means of its conversion into bacterial protein, the non-protein of feeds may serve indirectly for maintenance and also as a source of protein for milk. The limiting factor in the indirect utilization of the non-protein of the feed appears to be the extent to which it can be converted into protein in the digestive tract rather than any inferior nutritive value of the protein thus formed as compared with that originally present in the feed."

Granting that these facts appear to have only a remote relation to the problems of human nutrition, there is food for reflection in the new rôle of the alimentary

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1. Armsby, H. P.: The Nutritive Value of the Non-Protein of Feeding Stuffs, Bull. 139, Bureau of Animal Industry, Washington, 1911.

bacteria thus portrayed. Here we find them, endowed with synthetic powers like all plant forms, transforming the less valuable food components into real protein which in turn serves the needs of the organism. There are additional facts accumulated of late which speak for the beneficial cooperation of bacteria in alimentation, tending to place some of these parasitic invaders in a light less objectionable than heretofore.

MEDICINE AND SOCIOLOGY

In a thoughtful address to the graduating medical class of Chicago University, Prof. C. R. Bardeen emphasized the fact that with the application of a scientific sociology to the needs of mankind the importance of medical science will come more and more to the fore. He feels that this relation has not been sufficiently recognized hitherto, either by medical men or by sociologists. On the one hand, medical problems are at bottom social problems and are to be wisely solved only by those who have some knowledge of social science. On the other hand, the complex conditions of modern life have developed social problems which demand above all else the intelligence of men broadly trained in medicine. He speaks, of course, from the standpoint of the educator and asserts that our medical schools will recognize more and more that the training of public health officers is a duty equally important with that of training practitioners of medicine.

Bardeen says that much weakness and inefficiency in the treatment of disease by physicians is due to a too narrow preliminary training, to a too restricted attitude, to a selfish, competitive, unprogressive individualism, archaic and out of place in modern highly organized society. Many of the worst evils of our present-day civilization — dirt, ill health, despondency, pauperism and crime—are due to lack of proper education. In the education of the public in these matters those trained in medicine should act as guides and counselors. Health of body and mind should be recognized as of first importance to the community. As Havelock Ellis remarks, it is the chief element of rottenness in our civilization that they are not so recognized to-day; we postpone laying the foundations of our social structure in order to elaborate its pinnacles. We have not yet learned that a great civilization is ill built up on the bodies of men and women enfeebled and distorted by overwork, filth and disease. A vast amount of preventable disease exists, such as typhoid fever, small-pox, the diseases due to defective milk- and food-supplies, etc., for which there is no valid excuse. A start in the right direction has been made in the public inspection of schools, in the more or less effective efforts to establish efficient municipal boards of health—which are greatly handicapped through the reluctance of the legal authorities to grant sufficient funds for health purposes—in the establishment of public sanatoriums for the control of tuberculosis, etc., but what is needed is more of the splendid health work done by our government in Cuba, the Canal Zone and Manila. Bardeen insists that we need a national health bureau and in each state, district or municipality, thoroughly competent health officers. Physicians should take a more active interest and should become the leaders in such movements. In Wisconsin in a "progressive" legislature, bills relating to instruction in hygiene and to medical inspection in the public schools failed to pass because a handful of Christian Scientists exerted more influence than a medical profession of 3,000.

Three things, then, are emphasized by Professor Bardeen: the increasingly important relation of sociologic to medical questions; the necessity of training physicians on broad sociologic lines in addition to their medical training in order to meet the requirements, and the necessity for physicians to take the lead in all sociologic movements; and last, the duty of medical schools in their teaching to recognize the demand for properly trained physicians to become leaders in all matters relating to the public health as well as to make them competent physicians for treating individual diseases or patients.

Some medical schools (Pennsylvania, Harvard, Michigan and Wisconsin) have already recognized this demand and have established special instruction along these lines. This movement must eventually extend to all first-class medical schools.

THE CAUSE OF RIGOR MORTIS

For a long time the phenomenon of rigor mortis has been explained on the basis of coagulation of muscular protoplasm. But there are several vital objections to this theory, the validity of which even its adherents have been obliged to acknowledge. Perhaps the chief objection lies in the transitoriness of the process, which by the coagulation theory would have to be ascribed to a re-solution of the solidified albumin. Such solution, of course, does take place during the autolysis of proteids, in which case it gives rise to their cleavage products. But inasmuch as these cleavage products do not occur in any considerable quantity in muscular tissue after the passage of rigor mortis, the coagulation hypothesis will hardly suffice. Again, if the rigor were due entirely to coagulation, it would be reasonable to expect that the production of coagulation of muscular proteid by chemical means would always be accompanied by a proportionate rigidity. This, it is true, does occur in many instances; but several substances are known, among them sodium sulphocyanate and sodium salicylate, which are capable of producing marked coagulation of muscle tissue without causing any degree of rigor. In view of the apparent inadequacy of the coagulation theory, the application of recent developments in the field of colloidal chemistry to the problem is of interest, more particularly since it seems to admit of explanation on this basis.

As is well known, colloids possess to a great degree the property of absorbing whatever fluid they may be in—the so-called process of imbibition. Now, it has been shown that the capacity of a colloid for the imbibition of water is greatly enhanced by the presence of small quantities of acid. And since lactic acid accumulates rapidly in muscular tissue after death, conditions become favorable for imbibition, with consequent swelling and rigidity of the muscular fibrillæ. This explanation was advanced by Meigs[1] quite recently, and has already received elaboration and experimental confirmation at the hands of von Fürth and Lenk.[2] According to this theory, the onset of rigor mortis is quite independent of proteid coagulation, and even is hindered or prevented by the latter process; for the capacity of a colloid for retaining water diminishes with coagulation, so that the disappearance of post-mortem rigidity can be accounted for by the release of the imbibed water on the solidification of the muscle albumin, this latter quite possibly resulting from the still further increase of lactic acid in the tissue. In confirmation of this view, the authors just cited found that hastening of proteid coagulation, as by chemical or thermal means, resulted in an accompanying decrease in imbibition. Similarly, cardiac muscle from a horse, tested at varying periods after death for imbibitory capacity, at first showed this to a marked degree, but later, after the appearance of rigor mortis, it rapidly disappeared. So pronounced was this that von Fürth and Lenk believe that the phenomenon will even have forensic importance for the differentiation between fresh tissues and those that have been preserved on ice.

Besides serving to explain the passage of post-mortem rigidity, the new hypothesis fits in nicely with minor phases of the process. So, for instance, the more rapid disappearance of rigor mortis in warm weather is explained by the quicker onset of coagulation with elevated temperatures. And the fact that rigidity appears more rapidly when death is preceded by severe muscular contractions is accounted for by the accumulation of acid in exercising muscle. So, too, the lack of rigor mortis when muscle is kept in an oxygen atmosphere follows from the established fact that in such circumstances there is no liberation of lactic acid.

According to this view, it is necessary to consider the rigidity induced by high temperatures (50 C. and over) and by most chemical means, as distinct from that following death; for the former, which is permanent, is of course the result of massive proteid coagulation, and so must be differentiated from the other, transient, process. With chemical rigidity induced, for instance, by sodium sulphocyanate, however, the phenomenon is probably essentially similar to rigor mortis, and is presumably caused by increased accumulation of acid in the tissue.

A similar theory of imbibition has been used by Engelmann to explain normal muscular contraction, and it is interesting to note that thus our conception of rigor mortis is again brought to correspond to a certain degree with that of vital muscular activity—a correspondence that was first suggested by Nysten at the beginning of the last century.

A RECENT CONFIRMATION IN MAN OF THE RESULTS OF PAWLOW'S EXPERIMENTS ON DOGS

One of the charges made by the opponents of animal experimentation and reiterated in their literature is that the experience gained in the study of animals is rarely applicable to the conditions pertaining in the human organism. Indeed, it is not entirely unusual to find this belief entertained by physicians who are not familiar with the contributions made to medicine by such experimental studies.

The classic investigations of Pawlow on the factors concerned in secretion along the alimentary tract and in the conditions favorable to digestive activity—studies which won a Nobel prize for this brilliant Russian investigator—are widely known, and are even quoted in popular literature. Yet one sometimes hears the validity of the application of this work to human beings questioned because the fundamental observations were made on dogs.

It is interesting to note, therefore, that Pawlow's chief conclusions have been confirmed in many of their details by the chance observations made on man in those unfortunate cases in which accident or disease has furnished an "experiment in Nature." The establishment of a gastric fistula in man for the relief of a stenosis of the esophagus is no longer a surgical rarity. What accident did for Alexis St. Martin, the famous patient of Dr. William Beaumont in his pioneer studies on gastric digestion in man, has since been repeated of necessity as a surgical procedure.

Among the latest reports of such cases are two from Italian clinics,[1] in which the patients have become subjects of scientific investigation. They have demonstrated two phases of gastric secretion in man precisely as these have been ascertained in the case of dogs. The early phase of secretion appears about five minutes after the beginning of the psychic excitation; the second and more lasting phase ordinarily begins in the second half hour after the ingestion of food and persists for several hours. In normal gastric digestion, then, the first incitement of secretory response and the gastric juice produced during the first hour or two are in good part attributable to the psychic excitation. In the subsequent period, secretion is due to local causes acting directly within the stomach itself. Mantelli was even able to demonstrate on his patient that intense pain or "psychic traumatism" may produce an immediate and prolonged inhibition of gastric secretion—a fact which clinical experience abundantly verifies.

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[1] Meigs: Am. Jour. Physiol., 1910, xxvi, 191.

[2] Von Fürth and Lenk: Wien. klin. Wchnschr., 1911, xxiv, 1079.

[1] Di Cristina and Natale: Ann. di clin. med., Palermo, 1910. Mantelli: Gior. d. r. Accad. di Med. di Torino, 1910.

Such results, closely paralleling the comparable observations on animals, only tend to lend further emphasis to the value of animal experimentation, which has frequently been dwelt on in these columns.

SCARLET FEVER IN APES

The diseases regarded as exclusively human in character have diminished greatly in number during recent years, and one by one those that remain are being shown capable of animal inoculation. Of those resisting laboratory experimentation most obstinately, scarlet fever has long occupied a foremost rank, and the apparent success of Landsteiner, Levaditi and Prasek[1] in conveying this infection to anthropoid apes is to be viewed with much satisfaction.

Numerous investigators for some time have busied themselves with attempted inoculations of the lower primates, and while some have believed themselves successful, the majority have reported entirely negative results, and the data of the remainder have been of doubtful value. Just how great an amount of work of this sort has been done it is impossible to say, as many investigators do not consider the publication of negative findings as important. This in some ways is rather unfortunate, especially when the experiments have been conducted with great care and on a large scale. It is significant, however, that Landsteiner and his co-workers themselves, before obtaining what is apparently a successful inoculation of one of the higher species, failed to infect thirty-five specimens of lower apes.

The series of experiments in which at last positive results probably have been obtained was performed on chimpanzees. These animals were inoculated both by applying throat swabs from scarlet fever patients to the pharynx, and by injection of blood from such patients. The throat inoculations were in all instances repeated several times, and in one of the positive cases the injection of blood was also repeated, and an emulsion of cervical glands from a fatal case was given subcutaneously also. Two of the four animals so tested gave what apparently was a definite scarlet fever reaction. After an incubation period of two to three days, the animals sickened, underwent a rather abrupt rise of temperature, suffered from a severe angina, with ulceration of the tonsillar surfaces and the formation of a false membrane, and showed a cutaneous scarlatiniform exanthem; this was generalized in one case, and in the other was somewhat localized about the site of injection of the glandular tissue. Both animals died five or six days after the first symptoms, and on necropsy, the lesions of the throat, lymph-glands and skin bore a striking resemblance to those of human scarlatina. In two more cases, an angina like that of the others came on after a similar short incubation period, but neither animal gave any evidence of cutaneous eruption. Since cultures from the blood of patients whose cases ended fatally showed a streptococcus septicemia, attempts were made to produce scarlatinal symptoms in both chimpanzees and lower apes with streptococcus cultures alone. All resulted negatively, although strains of streptococci, isolated both from the infected apes and from human patients, were used.

As is acknowledged by the investigators themselves, their apparently successful inoculations are still too few in number to warrant any extensive conclusions being drawn from them. Nor were the experiments designed for any purpose other than a possible general demonstration of the inoculability of the primates with scarlet fever virus. The conclusion that streptococci play the rôle of merely secondary invaders in scarlatina, however, would seem reasonable, in view of the fact that the streptococci alone failed to cause anything even remotely resembling the specific infection. At the same time there is room for other interpretations.

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[1] Ann. de l'Inst. Pasteur, 1911, xxv, 754.

Current Comment

AN ATTEMPT TO SIDE-TRACK UNWELCOME ADVICE

The physician is often amused, sometimes vexed, and occasionally hindered in the course of treatment he is carrying out, by plausible advice given to patients by well-meaning friends. A physician sends us a copy of a placard which he found displayed in the home of a newborn babe under his care:

> Any lady who has ever raised a child, or lived within 1 mile of where one was raised, will please relate the conditions to us, making any suggestions you can regarding the care of mother and child, as our nurse has only had seven years' experience; besides our doctor didn't know his business. We hereby agree to use any and all remedies suggested.

On first reading this placard, the physician was slightly embarrassed, not recognizing it as sarcasm, but the attitude of the family quickly assured him that he had their entire confidence, and that he was not to be interfered with in doing his best for mother and babe.

THEORETICAL VS. PRACTICAL AID TO HYGIENE

A recent number of the *Bulletin of the Chicago Board of Health* says, sententiously reiterating a truism, "Cleanliness means comfort; dirt, discomfort." In the same issue it quotes from *Modern Sanitation* to the effect that perhaps with many persons the matter of bathing is really more a matter of esthetics than of hygienics, for "it is all very well to take a morning tubbing when we can slip from a snug bed into a bright, warm, inviting bath-room," but possibly not many of us would insist on such scrupulous cleanliness if, like the less fortunate dwellers in our slums, "we had to carry water from a distant hydrant, bathe without privacy in a cold room and then carry the water to a distant receptacle to be emptied," more especially if we were undernourished and anemic and therefore doubly sensitive to cold and exposure. There may be something in the contention that bathing, like other good personal habits, is often not so much a proof of innate superiority as of convenient environment and that, if the two classes were to exchange environments, the former slum-dwellers would become devoted to the daily morning bath, while the bathing classes would slip back to the level of the great unwashed. In other words, hygiene sometimes needs not so much to be extolled as to be made practicable.

A NEW POINT OF VIEW WITH REGARD TO THE CONSERVATION OF NIAGARA FALLS

It is common to declaim over the encroachments of business threatening the destruction of Niagara Falls, but a correspondent of the *Scientific American* takes the opposite point of view and makes a novel proposition. He suggests that much good would come to humanity by allowing this great cataract to work out its board and lodging. He suggests diverting the falls entirely for a period long enough to build a uniform level edge of concrete or vanadium steel, so that the beauty of the falls could be restored from shore to shore with the use of only as much water as necessary. He estimates that one-third of the water which now goes over the falls would be sufficient; the remainder, diverted through power-houses, would provide an immense amount of energy, giving employment to many people, and reducing the price of the necessaries of life. It would bring a good revenue to the state, and would prevent the great waste of energy which seems to trouble this correspondent.

THE IRREPRESSIBLE BENZOATE OF SODA

In a recent editorial[1] discussing the "Expert Opinion of the Royal Scientific Deputation for Medical Affairs Regarding the Use of Benzoic Acid and Its Salts for the Preservation of Food," which was received by the United States government from the American Consulate General of Berlin, the following statement was made:

"Of the decision of the United States referee board these German scientists say:

> "'The series of experiments in this connection made by the American scientists are of too short a duration and the results coupled with certain limitations so that they cannot be regarded as demonstrating the unconditional non-injurious nature.'"

A member of the referee board writes, protesting that this quotation with its introductory statement gives an entirely wrong impression of the attitude of the German scientists toward the referee board. Our correspondent is of the opinion that the sentence quoted had reference, not to the whole series of experiments conducted by the referee board, but only to that series carried out to determine the effect of *large* doses of sodium benzoate. In going over the report with this criticism in view, we are not at all convinced that the authors of the report intended to limit their statement in the way that has been suggested. In order, however, to avoid an appearance of unfairness, we reproduce the entire paragraph of which the closing sentence only was previously quoted:

> "Summarizing, it may be said that the benzoic acid and the benzoic acid natrium [sodium benzoate] only exercises a poisonous effect on the organism after relatively large doses. From the regular occurrence of hippuric acid (the pairing product of benzoic acid) in the human urine it is to be assumed that small quantities of benzoic acid salts [sodium benzoate] which originate in vegetable food or come into existence by oxidation from constituents of this food, circulate in the blood. From this, as well as from the experiments of the American commission, one can draw the conclusion that quantities up to about 0.5 gram of benzoic acid may be taken daily in small doses without injury to the human body. Whether larger doses (quantities of several grams) could be borne for a longer period by human beings without evil effects can at present not be answered with certainty. The series of experiments in this connection made by the American scientists are of too short a duration and the results coupled with certain limitations so that they cannot be regarded as demonstrating the unconditional non-injurious nature."

Whether the last sentence of this paragraph (which was quoted in the previous editorial) refers, as our correspondent says, only to the sentence immediately preceding it or to the entire paragraph, we cannot say. In view of the conclusions reached by the authors of the report, it seems doubtful that they intended to limit their criticism of the duration of the referee board's experiments only to that series which dealt with large doses of the chemical. Of course, it is useless to discuss such a question. The only rational way of settling it is to ask the authors themselves exactly what they meant. This we have done. Our correspondent also is of the opinion that the Berlin report expresses the same opinion as did the referee board regarding the harmlessness of small doses of benzoate of soda. The conclusions reached by the Royal Scientific Deputation for Medical Affairs do not, we believe, bear out this statement. As was shown previously, it was unequivocally stated that these experts held "that the use of benzoic acid and benzoic acid salts for the preservation of food should not be permitted." This opinion was followed up by the statement: "Even if small doses of the same may be considered harmless for the human organism there is still a danger that with the addition of these substances to the various foods and drinks, on the whole quantities would be daily consumed which would be injurious to the organism." It seems probable that if these men really held that small doses of sodium benzoate were harmless they would hardly have said *"Even* if small doses of the same *may* be considered harmless . . ."; they would rather have said *"Although* small doses of the same *are* harmless," etc. From a practical standpoint—that is, so far as the health of the public is concerned—the point raised by our correspondent is rather an academic one. The important point and the one that was made very plain in the previous note on this subject was that the Royal Scientific Deputation concluded that sodium benzoate should not be permitted in foodstuffs. It is only fair to call attention in this connection to the fact that the referee board had nothing to do with formulating the rules governing the use of sodium benzoate in foodstuffs in the United States. The board was merely asked to determine whether sodium benzoate was or was not harmful in certain quantities. After this question was answered, it was left to men with no scientific training to interpret the findings of the board. The extremely foolish ruling which the government officials succeeded in evolving has already been discussed.

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[1] The Journal A. M. A., Nov. 4, 1911, p. 1541.

TEETH NOT A LUXURY

False teeth are a necessity, not a luxury, and a husband is legally bound to furnish them for his wife, if she needs them. This is not the opinion of a medical or humane society, but the solemn verdict of the Supreme Court of Wisconsin.[1] Unless an appeal is taken to the United States Supreme Court, on the ground that this decision deprives the husband of life, liberty or property without due process of law and therefore unconstitutionally, this pronouncement will stand as the law of the land. It is doubtful if there is any other state which has thus safeguarded the rights of its feminine citizens. Married women in need of teeth should at once move to Wisconsin.

A DISGRACE TO THE PROFESSION

The activities of the physician often are not limited to the practice of his profession. We frequently chronicle his success in literature, in statecraft and in other vocations. If a physician links his name with infamy, the disgrace of that infamy cannot fail to be most keenly felt by the upright members of the profession. It is deeply to be regretted that an instance of the latter kind must now be recorded: In the war on vice in Chicago, orders recently went forth to clean up a certain main thoroughfare leading from the down-town district out to the residence part of the city. A protest against making the houses of prostitution move away from that street was laid before the mayor by a committee of "reputable" local business men (or so they styled themselves; as they refused to give their names or occupations, it is impossible to say what businesses were represented). Sad to relate, according to a report in the newspapers, the spokesman was recognized as a physician formerly in the service of the city. It is a consolation to record, in passing, the manly reply of the mayor that the order had gone forth for the benefit of the decent people of the city and that men who would stoop so low as to make such a request did not deserve any consideration from the decent citizens of Chicago. Although a physician might have so degenerated as to look with indifference on these haunts of vice, it is hard to understand how one could have so lost sight of the honor of his profession that he could personally advocate the retention of the houses of prostitution, and thus cast disgrace on himself as a man, and on the profession of which he is a member.

SURGEON-GENERAL WYMAN

By the death of Surgeon-General Walter Wyman[1] the nation has lost a faithful administrative officer who had efficiently handled many important problems of preventive medicine. His work was in the main of a constructive character in the highest and most important sense, and that during a period when large questions of public health and preventive medicine were passing through a rapid development. Much of the efficiency of the public health measures of the government service has been due to his genius. His public service has been coincident with the more important development of the Public Health and Marine-Hospital Service to its present state of efficiency. At first this service was concerned practically with little more than the care of sick and disabled seamen and the administration of medical matters in the marine service, but the bureau has now expanded until it includes, besides an efficient quarantine service covering our great and expanding territory, the combating of cholera, yellow fever, plague, hookworm and pellagra, the study of endemic and epidemic diseases of nation-wide extent. It has developed an efficient laboratory and research department and has devised many practical measures for the betterment of the public health, among which may be mentioned the standardization of serums and vaccines, the establishment of sanatoriums for the treatment of tuberculous sailors and seamen in the west, etc. Handicapped as it has been by lack of support from Congress, the Public Health and Marine-Hospital Service has developed on such broad lines that it now represents a public health agency probably second to that of no other nation; greater improvement in the public health service could probably be attained only by the expansion of the present service into the proposed public health department. Surgeon-General Wyman's death is a great personal loss to his many friends and to the medical profession.

Medical News

ILLINOIS

Fox River Valley Meeting.—At the annual meeting of the Fox River Valley Medical Society, held in Aurora, November 14, the following officers were elected: president, Dr. Frederick C. Schurmeier, Elgin; vice-president, Dr. William H. Bishop, St. Charles; secretary and treasurer, Dr. William H. Schwingle, Aurora, and member of the program committee, Dr. Edward H. Abbott, Elgin; censor, Dr. Charles A. Potter, Elgin, and delegate to the state society, Dr. James W. McDonald, Aurora.

Honor Aged Practitioner.—The Whiteside County Medical Society held a special meeting in Fulton, November 9, to pay honor to Dr. Charles A. Griswold, who at that time had completed fifty-five years of practice in Fulton, excepting for the three years when he was a surgeon during the Civil War. Dr. Charles E. Parker, Sterling, president of the society, referred to the professional career of the guest of honor, and Dr. William H. Durkee, Fulton, paid a high tribute to the professional ability of Dr. Griswold.

District Society Meetings.—At the annual meeting of the Western Illinois District Medical Society which was held in Pittsfield, the following officers were elected: president, Dr. William E. Shastid, Pittsfield; vice-presidents, Drs. Albyn L. Adams, Jacksonville, and Elizabeth B. Ball, Quincy; secretary and treasurer, Dr. William P. Duncan, Jacksonville. The next meeting will be held in Jacksonville.——The Southern Illinois Medical Association met for its thirty-seventh annual session in Mount Vernon, November 2-3. The following officers were elected: president, Dr. Andy Hall, Mt. Vernon; vice-presidents, Drs. Harry E. Wilson, Centralia, and Dr. Willis E. Lingle, Cobden; secretary, Dr. Charles W. Lillie, East St. Louis (reelected); assistant secretary, Dr. Harry W. Dale, McLeansboro, and treasurer, Dr. James W. Armstrong, Centralia. Cairo was selected as the next place of meeting.

Chicago

Wiley to Speak in Chicago.—The Physicians' Club of Chicago announces that Dr. Harvey W. Wiley, Washington, D. C., will speak before that organization, December 8.

For Improvement of Medical Education in Illinois.—Recognizing the present conditions of medical education, medical practice and medical licensure in Illinois, the Council of

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[1] In the case of Clark v. Tenneson, 33 L. R. A., 426.

[1] See page 1778

Chicago Medical Society, November 14, passed resolutions to the effect that there was danger that the public might have wrong ideas of the profession in Illinois, and that a commission should be appointed to investigate, to publish findings and to advise any necessary changes in the present laws. The resolutions end with the statement that the purpose of the work of the Commission is "that organized medicine of the country and state may arouse itself for the good of the profession and the people."

Personal.—Dr. James Alexander Harvey sailed for Europe, November 7.——Dr. Harold E. Eggers of the Memorial Institue for Infectious Diseases has accepted the appointment of professor of pathology in the Harvard Medical School of China, Shanghai, and will enter on his duties, February 1 next.——Dr. Forrest R. Butterfield sustained a fracture of the leg, November 19, during a playful tussle with Dr. John Higginson, whose left hand and wrist were also injured.——Dr. Leonard W. Lewis has been commissioned as first lieutenant, M. C., Ill. N. G., and assigned to the Eighth Infantry.——Dr. Bayard Holmes, Jr., has been elected commodore of the Jackson Park Yacht Club.

MICHIGAN

New Hospital.—The physicians of Ypsilanti have organized the Physicians' Hospital Association and have opened a private hospital at 718 Chicago Avenue. They expect to erect a number of shacks on the hospital grounds for tuberculosis patients and will act in cooperation with the Ypsilanti Antituberculosis Society.

MISSOURI

Free Clinic Opens.—A free clinic for the worthy sick poor was opened at the Ensworth Medical College, St. Joseph, October 31. The dispensary is in charge of the faculty and students of the institution, and is open from 7 to 8 p. m. daily.

Personal.—Dr. Charles T. Dusenbury, Monett, was operated on for appendicitis at the Sherman (Texas) Sanatorium, November 3.——Dr. John H. George, Leeds, has succeeded Dr. Addison M. Harrison as superintendent of the Jackson County Hospital, Little Blue.

Work Begins on Hospital.—Work is to be started at once on the addition to Springfield Hospital, which is to be erected on the north side of the lot north of the present building. The addition is to cost about $35,000, and the upper floors will be devoted to rooms and wards for private patients.

Infirmary Needed.—A petition has been circulated in Clay County, requesting the county court to hold an election for the purpose of levying a direct tax of 10 cents on the hundred for three years, the proceeds to be used for the erection of a suitable building for the poor of the county. The county court has designated December 16 as the date for this election.

Faculty Society Formed.—At a called meeting of the eighty members of the faculty of University Medical College, Kansas City, a new medical society was organized, known as the University Medical Society, and the following officers were elected: president, Dr. George Halley; vice-presidents, Drs. S. Grover Burnett and F. M. McCallum; secretary, Dr. Albert A. Poorman; treasurer, Dr. Gordon A. Beedle, and censor, Dr. Amos A. Freymann.

Society Condemns Fee-Splitting.—The Jackson County Medical Society, at its meeting November 7, adopted resolutions reenforcing its indorsement of Article 6, Section 4 of the Principles of Ethics of the American Medical Association, and stating that the division of fees shall be counted sufficient grounds for the expulsion of a member, and also condemning non-ethical advertising and consultation with known quacks or charlatans.——The society which owns the lot at Thirty-First Street and Gilham Road proposes to put up a permanent home for the society on this site.

Annual Meeting of Antituberculosis Association.—At the annual meeting of the Missouri State Antituberculosis Association held in Jefferson City, November 13, Dr. George Dock, St. Louis, was elected president; Dr. Walter McNabb Miller, Columbia, secretary, and Mr. Saunders Norville, St. Louis, treasurer. It was decided to attempt to raise $10,000 or more to carry on the work of the association. The following physicians have been appointed members of the state tuberculosis commission: Drs. George Homan, St. Louis; Julia A. Meyer, St. Louis; Herman E. Pearse, Kansas City; Edward W. Schauffler, Kansas City; Jacob Block, Kansas City; Jacob Geiger, St. Joseph; William A. Clark, Jefferson City, and Frank B. Fuson, Springfield.

Society Meetings.—The Howard County Medical Association, at its annual meeting held in Fayette November 9, elected the following officers: president, Dr. Doke Gentle, New Franklin; vice-presidents, Drs. Thomas C. Richards, Fayette, and Joel Y. Hume, Armstrong; secretary-treasurer, Dr. Charles W. Watts, Fayette; censors, Drs. Charles O. Lewis, Vaughan Q. Bonham; Charles H. Lee, all of Fayette; delegate to the state medical association, Dr. Vaughan Q. Bonham, Fayette, and alternate, Dr. Uriel S. Wright, Fayette.——At the annual meeting of the Livingston County Medical Society in Chillicothe, November 8, the first steps were taken for a stringent campaign against quack physicians and the practice of division of fees. Dr. Arthur J. Simpson was elected president; Dr. Reuben Barney, vice-president and delegate to the state medical association; Dr. Byron N. Stevens, treasurer, and Dr. Haynie M. Grace, alternate delegate, all of Chillicothe.

St. Louis

Additions to Sanatorium.—The Missouri Baptist Sanitarium has completed plans for a new four-story fireproof addition, to be erected on the present site, in front of the old buildings, at a cost of $100,000.

Home for Chronic Invalids.—At a meeting of the directors of the Jewish Home for Chronic Invalids, November 12, Moses and Louis D. Schoenberg agreed to donate a building to the organization, in memory of their parents, at an approximate cost of $25,000.

Tuberculosis Dispensaries.—The St. Louis Society for the Relief and Prevention of Tuberculosis has formulated plans for the establishment of three dispensaries to be maintained by the society; one on the north side, one on the south side and the third in the west end.

Personal.—Dr. Cleveland H. Shutt has been elected hospital commissioner of St. Louis, vice Dr. John C. Morfit.——Dr. Charles E. Bauer, superintendent of the City Hospital, has resigned.——Dr. H. Wheeler Bond, formerly health commissioner, has resumed private practice.——Dr. John A. Caluane was assaulted by a negro, October 6, but fortunately was only slightly injured.——Dr. Isaac H. Cadwallader has been reelected physician in charge of the Missouri Baptist Sanatorium.

NEW YORK

Scarlet Fever Pavilion Opened.—The addition to the Syracuse City Hospital was opened November 13. It consists of a pavilion for contagious diseases built on the unit plan. There are accommodations for about 120 patients.

District Society Meeting.—The annual meeting of the Sixth District Branch of the Medical Society of the State of New York was held in Elmira, October 17, and the following officers were elected: president, Dr. Frederick M. Miller, Binghamton; vice-president, Dr. Herbert W. Fudge, Elmira, and secretary and treasurer, Dr. Luzerne Coville, Ithaca.

Personal.—Drs. Frank P. McMorrow and Thomas H. Halsted, Syracuse, have returned from Vienna.——The following appointments to the faculty of Albany Medical College are announced: Dr. Arthur W. Elting, professor of surgery and clinical surgery; Dr. John A. Sampson, professor of gynecology, and Dr. Edgar A. Van Der Veer, professor of abdominal and clinical surgery.

Academy of Medicine Holds Anniversary Meeting.—Thursday evening, November 16, the New York Academy of Medicine held its anniversary meeting. The address of the evening was made by Dr. James Ewing, New York City, who took for his subject, "The Medical Profession and the Public." His remarks were widely printed by the newspapers and have called forth considerable editorial comment and a number of personal letters to the papers.

Red Cross Christmas Seals.—The State Charities Aid Association which takes charge of the sale of the Red Cross Christmas seals of New York City, is appealing to the school principals in 500 villages throughout the state to assist in the work by organizing local committees to sell the stamps. The sales of stamps in the state outside the city amounted last year to $32,000. It is believed that by this plan the amount will be trebled this year.

New York City

Chapel for Cancer Patients.—At a cost of $90,000, secured wholly by voluntary subscriptions, the Dominican Sisters are erecting a chapel for St. Rose's Home for incurable cancer patients, Manhattan. The institution has accommodation for fourteen patients and last year treated forty-five persons suffering from malignant disease.

College Still Needs Money.—The annual report of Columbia University made public on November 18 shows that the gifts received during the past year amounted to $2,932,655. In discussing the agreement between the Presbyterian Hospital and the College of Physicians and Surgeons, President Butler points out the urgent need of about $6,000.000 in order that the university may carry out its part of that agreement.

Health Department to Close Bakeries.—Dr. Lederle, Commissioner of Health, as a witness before the commission which is investigating factory conditions in that city, said that the health department had been investigating bakeries and that the most drastic remedies were needed to better conditions. From June 22 to October 19, 1911, the department inspected 1,169 bakeries in all boroughs, sixty-nine of these being referred to the State Labor Department, and notices to abate nuisances were sent to 148. Since November 1, fifty bakeries have been declared public nuisances by the Department of Health and ordered vacated. The commissioner suggests that the state law be amended to give the State Department of Labor power over bakeries except in New York City, and under certain amendments to leave the situation here under the control of the department of health.

OHIO

Personal.—Dr. Leeland W. Briggs, Toledo, was severely injured in a collision between his automobile and an interurban car, November 12.——Dr. Frank M. Mitchell, Cambridge, was thrown from his bicycle, November 8, and seriously injured.——Dr. Robert J. Marshall has been elected mayor of East Liverpool.

State Antituberculosis Society Incorporates.—Incorporation papers were filed October 27 for the incorporation of the Ohio Society for the Prevention of Tuberculosis. The incorporators of the reorganized society are: Drs. Frank Warner, Columbus; John H. Lowman, Cleveland, and Robert H. Bishop, Jr., Cleveland; Mr. Charles L. La Monte, Columbus, and Prof. James E. Hagerty, Columbus.

Medical Department Changes.—The Medical Department of Western Reserve University, Cleveland, announces the following faculty changes: Dr. George Washington Crile; professor of clinical surgery, has been appointed professor of surgery; Dr. August Hamann, professor of anatomy, professor of applied anatomy and clinical surgery; Dr. Henry John Gerstenberger, assistant professor of pediatrics; Dr. Davidson Black, associate in histology and embryology; Dr. Frederick Cowles Herrick, associate in surgery; Dr. Walter Henry Merriam, associate in medicine; Dr. James Douglas Pilcher, associate in pharmacology and materia medica; Dr. John James Thomas, associate in obstetrics; Dr. William Hawksley Weir, associate in gynecology, and Dr. George Bourne Farnsworth, Cleveland, instructor in obstetrics.

PENNSYLVANIA

Personal.—Dr. S. Victor King, Pittsburg, is ill with septicemia in the Allegheny General Hospital, the result of an operation wound, a few days ago.——Dr. Edwin D. Schaeffer has been elected a member of the Reading School Board, and Dr. Frank J. Sable, alderman from the Fifth Ward.

Prevention of Social Disease.—At the annual meeting of the Williamsport Society for the Prevention of Social Disease, November 14, Prof. Charles E. Lose was elected president; Hon. John G. Reading, Rev. Robert F. Gibson and Mrs. W. D. Crocker, vice-presidents; Miss Clara Sebring, secretary; Dr. Ella N. Ritter, treasurer, and Rev. William Perry Eveland and Drs. Jean Saylor Brown and Wesley F. Kunkle, executive committee.

Philadelphia

Laboratory to Move.—Dr. Joseph S. Neff, director of health and charities, has made plans for the removal of the laboratory of hygiene, which is a part of the bureau of health, from the City Hall to the Philadelphia General Hospital.

Suspected Lepers.—Two women who are suspected of being lepers were removed to the municipal hospital, November 16. They have been placed in the isolation ward of the hospital while a strict investigation of their cases is being made.

Catholic Maternity Projected.—Last week, title was taken to 1229 Cherry Street and adjoining property. These lots were purchased for $26,000 and will eventually form the site of a maternity to be conducted under Roman Catholic auspices.

Charity Ball Beneficiaries.—Announcement has been made that the following charities will be beneficiaries of the thirty-second annual charity ball to be held at the Academy of Music on December 21: Maternity Ward of the Hospital of the University of Pennsylvania, women's medical ward of the Jefferson Medical College Hospital, Society for Organizing Charity, Visiting Nurses' Society of Philadelphia and the Epileptic Hospital and Colony Farm.

Sanatorium Pavilion Dedicated.—The children's pavilion of the Philadelphia Jewish Sanatorium, Eagleville, was dedicated with impressive ceremonies, November 5. About $3,000 was raised by auctioning of keys opening the various doors, and the announcement was made that two houses, completely furnished, had been donated to the sanatorium—one by Albert W. Fleisher, Philadelphia, in memory of his father, and the other by Louis Gerstley, president of the sanatorium.

TENNESSEE

Milk Commission Created.—The Memphis and Shelby County Medical Society has created a medical milk commission to work in conjunction with the city authorities to secure a purer milk supply for the city. The commission consists of Drs. J. H. Eugene Rosamond, Arthur G. Jacobs, Edward C. Mitchell, Alexander Erskine and Buford N. Dunavant.

East Tennessee Physicians Meet.—At the annual meeting of the East Tennessee Medical Society, October 12 and 13, held in Morristown, the following officers were elected: president, Dr. Gus S. Shipley, Athens; vice-presidents, Drs. Carl T. Speck, Cleveland, and William E. Howell, Morristown; and secretary-treasurer, Dr. Oliver W. Hill, Knoxville.

To Facilitate Reports.—In order to aid Memphis physicians and facilitate the reporting of contagious diseases and births, the city health department has prepared for distribution to all physicians of the city a cabinet containing a tablet of applications for reporting births, postal cards for reporting contagious diseases, vaccination blank books and copies of the state laws and city ordinances.

Antituberculosis Campaign.—An "All Tennessee" antituberculosis campaign was inaugurated October 11 in Nashville, with the following officers: chairman, Mr. F. E. Kuhn, Nashville; vice-chairman, Dr. Elizabeth C. Kane, Memphis; secretary, Dr. Henry P. Coile, Knoxville, and treasurer, Mr. C. A. Craig, Nashville. Nashville was chosen as headquarters and Mr. J. D. Strain was elected as campaign manager.——At a meeting of colored physicians of Nashville, called by Mr. J. D. Strain in the interest of a campaign against tuberculosis, a committee of five was appointed to carry on the work among the colored people of the city. Of this committee Dr. Albert S. J. Lester was elected chairman, Dr. John H. Holman, secretary, and Dr. J. H. Hale, Nashville, treasurer.

Personal.—Drs. Thomas A. Patrick and Archibald L. Yearwood, Fayetteville, were seriously injured in a runaway accident, November 7.——Dr. John R. Rathmell, Chattanooga, has been appointed a member of the State Board of Health, vice Dr. Thomas E. Abernathy, resigned.——Drs. Buchanan S. Wert and E. E. Reisman, Chattanooga, were painfully injured in an automobile accident in Chickamauga Park, November 1.——Dr. T. P. Holman, Fayetteville, is reported to be seriously ill.——Dr. W. E. Gallion, Oakdale, has been appointed local surgeon for the Cincinnati, New Orleans and Texas Pacific Railway.——Dr. David F. Banks, Nashville, was seriously injured in a collision between an automobile and his buggy recently.——Dr. Louis Leroy, Memphis, will act as president of the State Board of Health until January 1, when Dr. John R. Rathmell will assume charge of the office.——Dr. John B. Johnson, formerly superintendent of the Knoxville General Hospital, has located in Morristown.——Dr. George C. Keener, Kingsport, has been appointed chief physician at the branch state prison, Petros.

TEXAS

Quarantine Ship Bought.—Dr. Ralph Steiner, Austin, state health officer, has returned from the East, where he purchased for $13,000 a vessel for use at the Galveston quarantine station.

Ill and Injured.—Dr. David R. Fly, Amarillo, who has been critically ill at Marlin, is reported to be materially improved.——Dr. James J. Crume, Munday, was seriously injured in a runaway accident, November 6.——Dr. John D. Bedford, Amarillo, is reported to be critically ill at the Bedford Hospital.

Personal.—Drs. John O. McReynolds, Dallas; Ira C. Chase, Fort Worth; Dr. and Mrs. L. F. Bland, Port Arthur, and Dr. John R. Knight, San Angelo, have returned from Europe.——Dr. Stephen L. Mayo, Pendleton, has been elected medical director of the Temple Life Insurance Company, vice Dr. S. A. Watts, Moffat, resigned.——Dr. Arthur H. Butler has resigned as assistant health officer of El Paso.——Dr. Lyle J. Logue, Galveston, of the medical staff of the Austin State Hospital has resigned and will practice in Houston.

Church Sanatorium.—The Grace Evangelical Lutheran Church, San Antonio, has been donated a tract of land, valued at $15,000, on which to erect a hospital; and 8 acres in Bexar County, on which to establish a tuberculosis sanatorium. Dr. Frank E. Lindahl, San Antonio, has given up his practice for the time being in order to organize the work and solicit funds.

Tuberculosis Colony.—The Antituberculosis Commission of Texas, Austin, has issued a request for bids for the erection of the state sanatorium at Carlsbad, including administration, subsistence, power and equipment buildings, an infirmary, barns and lean-tos. The attorney-general has approved the abstract to the title to the 329 acres of land at Carlsbad. The institution will accommodate sixty patients.

District Society Meetings.—The San Angelo District Medical Association held its annual meeting in Coleman, October 26 and 27. Dr. Joseph B. McKnight, Brady, Brown County, was elected president, and Dr. J. Ernest Robinson, Brownwood, McCullough County, secretary. The next meeting will be held in Brownwood.——The Walker County Medical Association held its annual meeting in Huntsville, November 9, and the following officers were elected: president, Dr. Leonard H. Bush, Huntsville; vice-president, Dr. Eugene L. Angier, Huntsville; secretary, Dr. John W. Thomason, Huntsville; delegate to the State Medical Association, Dr. J. V. Wright, and censors, Drs. J. Porter Hendricks, Huntsville; Oscar M. Tinsley, New Waverly, and William E. Fowler, Huntsville.

Colored Professional Association.—The Lone Star State Medical, Dental and Pharmaceutical Association held its twenty-fifth annual session in Dallas, October 24-26. The organization is composed of colored men and women of Texas engaged in the professions of medicine, dentistry and pharmacy. The following officers were elected: president, Dr. Felix A. Bryan, Dallas; vice-presidents, Drs. Henry E. Lee, Houston; W. A. Willis, D.D.S., Galveston, and D. V. Hooper, Ph.G., Dallas; secretary, Dr. Ransom B. Barnes, Cleburne; treasurer, Miss A. E. Hughes, Ph.G., Clarkesville; state vice-president for the National Medical Association, N. T. Wallis, D.D.S., Fort Worth, and representatives to the National Medical Association, Dr. Napoleon J. Atkinson, Greenville, and J. L. Cockrell, D.D.S., Waco. Waco was selected as the next place of meeting.

Losses by Fire.—The office of Dr. Julius A. Smith, Greenville, was destroyed by fire, October 31, with a loss of $2,500, and the building owned by Dr. Charles T. Kennedy, Greenville, was badly damaged. The office of Dr. Thomas B. Spaulding, Greenville, was badly damaged by smoke and water.——Fire in the Flateau Building, Dallas, October 31, did damage to the office of Dr. William T. White, to the extent of $700, and caused slight damage by water and smoke in the offices of Drs. Marion P. Stone and Samuel M. Freedman.——Fire in the building belonging to the Lubbock Mercantile Company, Lubbock, October 28, damaged the office of Dr. Henry C. Lewis to the extent of $1,000, and that of Dr. Marvin C. Overton, $3,500, and Dr. William L. Baugh, $1,500. No insurance was carried.——The office of Dr. D. R. Cobbe, Devine, was damaged to the extent of $500 by fire recently.

VIRGINIA

Inebriate Farm Needed.—Dr. Stephen Harnsberger, in a paper read before the Medical Society of Virginia, contended that the state should provide an asylum or other suitable retreat for habitual drunkards where they might receive scientific treatment and, possibly, be cured. As result of this paper, a resolution was introduced before the society, calling on the president to appoint a committee of seven to appear before the next legislature and urge the establishment by the state of a farm for inebriates.

GENERAL

Practice of Medicine in the Canal Zone.—By an order which takes effect December 14, the President has decreed that it shall be unlawful for any person to practice or attempt to practice medicine, surgery, dentistry, pharmacy or midwifery within the Canal Zone without first having obtained a license therefor from the Board of Health of the Canal Zone. Any person thus offending shall be punished by a fine not exceeding $25, or by imprisonment in jail not exceeding thirty days, or by both such fine and imprisonment, in the discretion of the court; provided that this order shall not apply to commissioned surgeons of the United States Army and Navy or Marine-Hospital Service, or to physicians, surgeons, dentists or pharmacists and their assistants and nurses employed by the Isthmian Canal Commission, or to nurses acting under the orders of a licensed physician; and that any person shall be regarded as practicing medicine within the meaning of this order who shall prescribe for, operate on, or in any wise attempt to heal, cure or alleviate, or who shall in any wise treat any disease or any physical or mental ailment of another; provided that nothing in this order shall be construed to prohibit gratuitous services in case of emergency or to the administering of ordinary household remedies.

Tri-State Professional Association.—At the meeting of the State Medical Association of colored physicians, dentists and pharmacists of Georgia in Athens last summer, a Tri-State Medical Association of Florida, Georgia and Alabama was organized and the following officers were elected: president, Dr. J. Seth Hills, Jacksonville, Fla.; secretary, Dr. Loring B. Palmer, Atlanta, Ga., and treasurer, Dr. Arthur M. Brown, Birmingham, Ala. The next meeting of the association is to be held in Jacksonville, February 1-3.

Medical Library Association.—With the object of increasing the membership and enlarging its field of usefulness, the Medical Library Association has sent out a brief bulletin. The association was founded in May, 1898, with the object of fostering medical libraries and maintaining a system for the exchange of medical literature among them. Any medical society, association, university or college having a fixed home and a library of at least 500 volumes with a librarian or other attendant in charge may become a member. Individuals may likewise become members. The bulletin explains the advantages of the library association and the method of interchange of books to physicians, particularly those not having easy access to extensive libraries of medical books, and gives the method of obtaining books from the exchange. The secretary is Miss M. R. Charlton, McGill University, Montreal, Canada.

Bequests to Charities.—The following bequests to hospitals and other medical charities have recently been announced:

Mercy Hospital, Pittsfield, Mass., $10,000 by the will of Mrs. Mary L. Nickerson.

Boston Dispensary, $100,000 in trust after the death of a beneficiary.

Boston Lying-In Hospital, $125,000 in trust after the death of a beneficiary.

Anna Jacques Hospital, Newburyport, Mass., $10,000 after the death of a beneficiary, by the will of the late Paul A. Merrill, Newburyport.

Dickenson Hospital, Northampton, Mass., $30,000, by the will of the late Louise W. Lyon of Northampton.

Presbyterian Hospital, Philadelphia, $5,000 for the endowment of a free bed to be known as the "Albert H. Stillwell bed," by the will of the late Mrs. Helen M. Stillwell.

Presbyterian Hospital, Philadelphia, $10,000 for the endowment of two beds; Orthopedic Hospital, $1,000; St. Joseph's Hospital, $500, and Mt. Sinai Hospital, $500, by the will of the late Mrs. Elizabeth K. Steele.

New York Foundling Hospital, Skin and Cancer Hospital, and Home for Incurables, New York City, each about $15,000, by the will of the late James Rufus Smith.

St. Luke's Hospital, New York City, $30,000 for the endowment of four beds; for the General Endowment Fund, $10,000, and $1,000 for the endowment fund for books and periodicals.

Columbia University, $10,000 for the endowment of a scholarship in the College of Physicians and Surgeons, by the will of the late Miss Phoebe Caroline Sword.

FOREIGN

Nobel Prize in Medicine.—It is reported that the prize in medicine this year is to be awarded to Dr. Gullstrand, professor of ophthalmology at the university of Upsala, for his research on dioptrics, that part of optics which treats of refraction. Gullstrand's formulas have been applied in making glasses for patients after removal of the crystalline lens; with these anastigmatic lenses the eye can be turned from the central focus for some distance without blurring the image.——The Nobel prize for physics has been awarded to W. Wien, professor of physics at Würzburg.

Agitation to Have License to Practice in France Require Naturalization.—Consul Yost writes from Paris that a commission, consisting of French physicians, dentists, lawyers, university professors and legislators, has drawn up a bill providing that no persons shall be permitted to practice law, medicine, dentistry or the other professions without first abandoning their citizenship in their own country and becoming citizens of France. Should this bill be introduced into parliament and become a law, it will mean that an American professional man desiring to practice in France under his own name will be compelled to reside a number of years in France in order to acquire French citizenship. The law would not affect those already practicing in France as it is not intended to be retroactive.

Recent Deaths in the Profession Abroad.—Besides the deaths mentioned by our correspondents, the profession has lost recently Dr. A. Sitzenfrey, privat-docent of obstetrics and gynecology at the university of Giessen and author of thirty-six important articles that have appeared in German periodical literature since 1905 on various questions of the day and the fray. He succumbed at 39 to nephritis of scarlatinal origin in youth.——Dr. J. J. Kiær of Copenhagen, chief of the public health service, aged 82.——E. Emmert, professor of ophthalmology at the University of Berne, aged 67. His contributions to literature have been mostly on his specialty and school hygiene.——Dr. Pedro Albarran of Havana, a specialist in disease of the urinary apparatus, like his brother Joaquin at Paris, member of the Cuban congress and leader in matters affecting the public health and progress of science, aged about 60.

French Codex Standard in Uruguay and Santo Domingo.—The *Siglo Medico* of Madrid states that the authorities have designated the latest edition of the French Codex Medicamentarius as the standard pharmacopeia for use in these countries. In Santo Domingo a fine of from 50 to 500 pesos may be imposed for non-conformity with the standard, and up to 1,000 pesos in case of repetition of the offense. The pharmacists are said to be protesting against the imposition of this codex and against the size of the proposed fine. Our Spanish exchange laments this discrimination against the Spanish codex, and urges those in charge of the revision of the pharmacopeia for the next edition to make every effort to have it comply with all requirements so that it will be accepted by the Spanish-speaking countries of America. In Cuba the Spanish translation of the Pharmacopeia of the United States has been recognized as the authority.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Nov. 11, 1911.

The Investigation of Sprue

Dr. P. H. Bahr has been appointed by the London School of Tropical Medicine to go to Ceylon to study sprue, which is responsible for a great deal of illness in that country, as well as in other parts of the east. Dr. Bahr has only recently returned from an expedition to Fiji where he has studied dysentery and filariasis. It is expected that the present investigation will last two years. The Ceylon government has provided $3,750 for the costs of the expedition and it is expected that the Ceylon Tea Planter Association will subscribe $1,250.

A House-Surgeon's Claim for Damages for Injuries Due to Experimenting on Himself with the X-Rays

A curious case has come before the court of appeal. A house-surgeon was in the employ of the Kidderminster Infirmary at a time when it had no *x*-ray apparatus. One was presented to the infirmary and was put in charge of one of the honorary surgeons with the house-surgeon to assist him. As neither of them had any experience of *x*-ray work, it was decided to experiment with the apparatus on the house-surgeon's arm before using it on some cases of ringworm of the scalp. As the result of fifteen minutes' exposure, his arm was badly burned and a sore was produced. He claimed compensation from the infirmary under the employers' liability act. The judge dismissed the claim, holding that the injury did not arise "out of and in the course of his employment." Against this decision he appealed. Without calling on counsel for the infirmary, the Master of the Rolls (the presiding judge) confirmed the judgment of the lower court, holding that it was no part of the house-surgeon's duties for which he was engaged to perform experiments on himself.

The Health of School Children

The legislation of recent years for the medical inspection and treatment of school children has made possible an exhaustive report on the condition of the child population of this country. The annual report for 1910, by Sir George Newman, M.D., chief medical officer of the board of education, just issued, points out that the health and physical condition of the 6,000,000 children on the school registers is the foundation of the health of the adult population. The conditions of life, both in respect of personal hygiene and environment, which result in a high mortality among children under 1 year lead to a high degree of sickness and disablement among children of school age; and in the same way, but probably to a still greater degree, the sickness of children leads to disease and disablement among adolescents and adults. Every step, therefore, in promoting the health of children is a step toward diminishing disease in adults. Malnutrition, dental caries, adenoids and measles are the ancestors of tuberculosis in the adults. Measures have now been adopted for the assistance and coordination of the local education and health authorities in the discharge of their duties and to secure effective harmony between all concerned with health questions in each area—doctors, school medical officers, health visitors, school nurses, teachers and attendance officers. The different branches of school medical work are unified under the school medical officer. There are six such branches—medical inspection, medical treatment, school sanitation, provision and management of special schools for the defective, physical training and the feeding of school children.

The statistics of disease discovered among the 6,000,000 children show but small variation from the figures of 1909, for although certain conditions, such as uncleanliness, are less marked than formerly, and although the treatment of many thousand children, through the agency of the local authorities, must have produced a reduction in the number suffering from remediable ailments, the percentages for the whole country have not yet been materially affected. About 10 per cent. of the children suffer from defective vision, from 3 to 5 per cent. from defective hearing; 1 to 3 per cent. have suppurating ears; 6 to 8 per cent. have adenoids or enlarged tonsils sufficient to cause obstruction and require operation; about 40 per cent. suffer from extensive dental caries; about 30 to 40 per cent. have unclean heads or bodies; about 1 per cent. suffer from ringworm; 1 per cent. from tuberculosis in readily recognizable form; from 1 to 2 per cent. from heart disease, and a considerable percentage from malnutrition in greater or less degree. Sir George Newman concludes that this formidable total greatly limits the capacity of the child to receive the education provided by the state.

In regard to treatment, the board has urged local authorities to take a wide view. Treatment should be applied through the school and educational authorities, on the one hand, and through the home surroundings of the child, on the other. In the mind of the public, treatment is too much associated with operations and medication, which often play only a subsidiary part, as for example, in adenoids, enlarged tonsils, many minor skin diseases, rickets, anemia and tuberculosis. Moreover, when operations or other institutional treatment has been necessary, failure to obtain the best results has often arisen from the fact that the private doctor, the school medical officer and the hospital physician and surgeon have been acting as isolated factors. This will now be remedied, through the cooperation above referred to.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Nov. 3, 1911.

The Reform of Medical Studies

October 30, the Assemblée générale de l'Association des professeurs et agrégés des Facultés et Ecoles de médecine met under the presidency of Prof. Jules Courmont of Lyons, who in his opening address officially announced that the ministers of public instruction and finance had agreed as to the amount necessary for the execution of the decrees with regard to medical instruction. The budget commission was unanimous in declaring that this outlay was urgently demanded. It may therefore be hoped that reform in medical studies will be accomplished by November, 1912.

The Use of Unauthorized Therapeutic Serum

Dr. Régnier of Paris was recently prosecuted under the law of 1895 with regard to therapeutic serums. Dr. Régnier had furnished an antisyphilitic serum prepared from the blood of immunized monkeys. In his own defense he said that he had furnished it only to physicians who asked it of him. But the law of 1895 especially requires that any serum used or put on sale shall be authorized by the government after reports from the Académie de médecine and the Pasteur Institute. The court confirmed the decision of the Cour de cassation (THE JOURNAL, Oct. 14, 1911, p. 1298) and sentenced Dr. Régnier to pay a fine of $20 (100 francs).

An Establishment of Blind Masseurs

For some years the services of blind masseurs and masseuses have been much appreciated at our stations of mineral waters. Some blind masseurs have just opened an establishment of massotherapy in Paris.

Death of Dr. Auffret

The death is reported of Dr. Charles J. Auffret, former inspector general of the sanitary service of the navy and national correspondent of the Académie de médecine.

Suggested Improvement in the Form of Reports of Urinalysis

At one of the last sessions of the Société de thérapeutique, Dr. G. Leven drew attention to the disadvantages of the present form of the reports of the analysis of the patients' urine. This report consists of two columns of figures side by side; the one shows the constituents of the urine examined, the others those of normal urine. Patients are always alarmed at the sight of figures which are perceptibly different from the results given for their own urine and this alarm may not only react injuriously on the patients but also may lead the patient to attempt to treat himself for the lack of certain substances in his urine. He does not understand that this lack is often only relative, being perhaps the consequence of the diet followed. Dr. Leven therefore suggests that the column of figures for normal urine be not given in the report of urine given the patient.

A Quack's Analysis

Dr. Charles Levassort, secretary of the office for the repression of illegal practice of medicine, relates that a peasant whose wife was sick, on the advice of a neighbor resolved to consult a "water examiner," that is to say, a quack who undertakes to discover the disease and prescribe a remedy after examining the urine. In a long letter the peasant described his wife's disease and announced that he was sending by the same post a box containing a bottle of urine. The post-office, however, refused to accept the package when the sender declared the contents, because it was not properly put up. The man finally lost his temper and threw the package away. He was surprised to receive, two or three days afterward, a letter from the "examiner of water," in which the latter explained that he had performed an exhaustive analysis of the urine and gave a diagnosis and a treatment which should cure the patient in eight days. It goes without saying that the quack asked a good round sum for the remedy he sent and for the "conscientious analysis" of the urine.

Vaccination of Infants Soon After Birth is Inefficacious and Dangerous

Up to the beginning of this year young infants in the hospitals and clinics of Paris have been vaccinated at the moment when they left the hospital, that is, toward the tenth day. The course of the vaccination was run at the homes of the parents so that no information was kept at the hospitals of the results of the operation. Therefore, the administration of the public charities, in order to learn the results, ordered the heads of the maternity services from the beginning of this year to have the infants vaccinated within the first three days after birth. One death resulted from uncontrollable hemorrhage following one of these early vaccinations and a discussion was held on the question at the Société d'obstétrique de Paris. According to Drs. Bonnaire, Bar, Tissier, Cathala and Boissard, early vaccination is useless in about half the cases. As on the other hand it exposes the infant to danger, it appears more prudent to wait, as in the past, until the infant is about two weeks old before submitting it to vaccination.

New Measures to Protect Glass-Blowers Against Risks of Contagion

A decree has just been issued, according to which, in glass-works where glass-blowing is done by mouth, the workmen will not be permitted to do work requiring the use of mouthpieces in common, except on the written testimonial of the physician of the establishment that they are not affected with any contagious disease which may be transmitted by the mouthpiece. This certificate is to be renewed once every fifteen days in bottle factories; in other glass-works every time the workman has had to leave his work more than fifteen days on account of disease. In glass-works where the blowing is executed successively by several workmen using the same mouthpiece, disinfection of all the mouthpieces will be performed before the beginning of the work of each crew.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Nov. 2, 1911.

Personal

Professor Tobler of Heidelberg has accepted a call as regular professor of pediatrics in Breslau.

Professor Flexner of New York and Professor Podwissotzky of St. Petersburg have been elected honorary members of the institute of experimental therapy. This is a distinction granted to those who have been of service to the institution in an intellectual or in a material way.

The medical chief of staff in the Bavarian army, Generalstabsarzt von Bestelmeyer, has retired. His successor is Professor Seydel of Munich, hitherto Obergeneralarzt.

Old Age and Disability Insurance of Midwives in Bremen

Compulsory insurance for midwives has been instituted in Bremen. A midwife who has pursued her calling for at least five successive years in the Bremen state district is entitled on the completion of her sixty-fifth year or on the occurrence of disability, to an annual income ranging from $87.50 (350 marks) to a maximum of $150 (600 marks). Each midwife must contribute to the fund, during the continuance of her calling, 12 cents (50 pfennigs) for every delivery at which she attends.

Memorial for Robert Koch

A committee for the erection of a monument to Robert Koch was formed some time ago under the leadership of Kirschner the *Ministerialdirektor*. The imperial chancellor is the honorary president of the committee, which numbers several high state officials and other distinguished members of various social circles.

Berlin Medical Orchestra Association

The Berlin medical orchestra, the foundation of which I reported to you at one time, has again sprung into life. As practicing members only physicians, even foreigners, are accepted. As honorary members, the association admits contributors and patrons. The rehearsals are held in the Kaiserin Friedrich-Haus. Each year a charity concert is to be given the profits of which are for the benefit of the widows and orphans of deceased physicians. The association at present has about sixty members, among whom is Professor His, the director of the first medical clinic, who is a violin virtuoso [Vienna and Paris both have similar medical orchestras, and Paris has also an art association of exclusively medical members, with an annual exhibition.]

Punishment of a Quack for Criminal Carelessness

In a city of Saxony a quack who undertook the treatment of a child ill with diphtheria, has been convicted, because the medical experts concluded that the child could have been saved in all probability, if it could have been treated at the proper time with antitoxin. Consequently the court held the quack responsible for criminal neglect and sentenced him to three months' imprisonment.

Roman and German Script in the Reichstag

As I wrote to you some time ago, a petition was presented to the Reichstag asking permission for the employment of the Roman script by officials and in the primary courses in reading and writing in the public schools, and the petition was reported on favorably by a great majority of the commission which had the matter in charge. A decision was not reached at that session, and on being called up again it was put to a vote and the proposition of the committee was rejected by a large majority.

The Public Health in Prussia During 1909

As in previous years I would like to give you some interesting data from the government report on the condition of health in Prussia for 1909, which has just appeared. The number o deaths of children was 1,287,030, of which 1,249,040 were born living, 37,900 still-born. In comparison to the previous year an absolute reduction of 21,253 births appears. The proportion of those born living to 1,000 inhabitants was 32 in 1909 and indicates a further regression in the birth-rate; in 190 this figure was 36.52. Of those born living, 641,072 were males, 607,968 females. Among all the births there were 16,449 multiple births, 16,283 being twins, 164 triplets and quadruplets; 12 more children per 1,000 are born dead in plural than in single births. The number of marriages in 1909 was about 308,000. As in previous years, women married somewhat earlier than men, especially in the country. O 10,000 marriages in the urban communities, 23.51 men were less than 21 years old, and 937.59 women; in the country 22.4 men and 1,043.61 women. Marriage between blood relation occurred in 1,329 cases, about as frequently as in previou years.

The deaths in 1909 included 348,141 males and 319,64 females in a total population of 37,293,324. The entire number of deaths compared with the previous year has been reduced by about 26,000. The natural increase, i. e., the exces of births over deaths, was greater than in previous years with the exception of 1906; in 1909 it was 581,258. The entire mortality reckoned for 1,000 inhabitants was 17.11 and was more favorable than in any previous year in the last decade. Of all deaths, 204,314 or almost one-third were under 1 year of age. Of 1,000 children in the first year of life there died 191.10 as compared with 206.21 in 1908 and an average of about 245 in the decade from 1891 to 1900. Particularly with reference to diseases of the digestive organs the mortality has been reduced as compared with 1908. The absolute number of suicides was 8,422, a figure both actually and relatively higher than in previous years. Hanging was preferred as the method for suicide as in previous years (about 52 per cent.), but suicide by poison is increasing. About 15,000 persons perished by accident, a rate of 37.2 per 100.000 living. The number of fatal accidents has fallen to a marked extent, both absolutely and relatively, when compared with the last four years. The number of deaths from murder and manslaughter was 876.

Reorganization of the Berlin Municipal Public Health Department

The management of Berlin municipal medical affairs has hitherto always been in the hands of a medical member of the city government. He was assisted by the Deputation for Public Health and Municipal Hospitals, composed of members selected from the officials of the city administration, members of the council and directors of the municipal hospitals and other laymen. The lay element predominated in the deputation, and it is thus readily understood how the management of municipal medical affairs, especially as regards initiative and progress, left much to be wished for. This defect has grown more marked from year to year, and indeed so much the more, the greater the growth of the city and the ncrease in importance of medical affairs. For a long time, therefore, a change in the management has been demanded, especially by the medical profession and in the medical press. The fulfilment of this demand was once thwarted by the opposition of the mayor, the Oberbürgermeister, who did not see he necessity of any improvement in the conditions, and by the obstinacy of the medical member of the city administration, who regarded himself as capable of filling his post in spite of the harsh criticisms to which he was constantly being subjected.

The circumstance that the president of the deputation eferred to, a former merchant, has recently resigned his office, has finally given occasion for a renewed powerful effort on the part of the city council, under the leadership of physicians who belong to it, to have the public health department reorganized on a new basis. The demand took the form of resolution that a salaried municipal medical counselor should ssume charge of medical affairs. The city administration the *Magistrat*) has felt compelled under this new impulse f public opinion to appoint a commission for the consideration f this resolution of the council. This commission has evised a different plan which promises to be more successful. he opinion prevails in the commission that the desired nprovement of municipal medical affairs would not be reached imply by the creation of the office of medical counselor. The roblems which must be solved in a community of the extent f Berlin are so extensive that no one man is able to cope ith them. For this reason there should be established t the same time with the new office of medical counselor, a ody to be composed of a large number of experts; this should urnish a sufficient guarantee for effectual action. This medical body should treat directly with the city government and it ould not only discuss the questions referred to it by the ty government, but also should have the right on its own ccount to make proposals and to be represented in the city overnment by the medical counselor or some other representative. To this body there should belong as members, in ldition to the medical counselor, two directors each for the partments of internal medicine and surgery in the municipal spitals, a pediatrist, an alienist, a representative of the edical chamber (*Aerztekammer*), a hygienist, two medical embers of the council, the director of the municipal hygienic boratory, and the municipal architect. The presidency is be entrusted to a lawyer.

The editor of the *Deutsche medizinische Wochenschrift*, who r many years has repeatedly protested against the existing fects, criticizes this plan favorably in the latest number of journal. With other experts, he has already frequently manded such an organization; a further point in its favor the circumstance that it is modeled on a similar institution ready existing for many years at Hamburg. But differing om the views of the subcommission, Professor Schwalbe, the editor of the *Wochenschrift*, demands that the presidency of the corporation be entrusted, not to a lawyer, but to the new municipal medical counselor (*Medizinalrat*). Since the Prussian government has just determined to entrust the management of the state medical department, the *Medizinalabteilung*, to a medical man, it would be regarded as a deplorable backward step if the municipal medical counselor should not be considered by the city government to have the necessary amount of intelligence to preside. Further it is directed that the medical counselor should not, as proposed, be essentially subordinate to the administration as director of medical affairs but that he himself should belong to the city government as an integral official. Many conflicts will still develop with reference to the entire matter, respecting the outcome of which one may for the present be doubtful.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Nov. 3, 1911.

Vital Statistics for Vienna

The results of a comparison of the census reports of Vienna for 1890, 1900 and 1910 have just been been published. Vienna now has a population of more than 2,000,000, of which in 1909 there died 34,000, or seventeen per 1,000, while the births numbered 43,854, or twenty-two per thousand.

The birth-rate of Vienna is constantly falling. In 1895 it stood at thirty-eight per thousand, in 1900 it had sunk to thirty-one per thousand, in 1905 to twenty-seven, in 1910 it reached only twenty-two; for 1911 it will hardly be higher than twenty, as far as the figures for the first nine months show. The death-rate also has a constant downward tendency. In 1895 it was twenty-three per 1,000, in 1900 it stood at twenty, and last year (1910) it was 16.5. The actual decrease affects mostly the middle-aged, while the children up to 15 years have shown fairly constant figures. A large influx of persons in the prime of youth up to 30 is responsible for the increase of the population in first line, for the yearly increase of the population was about 30,000 while the surplus over deaths was only about 10,000. As regarding morbidity, tuberculosis is leading; it demanded last year 7,380 victims, or 21 per cent. of the entire number of deaths; next come diseases of the respiratory organs (bronchitis, pleuritis, pneumonia) with 4,360 cases, or 12.6 per cent., diseases of the nerves and brain, 3,024 cases, or 8.7 per cent., circulatory disorders with 2,880, or 8 per cent., and new growths with 2,469 cases, or 7 per cent., so that these five groups of diseases make up 58 per cent. of the total number of deaths, and together with the fatal diseases of infants, and marasmus senilis, they make up 80 per cent. of all deaths accounted for. The influence of climate is well illlustrated by the periodical variations in morbidity and mortality. The average for the decade 1900-1909 shows that out of every 100,000 persons, the deaths were distributed as follows: during winter, 524; during spring, 576; during summer, 467, and in autumn, 427. During spring, the much longed-for season, the churchyard claims the most, fully 3.000 more than in the autumn. It thus seems very likely that the high mortality during spring is due to the after-effects of winter, for is the latter bad, as was the case in 1904-05, the number of deaths increase rapidly. The ill effects of this bad winter with its rapid changes of temperature and wind were felt all the year round, that year showing an excessively high mortality rate, 19.8 per 1,000, while the mild winter of 1910 showed the lowest figure yet recorded in Vienna (16.5 per 1,000) in spite of the increase of the population by some 100,000 if 1905 is taken for comparison. It is therefore no truism that the most important subject of discussion in Vienna is the weather.

Increasing Social Difficulties among the Lower Classes

The poorer classes of the population in Austria in general, and especially in Vienna, are having bad times just now. In addition to the great increase in the prices of necessities, a sudden and progressive rise in rent has been the source of great anxiety and riots have occurred. In vain some members of the medical profession have pointed out that such conditions mean deterioration of racial fitness. In vain military circles, otherwise so influential with us, have argued that underfeeding lessens the resistance of the soldiers and the fitness of recruits. The government has failed to find adequate measures to combat this most disagreeable condition. One of the remarkable features of the scarcity of dwellings is the fact that families with numerous children are refused lodgings by the houseowners. And there is no law to teach these a lesson in the duties of a citizen. The general dissatisfaction is so widespread that earnest fears are justified. nevertheless those whose duty it is to watch over the nation's welfare seem to be blind to all these conditions. Lacking proper food in sufficient amount, lacking proper housing and toiling hard to support a miserable life, a part of the population is swiftly being pressed down to proletarian conditions, and the detriment to public health and morals is deplorable. Therefore repeated appeals have been made to the government to improve such conditions.

A Verdict in Favor of Legitimate Medicine

In a libel suit in Vienna between two medical men, the plaintiff, styling himself "doctor of medicine treating after more natural methods," felt himself ill treated by the defendant, who stated in a medical paper that such a title was misleading and was a swindle. The defendant, Dr. Grün, vice-president of the Vienna Medical Council, proved that the prosecutor, Dr. Pannesch, was editor of a quack periodical, that he repudiated vaccination and the use of poisons on human beings, while in his private practice he did actually vaccinate, and did use alkaloids such as morphin, codein, opium, strychnin and atropin, and that his therapeutic armamentarium did not differ at all from that of any ordinary practitioner. A prolonged cross-examination showed that the pretensions of the plaintiff were absolutely false, and the judge dismissed the claim. He strongly reprimanded Dr. Pannesch for the attitude he had taken in the affair, which turned out such a defeat to him, Dr. Grün being justified in calling him a swindler. The chief interest of the case, however, lies in the fact that Dr. Pannesch was, or rather still is, the leader of a party which has always been highly inimical to progress and openmindedness in medicine, as well as in social political matters. The untruthfulness of this party has now been exposed in open court to the public, and therefore the honest elements of our profession hope that the public will have learned what to think of these quacks who are enemies of vaccination and modern medicine in general.

Warning Against the Study of Medicine

Political opinions of irresponsible persons have been the cause of a large influx of students into the medical schools of this country, especially in the German-speaking universities. The parents in German-speaking frontier districts have been asked by the "German National Council of Austria" to make their children study medicine in order to strengthen the influence of the German population of the country. This advice was promptly followed; and the Medical Council of Bohemia therefore issued this year a warning to parents and would-be students of medicine against such an imprudent step. In a memorandum circulating all over the German districts, the present unsatisfactory position of our profession was explained. It is shown that the income derived from the practice of medicine is far from being an adequate return for the investment, while the prospects of a doctor in the country are much worse than those of competent business men or even a clerk in a banking establishment. Some figures illustrating the rates and taxes paid by medical men show that the average income from the practice for the majority of doctors is less than $1,000 a year, while even this figure is very often not reached. On the other hand, the risks and responsibility involved by the practice of medicine are so high in this country that they should deter the intending student from taking up the profession. Needless to say, the views expressed in this circular were endorsed by all the other medical councils of Austria.

Deaths

Surgeon-General Walter Wyman, United States Pub Health and Marine-Hospital Service, died in the Providen Hospital, Washington, November 21, aged 63.

He was born in St. Louis, Aug. 17, 1848, the son of Edwa Wyman, LL.D., widely known as an educator, and Elizabe Hadley Wyman. He graduated from the St. Louis Universi in 1866, then attended Amherst (Mass.) College, from whi he received the degree of A.B. in 1870 and that of A.M. in 18 His medical course was taken in St. Louis at the St. Lou Medical College, the Medical Department of Washington U versity, from which he was graduated in 1873. He al received the honorary degree of LL.D. from the Western U versity of Pennsylvania, Pittsburgh, in 1897, from the Unive sity of Maryland, Baltimore, in 1907, and from Amher College in 1911.

He entered the Marine-Hospital Service as assistant su geon Oct. 21, 1876; was promoted to surgeon Oct. 1, 187 and was made supervising surgeon-general May 27, 1891. 1902 this service was expanded into the United States Publ Health and Marine-Hospital Service.

Walter Wyman, 1848-1911

During his administratio as Surgeon-General many i provements and advances the Service have occurre Special attention was giv to the physical conditio affecting sailors in the me chant marine, for whose be efit laws were enacted. Of cial notice was called to t cruelties practiced on de hands on river steamers a on crews of oyster boat Cholera was barred from t country and many epidemi of yellow fever were su cessfully handled. A sanat rium for consumptive sailo was established at Fo Stanton, N. M., and the ro tine management of the m rine hospitals was improve Laws regulating the man facture and sale of vaccin and serums have been e acted, and a Hygienic La oratory at Washington and Leprosy Station at Hawa have been established. F the many advances made du ing his service as Surgeo General, Dr. Wyman is d serving of much credit.

General Wyman's societ membership was extensi and included the Americ Medical Association, of whic he was Vice-President 1905-06; the American Pu lic Health Association, which he was president in 1902-03; the Association of Mil tary Surgeons of the United States, of which he was pres dent in 1904-05; and the American National Red Cross, which he was vice-president and acting president in 1904, an a member of the central committee and board of consultatio in 1905.

He was also a member of the American Academy of Me icine, American Medical Editors' Association; American As ciation for the Advancement of Science; American Climat logical Society and many others. He was an honorary mem ber of the Imperial Society of Medicine of Constantinopl the president of the first and also of the second General Inte national Sanitary Convention of American Republics and t chairman of the International Sanitary Bureau of America Republics.

He was also chairman of the Committee on Internation Quarantine of the Pan-American Medical Congress in 1896, an of the Section on Public Health of the International Congre of Arts and Sciences in 1904; president of the Section on Stat and Municipal Control of the International Congress of Tube culosis in 1908, and was a director of the National Associatio for the Study and Prevention of Tuberculosis and the Natio Association of Mental Hygiene.

Richard Morris Wyckoff, M.D. Bellevue Hospital Medical College, 1864; prominent as a sanitarian; died at his home in Brooklyn, November 11, from angina pectoris, aged 73. After graduation he became an acting assistant surgeon U. S. Army in 1865; was secretary of the Medical Society of the County of Kings from 1871 to 1882; physician to St. Peter's Hospital, Brooklyn, since 1875; an official of the Brooklyn Board of Health from 1869 to 1886; and for the last four years of this time was secretary of the department of health and deputy health commissioner. In 1894 he again was made deputy commissioner of health and sanitary superintendent and served in these capacities for four years. He was one of the founders of the Medical Society of the State of New York and of the New York Medico-Historical Society, and was well known throughout the United States by reason of his activities in the direction of hygiene and sanitation, and his frequent contributions to the periodical medical literature.

Nathaniel Rannells Coleman, M.D. Bellevue Hospital Medical College, 1870; New York University, New York City, 1877; a member of the American Medical Association, formerly president of the Ohio State Pediatric Society; a member of the Ohio Society for the Prevention of Tuberculosis and National Association of U. S. Pension Examining Surgeons; first president of the pension examining board of Columbus, O.; professor of physical diagnosis in Columbus Medical College from 1878 to 1892, and thereafter professor of practice of medicine in Ohio Medical University; formerly president of the State Board of Medical Registration and Examination; a member of the staff of Mount Carmel Hospital from 1886 to 1892, and of the Protestant Hospital from 1892 to 1897; died at his home in Columbus, October 31, from cerebral hemorrhage, aged 67.

James Frederick William Ross, one of the most prominent surgeons of Canada; died November 17, from double pneumonia, two days after an automobile accident, aged 55. He was a son of the late Dr. James Ross, who was a leading practitioner and obstetrician of his day in Toronto. He took his medical course at and was graduated from Trinity Medical College, Toronto, in 1878. He was one of the founders and a past president of the Academy of Medicine, Toronto, and also a past president of the Ontario Medical Association. He was a well-known contributor to medical literature, was professor of gynecology in the University of Toronto, gynecologist to the Toronto General Hospital and a member of the medical staffs of other hospitals.

Surgeon Eugene Wasdin, U. S. P. H. and M.-H. Service; died in a sanatorium near Philadelphia, November 17, from nervous disease of long standing, aged 53. Dr. Wasdin was born in Georgetown, S. C.; graduated from the Medical College of the State of South Carolina, Charleston in 1881; and after an internship of a year in the City Hospital, Charleston, entered the Public Health and Marine-Hospital Service in 1883 as assistant surgeon. Three years later he was promoted to Passed Assistant Surgeon and in 1898 was made surgeon. He was widely known in the service, did notable work in yellow fever epidemics, and was on duty in Buffalo at the time of the assassination of President McKinley and was one of the attending surgeons in the case.

John Yeatman Taylor, Rear Admiral U. S. Navy (retired); died in his apartments in Washington, November 16, from the effects of a gunshot wound of the head, self-inflicted, it is believed, while despondent on account of ill health and bereavement, aged 81. Dr. Taylor was a graduate of Jefferson Medical College in 1852, entered the Navy a year later and after thirteen years and eleven months of sea service and twenty years of shore and other duty, was retired as medical director with the rank of rear admiral, Jan. 21, 901, on attaining the age of 62 years.

John A. Hillsman, M.D. Jefferson Medical College, 1859; ormerly a member of the American Medical Association and an honorary member of the Medical Society of Virginia and Richmond Academy of Medicine and Surgery; surgeon of the Forty-Fourth Virginia Infantry, C. S. A., during the Civil War; died at his home in Richmond, November 5, aged 77.

David Charles Coleman, M.D. University of Georgetown, Washington, D. C., 1904; a member of the Massachusetts Medical Society; for five years city physician of Beverly, Mass.; died at the Beverly Hospital, November 6, a week after an operation for appendicitis, aged 32.

Merlin Freelan Blodgett, M.D. Tufts College Medical School, Boston, Mass., 1907; of Penacook, N. H.; formerly clerk and treasurer of Corinth, Vt., while motoring through Bradford, Vt., accidentally shot himself in the throat, October 28, and died from the effects, aged 28.

Henry Clay Dalton, M.D. Missouri Medical College, St. Louis, 1870; a member of the American Medical Association; from 1886 to 1892 superintendent of the St. Louis City Hospital and later professor of abdominal surgery in the Marion-Sims College of Medicine; a Confederate veteran; died in the Deaconess Hospital, St. Louis, November 3, a few hours after an operation for appendicitis, aged 64. Former associates and assistants of Dr. Dalton acted as honorary pallbearers at his funeral.

John Manning Mills, M.D. College of Physicians and Surgeons, San Francisco, 1902; formerly a member of the American Medical Association; for two years surgeon of the Alaska Packers Association at Cordova, and for several years thereafter district surgeon of the Northwest Pacific Railroad, with headquarters at Larkspur, Cal.; secretary of the Humboldt County Medical Society; died in his apartments in Arcata, Cal., August 12, from hemorrhage of the stomach, aged 54.

Edward Payson Turner, M.D. Long Island College Hospital, Brooklyn, 1882; for about twenty years a practitioner of New York City and assistant surgeon to the New York Elevated Railroad; for the last eight years a resident of New Vineyard, Me., and a member of the last state legislature; died at his home, October 18, from pneumonia, aged 56.

Louis Giuseppe Contri, M.D. University of Pisa, Italy, 1861; captain in the Confederate service during the Civil War; a member of the Kentucky State Medical Association; for several years secretary and treasurer of the Trimble County Medical Society; died at his home in Milton, November 1, from carcinoma of the stomach, aged 71.

Everett M. Brockett, M.D. Kansas Medical College, Topeka, 1897; a member of the American Medical Association and once president of the Shawnee County (Kan.) Medical Society; instructor in chemistry in his alma mater; died suddenly at his home in Topeka, October 31, from heart disease, aged 60.

Thomas S. Fortson, M.D. Kentucky School of Louisville, 1885; of Berlin, Ga.; was shot at Moultrie, Ga., October 30, by the town marshal and died on the train near Manchester, Ga., early the following morning, aged 43. There is said to have been ill feeling between the deceased and the marshal for several years.

Cornelius Timothy Smith, Jr., M.D., George Washington University, Washington, D. C., 1900; a member of the American Medical Association, and a successful practitioner of Tunnelton, W. Va., for several years; died at the home of his father in Croxton, Va., November 4, from tuberculous laryngitis, aged 41.

Karl Zapp, M.D. University of Wooster, Cleveland, 1895; formerly physical director of the turnvereins of Cleveland, O., and largely instrumental in the introduction of calisthenics in the public schools of that city; died in the Cincinnati City Hospital, October 25, after a surgical operation, aged 60.

Oscar H. Mann, M.D. Hahnemann Medical College, Chicago, 1856; last president of the village board, first mayor, and for forty-five years a resident of Evanston, Ill.; died at his summer home in Gobleville, Mich., October 24, from injuries received in a fall a few hours before, aged 77.

Edward J. Miller, M.D. Medical College of the State of South Carolina, Charleston, 1858; a veteran of the Civil War during which he served in the Third U. S. Cavalry; died at his home in Everett, Pa., September 29, from heart disease, aged 74.

Marriages

CAMERON ARTHUR LEATHERMAN, M.D., Dayton, O., to Miss Phedora Timmons, Coshocton, O., at Cincinnati, September 27.

ALEXANDER S. WOLF, M.D., St. Louis, to Miss Grete Beran of Vienna, Austria, at Mount Vernon, N. Y., October 14.

VICTOR DARWIN THOMAS, M.D., Elliott, Ill., to Miss Edith Eunice Von Solen of St. Paul, Minn., recently.

HARRISON C. PUTMAN, M.D., Canton, Ill., to Miss Nelle A. Hanlon of San Antonio, Tex., October 18.

WILLIAM R. HOWARD, M.D., Fort Worth, Tex., to Mrs. Ella May Emery of Anna, Ill., recently.

EDGAR B. SMITH, M.D., to Miss Josephine Swickard, both of Detroit, Mich., November 6.

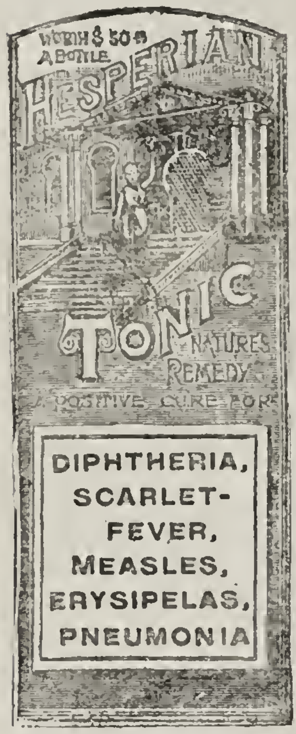
ELMER H. DWELLE, M.D., to Miss Lila Emery, both of Northwood, Ia., November 1.

The Propaganda for Reform

HESPERIAN TONIC

A Misbranded Nostrum Sold as a Cure for Diphtheria

Mystery is as essential to the "patent medicine" faker of the twentieth century as it was to the magicians of the second. Take away the element of secrecy and you puncture the bubble of quackery. Within the past few years, the public has shown a tendency to demand of the "patent medicine" manufacturer, to a small degree at least, that openness of dealing that it has long insisted on in more honorable lines of business. But as openness and frankness are inimical to the success of nostrum exploitation, it is evident that the public is asking for something that it will not get. Many of the "patent medicine" makers, it is true, have pretended to accede to this demand and, with a flourish of trumpets, have announced that there is no secrecy about the composition of their products. What they do, of course, is to take a page from the book of the exploiters of so-called ethical proprietaries and publish formulas that are either false or meaningless.



Photographic reproduction of a label from a bottle of Hesperian Tonic. Note the claim that it is "a positive cure" for various serious conditions; also note the absence of any statement regarding the presence of alcohol!

A concern with the somewhat imposing title Temple of Health Medicine Company of San Francisco, sells a nostrum for the alleged cure of diphtheria. It is called Hesperian Tonic and is claimed to have been originated by "the eminent Physician, Scientist and Chemist, J. W. Roberts, A.M., M.D., of the University of Michigan." Who "J. W. Roberts" is, we do not know. The medical directories give no information concerning such a man. According to the official records there is no such man licensed in either California or Michigan; neither is he licensed in Utah, where he claims to have "cured 414 cases of diphtheria in succession."

According to the label, each fluid ounce of Hesperian Tonic contains:

Flussiges Eisenchlorid	Gm.	7,500
Versusster Salpetergust	Gm.	15,000
Distillerte Wasser	Gm.	7,500

To the uninitiated, the apparent frankness of this formula may seem credible. Of course, not one layman in ten thousand will be any the wiser when he has read it than he was before. In plain English, the formula signifies that the preparation is a solution of ferric chlorid and spirits of nitrous ether in distilled water. The idea of publishing the composition in indifferent German is admittedly a master stroke of advertising trickery.

The claims made for Hesperian Tonic were as false as they were cruel:

> "A Positive Cure for Diphtheria, Scarlet Fever, Measles, Pneumonia."
>
> "A Sure, Safe, Speedy and Permanent Cure of That Most Dangerous Disease: Diphtheria."
>
> "A great destroyer of all parasites, animalculæ and microbes of the blood."
>
> "Hesperian Tonic, effectually, permanently and speedily cures the very worst forms of Diphtheria, Canker, Erysipelas, Scrofula, Salt Rheum, Ulcers and Old Sores of long standing."
>
> "Is a powerful and proven Germicide."

This particular fake was brought to the attention of The Journal in a somewhat unusual way. During an epidemic of diphtheria in Chicago, some months ago, the city health department received a long rambling letter from the exploiters of Hesperian Tonic and a dozen bottles of the nostrum itself. It was evidently the desire of the concern to use the epidemic as an advertising asset for its preparation. The health department was urged to "put it to the most rigid test at once as a preventive and cure of diphtheria." The officials were also notified that should they wish to order any more of the preparation "the price of Hesperian Tonic laid down in Chicago is $96 per gross bottles."

Tests were made in the Chemical Laboratory of the American Medical Association to determine how nearly the composition that was claimed for the nostrum corresponded to its actual make-up. The chemists' report[1] follows:

LABORATORY REPORT

Hesperian Tonic is a brown liquid with an odor resembling spirits of nitrous ether. When slightly heated it easily ignites and continues to burn, indicating a relatively large percentage of alcohol. The liquid responded to tests which indicate the presence of alcohol, iron, chlorid, a trace of nitrite and some nitrate. The presence of arsenic, heavy metals and alkaloids could not be demonstrated. Quantitative analysis indicated the presence of alcohol equivalent to 33.72 per cent. U. S. P. alcohol by volume; and iron (Fe) 2.151 gm. per 100 c.c., equivalent to approximately 21.50 gm. liquor ferri chloridi, U. S. P. No nitrous ether (ethyl nitrite) was found although the odor of the preparation and the formula pointed to its presence. In view of the ease with which spirits of nitrous ether decomposes, this is not surprising. Experiments on mixtures of ferric chlorid solution and spirits of nitrous ether were made and showed that in such a mixture, the nitrous ether is decomposed quite rapidly with reduction of some of the iron to the ferrous state and the formation of some nitrate. From this it is concluded that Hesperian Tonic is a water-alcohol solution of ferric chlorid with decomposition products of the spirits of nitrous ether, probably present originally.

All of which shows that Hesperian Tonic is merely a simple mixture sold under a misleading formula. Incidentally it is misbranded both because the presence of alcohol is not declared and because the ethyl nitrite said to be present, is absent. Considering the educational caliber of the average nostrum-maker, it is not surprising that "J. W. Roberts A.M., M.D., of the University of Michigan, and founder of Hesperian Tonic" should be unaware of the readiness with which ethyl nitrite (spirits of nitrous ether) decompose or he might have saved himself the expense and trouble of adding this ingredient to his worthless and wickedly expolited "patent medicine."

The viciousness of selling a worthless nostrum for the cure of so deadly a disease as diphtheria will be perfectly patent to every physician. The public, however, has not yet reached the place where it realizes that the modern medical treatment of this one-time scourge by antitoxin is so sure and so free from danger as to make dallying with this dangerous disease little less than criminal. But what cares the exploiter of "patent medicines" for the danger or death of the many so long as the sacrifice results in disbursements of dividends to the few!

REPORT OF THE COMMITTEE ON PATENTS AND TRADE-MARKS

The Council appointed a committee to discuss the abuses connected with the patenting and trade-marking of medicines. This committee submitted its report, which was adopted by the Council. In order that physicians may become familiar with these matters, the Council authorized its publication.

W. A. Puckner, Secretary.

To the Council on Pharmacy and Chemistry: Your committee, after reviewing the existing abuses in connection with patents on medicinal substances, recommends that the Council on Pharmacy and Chemistry request the cooperation of the Council on Health and Public Instruction in a thorough study of the various questions that are involved, with the view of endeavoring to inaugurate a more wide-spread interest in the possible injury to the public from a misapplication of the laws relating to patents on medicinal preparations.

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[1] The details of analysis will appear in the Annual Report of the Chemical Laboratory.

As an illustration of the abuses that may arise and the injustice that can be done at the present time, it may be well to call attention to some of the variations in the laws relating to patents in different countries.

The duration or life of a patent varies from a minimum of three years in some of the South American republics to twenty years in Mexico, Belgium and Spain; our own country limits the life of a patent to seventeen years.

In Germany, Austria and Hungary food products and chemical products as such cannot be patented, although the processes by which such products are produced may be patented. In France no patents are granted for medicines and pharmaceutical compositions, and added precautions are taken to prevent the creation of a monopoly in the manufacture and sale of medicinal products. In Denmark medicines and food products are not patentable, and in Switzerland neither the product nor the process for making a chemical substance can be patented.

In our own country both product and process patents are granted for useful inventions quite irrespective of the uses for which the product is intended.

The rights and privileges conferred on individuals under our American laws relating to patents and trade-marks have been repeatedly discussed in so far as these laws are thought to interfere with or to hamper rational progress in sciences relating to materia medica, and attention has been called to many of the more or less apparent abuses.

At the Chicago (1908) meeting of the American Medical Association a special committee of five was appointed by the House of Delegates to study the questions involved, and to cooperate with the committee on medical legislation in preparing and securing the enactment of a bill which would correct the abuses thought to be connected with the enforcement of our patent laws. (The Journal A. M. A., June 13, 1908 p. 2003).

This committee presented a comprehensive report at the Atlantic City (1909) meeting of the American Medical Association (The Journal A. M. A., June 19, 1909, p. 2063). The committee, recognizing the fact that questions relating to patents and trade-marks are in a state of great confusion, suggested that redress from existing abuses be sought in court rather than by a change in the existing patent laws.

At the St. Louis (1910) meeting of the American Medical Association (The Journal A. M. A., June 18, 1910, p. 2079) the committee presented a report in which it was suggested that the subject be left to the Committee on Legislation and that the special Committee on Patents and Trade-Marks be discharged.

Other organizations have discussed the abuses arising from our present system of patent laws and their enforcement, and it is generally agreed that both for the public as well as for the inventor our laws and our system of patent law jurisprudence could be improved on. One well-known attorney in discussing this question from the point of view of the patentee (Louis C. Raegener, *Jour. Ind. and Eng. Chem.*, 1909, i. 203) asserts that this country gives the worst protection possible to the patentee seeking to enforce the rights plainly given him by the statutory law; on the other hand, by trick and device not found in the statutory law or in the patent laws of any other country, it enables him to hamper trade in the most effective manner possible.

The relation of our patent laws to our trade-mark laws and to corresponding laws in other countries is not generally appreciated and much educational work is needed. For instance it should be pointed out that names that are free in one country may be protected in another so that the publicity given to scientific investigations made in one country may be used for advertising purposes in connection with a proprietary article in another country.

In this connection it might be well to state that in France the word "adrenalin" has been denied registration for fear that a monopoly in the manufacture and sale of a pharmaceutical product might be created if an exclusive right were given to the name by which such product is generally known, while in our own country the same name is applicable only to the product of one firm. On the other hand, the word "antipyrin" which is now included in the Pharmacopeia of the United States and generally accepted as a generic name for a well-known chemical, appears to be protected in some of the countries of Europe and applicable only to the product put out by the original manufacturers.

The abuses arising from this variation in the trade-mark laws of different countries should be studied with a view of suggesting means for overcoming the troublesome questions arising in connection with the nomenclature of synthetics and other new remedies for which arbitrarily coined words are being used.

One other point that is worthy of serious consideration is the fact that practically all of the abuses that are evidenced in connection with patents or trade-marks and new remedies are due to the *abuse* rather than the rational use of the remedies under consideration. For a patent establishes a monopoly; a monopoly permits of excessive profits; excessive profits lead to extensive advertising; extensive advertising leads to misuse of the patented article.

To recapitulate briefly the observations and suggestions herein offered your committee would recommend:

1. That for the present at least no effort be made to test the validity of a product patent which has been declared valid in one or more courts.
2. That the inadequacy of our present patent laws in so far as they pertain to drugs and medicines, and particularly their enforcement, be brought to the attention of the medical profession with the view of securing the interest and cooperation of physicians in an improvement of present conditions.
3. That the Council on Pharmacy and Chemistry request the cooperation of the Council on Health and Public Instruction in a comprehensive and comparative study of the patent laws of the leading countries of the world and subsequently to aid in bringing to the attention of the profession and of the public the abuses arising from proprietary rights in names or in products used in connection with the healing art.

Correspondence

Artificial Respiration in Asphyxia Neonatorum

To the Editor:—My attention was attracted to an interesting article on asphyxia in the Therapeutics Department of The Journal (Sept. 23, 1911, p. 1056). After the author has discussed asphyxia livida and asphyxia pallida with appropriate methods for their treatment, he proceeds by saying that "next, the 'Byrd Dewey' method of artificial respiration should be tried," and then he gives the method of operation, not in accordance with the "Dew method." This leads to a desire on my part to make some important incidental statements.

In March, 1893, I read a paper before the New York Academy of Medicine in which I established a new method of artificial respiration in asphyxia neonatorum, which I regarded as absolutely original with myself, having practiced it for a great many years. In calling Dr. Clifford Edgar's attention to my paper and asking him to participate in its discussion at the academy, he told me of a method proposed by Dr. Byrd of Baltimore, which was very similar and which he had published in his book. I had never before seen or heard of Dr. Byrd's method and cannot now describe his procedure.

The directions for my method are to grasp the infant with the left hand, allowing the neck to rest between the thumb and forefinger, the head falling far over backward, straightening the mouth with the larynx and trachea, at the same time serving to raise and hold open the epiglottis. The upper portion of the back and scapula resting in the palm of the hand, the other three fingers should be inserted in the axilla of the baby's left arm, raising it upward and outward. Then, with the right hand, if the baby is large and heavy, grasp the knees in such a way as to hold them with the right knee resting between the thumb and forefinger, the left between the forefinger and middle finger. This position will allow the back of the thighs to rest in the palm of the operator's hand. If the infant is small and light it will be found easier and more convenient to hold it in the same way by the ankles instead of by the knees, allowing the calves instead of the thighs to rest in the palm of the hand. The next step is to depress the pelvis and lower extremities so as to allow the abdominal organs to drag the diaphragm downward, and with the left to bend the dorsal region of the spine gently backward. This causes the ribs to move upward and outward, opening up like the segments of a fan, thus enlarging the cavity of the thorax both laterally and vertically, exciting inspiration. Then, to excite expiration, reverse the movements, bring the head, shoulders and chest forward, closing the ribs on each other and at the same moment bring forward the thighs, resting them on the abdomen. This movement arches the lumbar region backward, and so bends the infant on itself as to crowd together the contents of the thoracic and abdominal cavities, resulting in a most complete and forcible expiration. While this movement is a powerful one, the operator can, by his manipulations, accomplish it without shock and render it as gentle as he pleases. These movements should be repeated from ten to fourteen times a minute. In some instances it will be found desirable by mouth-to-mouth inflation to fill the lungs. This will often aid the introduction and expulsion of air. This method is prompt, reliable, easy to perform and perfectly safe; it possesses all the advantages of the Schultze method and none of the disadvantages.

ADVANTAGES OF METHOD

1. It is most efficient in all cases in which artificial respiration in asphyxia neonatorum is indicated.
2. Years of experience have proved its unquestioned value.
3. It can be practiced with ease and readiness to the operator.
4. Its movements are easy and can be resorted to at any moment and anywhere.
5. While its inspiratory movement will be found, by experience, to be even more efficient than in most other methods, the expiratory movement is far more complete and satisfactory than in any other method.
6. Nearly or about all of the air drawn in can be exhaled. This is a great advantage.
7. Owing to the force and at the same time to the absolute control which the operator has over the expiratory movements, he is able to compress the contents of the thoracic cavity to just exactly that degree deemed by him wisest and best, thereby favoring and hastening the general circulation, since by every act of compression the blood is forced from the heart and large blood-vessels, the valve opening for the forward flow and closing on any recoil or backward movements.
8. This method can be employed before cord is cut, where it seems important to save as much blood as possible to the infant.
9. The operator can sit or move from place to place about the room, greatly to his relief from fatigue, still continuing the respiratory movements.
10. If thought best, the movements can be kept up while the infant is immersed up to its chin in hot water.
11. By elevating the buttocks and depressing the head and shoulders, the expulsion of mucus can be effected as in the Schultze method.
12. This method can be readily alternated with other methods when thought best.

J. Harvie Dew, New York.

Transmission of Disease by Books

To the Editor:—I am preparing a paper on "Books As a Source of Disease," to be read before the International Congress of Hygiene and Demography, and in order to obtain data I respectfully request the readers of The Journal to send me an account of any cases the source of which has been traced to books or papers, or in which the evidence seemed to make books the offender. Furthermore, I would be interested in information about cases in which illness or even death has been caused by the poisons used in book-making. All the information possible is wanted to present as complete a paper as possible. As in the case of insects which we now know to be "carriers of disease," it is first necessary to collect the scattered evidence in order to show that there is real danger in books; this evidence will lead to better care being taken of libraries, and thus be a factor in preventive medicine.

W. R. Reinick.

1709 Wallace Street, Philadelphia.

Data on Uterine Cancer Patients Wanted

To the Editor:—With the approval of a number of prominent gynecologists of this city, I am gathering statistics on uterine cancer from a new aspect; with the hope that some deductions of value may be made from a long series of cases. I am not a physician myself, but I have printed blanks which I will be glad to send to any physician who will have his patients fill them out. They are printed in the simplest form possible, so that they may be filled out by the patients themselves, thus relieving the physician of that labor, except that he is requested to supply the diagnosis of the case on the last page after the blanks have been otherwise fully filled by the patient. All suggestions of cancer have been studiously avoided, and the blank contains a statement to the patient that a study is being made of nervous disorders.

I will be glad to send as many blanks as are desired, to any physician who will have them filled out for me.

E. Atlee, West Spruce Street, Philadelphia.

A National Department of Health

To the Editor:—However we may view osteopathy, we must congratulate osteopaths, as was done in the editorial in The Journal (Nov. 11, 1911, p. 1620), on their change of front regarding the national department of health movement. Their anxiety lest a physician be appointed to the cabinet discloses only a small remainder of those fears which impelled them to oppose the Owen bill *in toto.* I think that were there appointed as secretary of health a recognized master of sanitary organization, all these sectarian differences would coalesce in one voice of satisfied approval.

Whether it be premature to suggest and urge a fit man for secretary of health is a matter of forecast. I will risk being called out of order, however, and say that were Colonel Gorgas asked to try to do for the United States what he has done for the Isthmus of Panama, no one cognizant of his record could oppose the choice.

Joseph S. Lewis, Buffalo, N. Y.

Philanthropic Cancer Work

To the Editor:—The remarkably good work, from the standpoint of science as well as philanthropy, which is being conducted by the St. Louis Barnard Free Skin and Cancer Hospitals, should be called to the attention of the medical profession through the columns of The Journal. It will not be devoid of interest to the readers to learn that in the Middle West opportunities are presented to physicians for the observation and study, at the bedside and in the laboratory, of cancerous disease to an extent not equaled anywhere in this country. The large wards and well-attended outdoor services are supplemented by laboratories equipped for every phase of cancer work which might suggest itself. The pathologic and research work is in charge of a full-time director, aided by competent assistants.

From the standpoint of philanthropy the hospital is unique. Sufferers from cancerous disease unable to purchase elsewhere accommodations and services are admitted free; but no patient has access to the hospital who is able to seek elsewhere the necessary relief and treatment. Everything is free both to the patients and to those physicians who wish to avail themselves of the advantages of the hospital. Necessarily the number of patients who can be admitted is limited, and it is not a home for incurables; but the administration makes every effort to accommodate those seeking admission and extends the benefits of the institution to all who need them.

The St. Louis Cancer Society has also started a movement for the diffusing of knowledge concerning cancer and its ravages. During the coming winter members of the medical staff will deliver lectures, scientific as well as popular, before the medical societies of the state and before popular audiences.

The awakened concern of the medical profession in the cancer question is best illustrated by the fact that the Cancer Society was induced to undertake this work partly on the initiative of the medical societies which have requested lecturers for their meetings. This new government gives promise of doing work in a field hitherto much neglected.

E. J. Goodwin, St. Louis.
Secretary, Missouri State Medical Society.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DISAPPEARING INKS

To the Editor:—Some time ago I read a formula for an ink which would fade in a few days after being put on paper, but I am unable to find the reference at present. For obvious reasons such an ink would be of great value in prescription-writing. Can you give a formula for such an ink? J. L. Wicks, Evanston, Wyo.

Answer.—Starch iodid is the substance which has been most frequently recommended as the basic constituent of "disappearing inks." A recent article in the *Practical Druggist*, October, 1911, contains the following:

"There is a well-known proprietary article sold in Paris under the name of 'Encre pour les Dames' (ink for the ladies). Hager, in a recent scientific journal, states that this consists of iodid of starch, and is especially intended for love letters. In four weeks characters written with it disappear, preventing all abuse of letters, and doing away with all documentary evidence of any kind in the hands of the recipient."

While inks of this sort have often been mentioned, none of the formulas proposed, we believe, would yield such an ink. Either the marks produced by the various preparations which have been proposed do not vanish with time or else these marks appear capable of being restored. If an ink of starch iodid does disappear, the blue color of the starch iodid could no doubt be restored with a suitable treatment of a dilute iodin solution. While such disappearing inks might possibly be valuable to the prescribing physician, it is a blessing that they have not been available. If such an ink were discovered, it could and would be used for criminal purposes, for it would enable one to write checks, notes, and promises which, in the course of time, would leave behind but a blank slip of paper.

A CRITICISM OF CERTAIN PRESCRIPTION-WRITING

To the Editor:—In The Journal, November 4, several errors in Latin occur in the fifth prescription (p. 1523), which reads as follows:

℞	Gm. or c.c.	
Tincturæ belladonnæ	5	gr. lxxv
Olei amygdalæ dulcis (olei amygdalæ expressi)	30	℥ i
Vitellum ovi unius		
Aquam destillatam ad..............	200	℥ vi ʒ v
Fiat emulsum		

Misce S. Two teaspoonfuls three times a day.

It is ungrammatical to write "aquam destillatam"; it should be "aquæ destillatæ." "Emulsum" is barbarous Latin; it should be "emulsio." It is wrong to write "vitellum ovi"; it should be "vitelli ovi." I enjoy reading The Journal, but such mistakes are provoking. Why not write the prescriptions in English? In the preceding (fourth) prescription (given below) there is also a mistake.

℞	Gm. or c.c.	
Extracti belladonnæ	3	
Foliorum belladonnæ āā...............	0|33	gr. v
Extracti gentianæ q. s.		
Fiant pilulæ, No. XXX.		

Misce S. One pill before breakfast. Increase slowly to five pills.

Without mentioning the error of prescribing "extracti belladonnæ 3 gm.," which is plainly a *lapsus calami*, I would call your attention to the fact that the prescription says "fiant pilulæ, No. XXX" and then comes "Misce S." After having made thirty pills, what shall the druggist mix? Perhaps the box and the pills? The correct way to write it would be "Misce. f. pil. No. XXX, S."

Alex Loew, Chicago.

Answer.—While we admit that Latin is sometimes a snare to the writer of prescriptions and that there would often be an advantage in writing in English, we believe that our correspondent's criticisms with regard to the Latin in the first prescription mentioned are made without due consideration.

"Vitellus" cannot be put in the genitive case, for there is nothing for it to depend on; it is the direct object of "recipe" and must therefore be in the accusative case. When the genitive of the name of the ingredient is used in a prescription, as it ordinarily is, it is a partitive genitive depending on a noun of quantity expressed by signs. This noun of quantity is grammatically in the accusative as the direct object of "recipe;" thus: "Recipe olei amygdalæ dulcis unciam unam." The prescription directs the druggist to take the yolk of one egg. If he were directed to take a given quantity *of* egg yolk, it would be correct to write "vitelli," the genitive then depending on the noun of quantity; as it is, "vitellum" is correct. "Aquam destillatam" is likewise the direct object of "recipe" and therefore is correctly written in the accusative case also. The druggist is directed to take, not a given quantity *of* water but water *up to* (ad) a certain quantity. In other words, the construction of "vitellum" and "aquam" is parallel to that of "unciam unam" (abbreviated to "℥ i") in the preceding line, and not to that of "olei."

We do not know on what grounds our correspondent declares "emulsum" to be a barbarism. We believe that the use of "emulsum," the neuter perfect participle of *emulgeo*, to signify a substance resulting from emulsification, is more in accordance with classical usage than the use of "emulsio," which would, in classical usage, mean the process. At any rate, while "emulsio" is used in some other countries, "emulsum" is the form adopted by the United States Pharmacopeia and in general use in this country.

As for the other prescription mentioned, our correspondent is clearly right. The manuscript was correct, both errors having crept in during the process of type-setting. As our correspondent says, the figure 3 opposite "extracti belladonnæ" is easily seen to be a mistake because of the "āā" following "foliorum belladonnæ" in the next line. "Misce," of course, should precede "fiant pilulæ." We owe thanks to our correspondent for the trouble he has taken to point out errors.

MEYER'S REAGENT

To the Editor:—Kindly inform me of the correct proportions that compose Meyer's reagent used in testing for blood.
J. P., St. Louis.

Answer.—Meyer's reagent is a solution of phenolphthalin (the reader is cautioned that this is not phenolphthalein) in sodium hydroxid solution. It may be prepared by dissolving 0.032 gm. of phenolphthalin in 21 c.c. of decinormal sodium hydroxid and adding a sufficient amount of water to make up the volume of solution to 100 c.c. The reagent may also be prepared by bringing together 1 c.c. of decinormal sodium hydroxid with somewhat more phenolphthalin than will dissolve in this quantity of alkali, diluting with 10 to 20 c.c. of water, filtering and adding to the filtrate 20 c.c. of decinormal sodium hydroxid and sufficient water to make up to 100 c.c. To this solution a minute amount of a solution of hydrogen peroxid is added. J. H. Kassel states that in most blood work it is sufficiently accurate to add 0.1 c.c. of the 3 per cent. commercial hydrogen peroxid solution. He has found that the distilled water used in making these solutions must have been distilled from glass, as minute traces of copper will act as an oxidase and give a pink color to the solution of alkalin phenolphthalin on the addition of hydrogen peroxid.

Phenolphthalin or dioxy-triphenyl methane carbonic acid is the leuko-compound of phenolphthalein and on oxidation it is converted into the latter compound. Pure phenolphthalin is colorless in alkaline solutions, but if it be oxidized in the presence of alkali, there results the deep purple-red coloration characteristic of phenolphthalein in alkali. It is on this change, brought about by the presence of minute amounts of blood, that the use of phenolphthalin as a test of the presence of blood depends.

Phenolphthalin may be prepared from phenolphthalein by dissolving the latter in a considerable excess of 30 per cent. sodium hydroxid solution, boiling with an excess of zinc-dust until a few drops of the strongly alkaline liquid no longer gives the color of phenolphthalein, after neutralization with hydrochloric acid and the addition of sufficient alkali to give a slight alkaline reaction. The solution is then decanted from the excess of zinc-dust and the phenolphthalin precipitated by acidifying with hydrochloric acid. The substance is then collected on a filter, purified by several crystallizations from water and alcohol and dried in the air at the ordinary temperature or in the oven at temperatures ranging from 50 to 80 C. It must be carefully protected from air and light and from dust.

PERIODICALS ON EYE, EAR, NOSE AND THROAT

To the Editor:—1. Please advise the best medical publications in this country, devoted to ophthalmology, or ophthalmology and laryngology combined, and the subscription price per year.

2. Can you tell where I can get the little book "Glimpses of Medical Europe," by Thompson? J. B. Morton, Ridgefarm, Ill.

Answer.—1. Your question was answered in The Journal, Jan. 28, 1911, p. 209.

2. Thompson's book entitled "Glimpses of Medical Europe" is published by the J. B. Lippincott Co., Washington Square, Philadelphia, and costs $2.

USE OF ETHER WHICH HAS BEEN EXPOSED

To the Editor:—Please reply to the following queries:

1. If the residue of ether in a can is securely corked can it be safely used in a subsequent anesthesia?

2. Is the safety of an anesthetic jeopardized by using ether which has been previously exposed? If so, why? X. Y. Z.

Answer.—1. Yes. 2. No. These answers presuppose that the ether in the can is pure and unmixed with other substances.

SNAKE VENOM IN TREATMENT OF EPILEPSY

To the Editor:—Where can I find an abstract which I saw in The Journal, dealing with the use of snake venom in epilepsy? H. F. Cassidy, Baltimore.

Answer.—In The Journal, Sept. 23, 1911, p. 1085.

ABSENCE OF APPENDIX

To the Editor:—In a late issue of The Journal (Nov. 4, 1911, p. 1535) was reported a case with the absence of the appendix. I have notes of a post-mortem examination some years ago, in which was discovered a similar condition associated with others equally remarkable. The subject was the body of an aged man who had died, apparently, from infection following a prostatotomy. The search for the appendix was fruitless, though the peritoneum was stripped from the cecum and ascending colon and ileum for several inches, entirely exposing the muscular walls. There were no adhesions or other lesions which might have obscured conditions; the bowel could be delivered and inspected in detail. At the site of the appendix was a small pit in the cecal wall about half an inch in diameter, and projecting outward probably one-half that distance; more correctly, it could be made to project by the finger or instrument, as the condition was unnoticeable until the muscular wall was exposed. This rudimentary vestige of an appendix was the only evidence of an attempt to develop that organ.

Two other anomalies were discovered: The right testicle was represented by a small mass of apparent scar tissue; the right kidney was only a number of cysts or pouches arranged side by side vertically, opening into the ureter. They formed a body suggesting the shape of the kidney, but only about a fourth of its size. No renal tissue was discovered. The findings would seem to suggest an unexplained state of arrested or erratic development, limited to the right side of the body, but to no special tissue or organ. U. S. Bird, Tampa, Fla.

A NEW TERM—ANESTHESIOLOGY

To the Editor:—In The Journal (November 4, p. 1538) you have an excellent article under the heading "Anesthesia and Anesthetics." I suggest the heading "Anesthesiology," a term adopted by the University of Illinois, which is defined as "the science that treats of the means and methods of producing in man or animal various degrees of insensibility with or without hypnosis."

M. J. Seifert, Chicago.

SYMPTOM-COMPLEX OR SYNDROME?

To the Editor:—Why do writers on medical subjects persist in using such a clumsy, lumbering expression as "symptom-complex" when we have a good, English, euphonious word which means the same thing—"syndrome"? Curious.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Nov. 18, 1911.

Ingalls, R. E., dental surgeon, November 1, left Fort Douglas, Utah, en route to Fort Yellowstone, Wyo., for temporary duty.

Ebert, R. G., colonel, November 6, left San Francisco en route to Honolulu, T. H., on detached duty.

Allen, John H., major, November 9, ordered to proceed to Fort Ontario, N. Y., about November 26, to accompany 24th Inf. to San Francisco.

Stone, Frank P., dental surgeon, November 10, reported for temporary duty at Jackson Barracks, La.

Jones, Harold W., captain, November 10, granted fourteen days' leave of absence.

Whitcomb, C. C., major, November 10, on discontinuance of the medical supply depot, Maneuver Division, San Antonio, Tex., will return to station in New York City.

Ford, Clyde S., major, November 10, granted two months' leave of absence on surgeon's certificate of disability.

Yemans, Herbert W., M.R.C., November 11, relieved from duty at Fort Wayne, Mich., and ordered to Philippines division for duty on the transport sailing from San Francisco Jan. 5, 1912.

Henning, O. F., M.R.C., November 14, granted thirty days' leav of absence, to take effect on arrival in the United States.

Whaley, Arthur M., captain, November 14, granted three months leave of absence, about Dec. 5, 1911.

Guittard, A. M., M.R.C., November 14, orders relieving him from duty in the Philippines division revoked.

Heterick, Robert H., M.R.C., November 15, the resignation of hi commission accepted by the President on Nov. 16, 1911.

Millikin, John D., dental surgeon, November 15, leave of absenc extended two months.

Ashford, Mahlon, captain, Nov. 13, 1911, ordered to proceed t Fort D. A. Russell, on expiration of leave of absence, for duty wit Field Hospital and Ambulance Company No. 1.

Leary, Thomas J., lieut., Nov. 13, 1911, ordered to proceed t Fort Slocum, N. Y., on expiration of leave of obsence, for duty.

Shields, William S., lieut., Nov. 13, 1911, ordered to Columbus Barracks, Ohio, for duty, relieving Lieut. E. F. Slater, M.R.C.

Slater, Ernest F., M.R.C., November 13, ordered to Fort St Philip, La., for duty, on being relieved from duty at Columbus Barracks, Ohio.

Bayly, Rozier C., lieut., November 13, ordered to Presidio o Monterey, Cal., for duty.

Foley, Thomas M., M.R.C., November 13, on arrival at New York City ordered to Fort McIntosh, Tex., for duty.

Hopwood, Lucius L., captain, November 13, relieved from duty a Fort Monroe, Va., to take effect on arrival of Lieut. Jay D Whitham, and will proceed to general hospital, Presidio of San Francisco, for duty with Field Hospital and Ambulance Company No. 2.

Medical Corps, U. S. Navy

Changes during the week ended Nov. 11, 1911.

Edgar, J. M., medical director, commissioned medical directo from Sept. 17, 1911.

Wilson, G. B., medical inspector, commissioned medical inspector from Feb. 27, 1911.

Stitt, E. R., medical inspector, commissioned medical inspector from June 11, 1911.

Carpenter, D. N., surgeon, detached from the naval academy, November 14, and ordered to the *Delaware*.

Holcomb, R. C., surgeon, detached from the *Delaware* and ordered to duty at the naval hospital, Las Animas, Colo., December 1.

Chambers, W., P. A. surgeon, detached from the *Maryland* and ordered to the *Glacier*.

Donelson, M., P. A. surgeon, detached from the *Glacier* and ordered to the *Cincinnati*.

Lawrence, H. F., P. A. surgeon, detached from the naval hospital, Las Animas, Colo., and ordered to the *Nebraska*.

Eytinge, E. O. J., P. A. surgeon, detached from the *Cincinnati* and will continue treatment at the naval hospital, Mare Island, Cal.

Crow, G. B., P. A. surgeon, commissioned passed assistant surgeon from July 15, 1911.

Johnson, L. W., P. A. surgeon, commissioned passed assistant surgeon from Sept. 17, 1911.

Mann, W. L., Jr., P. A. surgeon, commissioned passed assistant surgeon from Oct. 3, 1911.

Taylor, J. S., surgeon, detached from the *Mississippi* and ordered to the naval training station, North Chicago, Ill.

Plummer, R. W., surgeon, detached from the naval training station, North Chicago, Ill., and ordered to the navy recruiting station, Detroit.

Iden, J. H., surgeon, detached from the *Washington* and ordered to the *Kansas*.

Smith, C. G., surgeon, detached from the *Montana* and ordered to the *Mississippi*.

Brooks, F. H., P. A. surgeon, detached from the *Marietta* and ordered to the *Birmingham*.

Reed, T. W., P. A. surgeon, detached from the *Maine* and ordered to the *Marietta*.

McDonnell, W. N., P. A. surgeon, detached from the *Kansas* and ordered to the *Washington*.

Shaw, H., P. A. surgeon, detached from the navy-yard, Washington, D. C., and ordered to the *Montana*.

Koltes, F. X., P. A. surgeon, detached from the navy recruiting station, Detroit, and ordered to the naval training station, North Chicago, Ill.

Farwell, W. G., P. A. surgeon, detached from the *Nebroska* and ordered to the navy-yard, Washington, D. C.

Changes during the week ended Nov. 18, 1911.

Haynes, J. P., asst.-surgeon, detached from the naval station, Olongapo, P. I., and ordered to the *Saratoga*.

Stone, E. P., medical inspector, when discharged from treatment at the naval hospital, Mare Island, Cal., ordered to treatment at the naval hospital, New York.

Lane, H. H., P. A. surgeon, commissioned passed assistant surgeon from May 5, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 15, 1911.

Schereschewsky, J. W., P. A. surgeon, detailed to represent the Service at the second annual meeting of the American Association for the Study and Prevention of Infant Mortality to be held in Chicago, Nev. 16-18, 1911.

Warren, B. S., P. A. surgeon, directed to proceed to Washington, D. C., and report to the director of the hygienic laboratory for special instructions.

Creel, R. H., P. A. surgeon, relieved from duty in the hygienic laboratory, Washington, D. C., and from special temporary duty at the New York quarantine station, and directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Grimm, R. M., asst.-surgeon, granted thirty days' leave of absence from Nov. 15, 1911.

Bailey, C. A., A. A. surgeon, directed to accompany immigration service from Quebec to St. John, Canada, about Nov. 31, 1911.

Board of medical officers convened to meet at Norfolk, Va., Nov. 10, 1911, for the reexamination of an alien. Detail for the board: Surgeon C. P. Wertenbaker, chairman; Surgeon H. S. Cumming, recorder.

Society Proceedings

COMING MEETINGS

American Physiological Society, Baltimore, Dec. 27-30.
American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

AMERICAN ASSOCIATION FOR THE STUDY AND PREVENTION OF INFANT MORTALITY

Second Annual Meeting, held in Chicago, Nov. 16-18, 1911

The President, Prof. Charles Richmond Henderson, in the Chair

About 500 people—physicians, nurses, social workers and others interested in infant welfare—attended the opening session. The first meeting was a session of the Section on Nursing and Social Work, over which Miss Lillian D. Wald of New York presided.

Infant Welfare or Milk Stations

Miss Minnie H. Ahrens, of the Chicago Infant Welfare Society, Miss Harriet L. Leet, of the Cleveland Babies' Dispensary and Hospital, and Mrs. W. H. Barton, supervisor of the milk stations of the department of health of New York City, read papers on this subject.

DISCUSSION

Dr. George W. Goler, health commissioner of Rochester, N. Y.: Has not the time come to attack the milk stations instead of supporting them? In building up milk stations, we have been losing sight of the fact that the real duty of the legal authorities is to compel the production of milk that is safe to be used by everyone, as the milk stations at best supply only a small portion of the clean milk that is needed. Cities should no longer have laws that soothe but laws that compel, and their enforcement should be insisted on.

Infant Mortality from the Point of View of District Nursing

Miss M. Loane, through Miss Foley, presented a paper giving the conclusions from several years' experience in district nursing in various parts of England and discussing the result in infant mortality of illegitimacy, reckless marriages and bad housing, showing that the waste of infant life is not all due to poverty or lack of leisure.

Cooperation in Nursing and Social Work

Miss Higgins, secretary of the Associated Charities of Boston: The task of a nurse is to make healthy citizens of good character; the task of the social worker is to make good citizens with healthy bodies. The time was when doctors and the medical group thought they could plaster health on to the individual; now they find that they must work with Nature—exercise, fresh air, good food, etc. The social workers are trying to present an opportunity for the people to benefit themselves and are using encouragement and persuasion to see that the opportunity is taken. They have changed their methods, but the doctors, the nurses and the social workers have not recognized that these changes should bring them more closely together. If the social workers have thought of the community too much, doctors have thought of the community too little. After five years of cooperation in Boston the doctors have said that the social history helps them in medical diagnosis. Social work is also of value in treatment. Social workers can have children sent to the hospitals or persuade people to have operations done which the doctors could not do. This work is also valuable in the after-care. The doctors and the social workers have been trying to find a disease that has no social significance, but it has not been found. Surgery, tuberculosis, debility, venereal diseases, alcoholism, all have their social significance. Of mothers whose parents had been total abstainers, 91 per cent. were able to nurse their infants; of mothers whose fathers had been moderate drinkers, 88 per cent. were able to nurse; of those whose fathers were heavy drinkers, 31 per cent. were able to nurse their children and of those whose fathers were drunkards, only 10 per cent. were able to nurse their children.

DISCUSSION

Dr. Henry B. Favill, Chicago: The medical resources known to the world are not sufficiently available to the poor. The difficulty is that the machinery of society has broken down at the point of contact of acquired scientific knowledge and its application to the mass of the people. This is nobody's fault in particular. Up to recently the agency of administration of medical relief by which was included, advice, etc., has been the local physician, who, in that respect has not been a success. Many reasons have contributed to this unfortunate fact—the ignorance of physicians, the multitude of struggling, low-grade physicians, and lack of intelligence and education among the people.

Visiting Obstetric Nursing

Miss Carolyn C. Van Blarcom, executive secretary of the Committee on Prevention of Blindness of the New York Association for the Blind: The problem of infant mortality is to be solved through intelligent motherhood and the keynote of the work is to teach mothers how to care for themselves and their infants. Fifty per cent. of births in this country are attended by midwives who are mostly untrained, ignorant women, and much unnecessary death, blindness and mental and physical degeneracy result. In England, through the laws creating the Central Midwives Board much improvement has resulted in infant mortality and morbidity. In this country, midwives are neither trained nor supervised, although in New York City a training school has been started in connection with Bellevue Hospital and an attempt has been made to register midwives.

DISCUSSION

Dr. Rachelle S. Yarros of Chicago: The midwife cannot be abolished at the present time. A large proportion of the women of foreign birth demand midwives. The thing to do is to improve the quality of the midwives, possibly by having obstetric nurses or other trained nurses with normal cases. A great need is for the attendance of either physicians or trained nurses at moderate fees for the great middle class.

Other Papers

Among other papers read at this meeting were "The Relation of District Nursing to Infant Mortality," by Miss Amy Hughes, general superintendent of the Jubilee Institute for Nurses, London, Eng. This paper was read by Helen Scott Hay, superintendent of the Illinois Training School for Nurses; "Rural Problems in the Prevention of Infant Mortality," by Miss Ella Phillips Crandall, Columbia University, New York, and a paper on "Maternity Hospitals," by Miss Martha M. Russell, of Sloane Maternity Hospital, and Mrs. Reginald Foster of Baltimore.

In the evening session, which was really the opening session of the meeting, the president of the association, Professor Henderson, read his address.

The Interests of Society in the Protection of the Mother and Child

Prof. Charles R. Henderson, Chicago: We are not founding a new society but promoting the oldest human social group: the mother and her child, which is more primitive, more fundamental than any other institution in society. First of all, the mother has her rights for which we must stand and invoke all the forces of the constitution, laws and governments. She has the right first to a home, and we must improve our economic conditions so that she may receive adequate support and be surrounded by such physical conditions as to preserve her own health and that of her child in the home as well as in industrial occupations. Before and after confinement she must have rest and must be provided with the necessary means to procure it. Hitherto she has had no resources but charity and the results of scant thrift, and some form of insurance must be found for the deserving cases. The baby has moral rights which should be transferred into legal rights. It has the right to be registered and from the time it is born through all its life it has a right to its name and place in citizenship, for without these all its other rights are lost or rendered uncertain. They cannot be maintained unless there is registration at the time of its birth. The child of the unmarried mother and the mother herself should be protected by all the power of legislative organization against the neglect of the father, who ought to be sought to the ends of the earth and brought back to the task of supporting the child. The charitable and public and private associations can do much. What we need is someone who is responsible for every dependent child and who stands with the power of the courts back of him to interpret his duty to see that the task is performed to protect the baby's rights. Society also has rights. Eugenics stands for the rights of society, for the rights of the mothers to be healthy and for the rights of the infants to be well born. Society's rights are for the future. The rights of posterity must be protected. Society must have something to say about those who should not be born.

Municipal Measures Against Infant Mortality in Chicago

Dr. George B. Young, commissioner of health of Chicago: Most of the measures in Chicago directed against infant mortality have been aspirations rather than achievements. Complete and accurate registration of births is absolutely necessary before any real beginning can be made to study the causes and the means of preventing infant mortality. At present, 17 per cent. of the milk coming to Chicago is illegal milk, as it is neither pasteurized nor from tuberculin-tested cows. Efforts will be made to amend this and if free milk cannot be provided then the milk obtainable will be as good as can be obtained under ordinary municipal regulation. The methods employed do not try to prevent largely, but try to correct; this is a vital fundamental error; but along lines of correction something has been done; a start has been made in the work of child hygiene. In the beginning, fifteen nurses were provided and they joined hands with various associations for infant welfare already established in the city and better results were obtained by reason of this cooperation. Enough nurses to cover twenty-five of the thirty-nine wards of the city have been provided but in only ten was intensive work done. That this work means something is shown by the fact that the nurses made 38,335 calls and 20,041 revisits. As the result of this work in the last year the reduction in the deaths for the three months, July, August and September, as compared with the year before was 362, of which 311 occurred in the wards covered by the visiting nurses. The diminution in the death-rate was much better in the wards covered intensively. The reduction was 25.41 per cent. as against 15.5 per cent. in the other wards. Various means of an educational nature have been employed in the way of posters in the different languages, leaflets, moving picture shows, etc., and following the lead of New York we have started Little Mothers' Schools in which it is attempted to teach the elements of infant hygiene and care of the baby. It is expected to inaugurate forty-eight of these schools soon. Mothers' conferences have also been begun in the congested foreign districts where the mothers can come and consult the physicians who lecture and explain matters. The health department is willing to do everything possible but it is up to the citizens to say whether the work shall be given proper financial support.

The Illegitimate Child

Dr. H. Hastings Hart, director of the department of Child Helping, Russell Sage Foundation, New York, presented an elaborate, constructive plan for the prenatal and postnatal care of these infants and their general supervision up to the time of their becoming self-supporting citizens.

In the section of Eugenics, in which great interest was manifested, a number of papers were read and resolutions on certain subjects were reported to the general meeting at the afternoon session.

Eugenics and Infant Mortality

Mr. Roswell Johnson, Bartlesville, Okla.: The movement for universal infant conservation is in direct opposition to the action of natural selection, but no discriminating measures are at present justifiable. The efforts against infant mortality must be continued. Sexual selection and fecunda selection must take the place of natural selection, the union should be based on worth and fitness for parenthood. Parent of superior stock should be encouraged to have large families We must look to the physician mainly to exert the proper influence in the interests of sexual and fecundal selection.

The Hereditary Effects of Venereal Diseases and Their Relation to Infant Mortality

Dr. Prince Morrow, New York: The problem of infant mortality is as much, perhaps more, a biologic than a medica problem. Environmental conditions are important, but the dominant influence must be assigned to the hereditary make up of the individual. The social diseases have a specia significance in relations to eugenics in that they specifically affect the system of generation, producing a race of inferior beings, on account of a lack of "biologic capital."

Hereditary Tuberculosis and Infant Mortality

Prof. H. E. Jordan of the University of Virginia: The inheritance of a predisposition or tuberculous diathesis is an important fact. There is no basis for the dogma of certain health leagues that tuberculosis is not hereditary in this sense. Prof. Karl Pearson furnishes most cogent proof that the phthisical diathesis is just as hereditary as any human characteristic we know about, and that it is more important than direct infection in families. Despite the vastly greater opportunity for direct infection between husband and wife as against brother and brother, the correlation coefficient in the former case is not more than 0.17 or 0.25 maximum, while in the latter it is from 0.40 to 0.50. The further fact that about 38 per cent. of all tuberculous patients in sanatoriums come from tuberculous families is also significant of the transmission of a predisposition to the disease.

The section on Midwifery was presided over by Dr. Mary Sherwood of Baltimore.

The Midwife Problem and Medical Education

Dr. J. Whitridge Williams, professor of obstetrics in Johns Hopkins University, presented a paper which was read by Dr. Frank W. Lynch of Chicago. Dr. Williams as the result of replies to a questionnaire containing fifty questions sent to teachers in obstetrics in the medical colleges throughout the country draws some conclusions which constitute a severe arraignment of the methods and results of teaching obstetrics in this country. The paper will appear in The Journal.

DISCUSSION

Dr. Joseph DeLee, Chicago: The indictment of the medical schools by Dr. Williams is true, but the principal cause is a matter of money. The public does not respect the obstetrician and will not pay him adequately. His standard is not so high as that of the surgeon. This lack of consideration for obstetrics extends through the hospitals and medical schools and the young men will not become either obstetricians or teachers, but go into surgery and gynecology, which are better paid. The elevation of the standard of obstetrics in the opinion of the public first and in the schools afterward is the demand. When the women demand a better standard of service and cease employing midwives better service will be provided. This education of the women can be assisted materially in the women's clubs throughout the country. Maternity hospitals of high class must be established more universally in which nurses and physicians can be practically trained in obstetrics. This will naturally abolish the midwives.

Dr. Rachelle S. Yarros, Chicago: The conclusions of Dr. Williams were true, but the public must demand good work and it will get it. The midwives, objectionable as they are, cannot at present be abolished, I believe; but if they are, then lying-in hospitals must be established where the expense is not great and the women educated to go to them in the instances, chiefly among the foreign population, in which they now demand midwives. As a measure of expediency and as an improvement over the midwife I recommend the education of the trained nurse to take care of normal cases, or to work as assistant with the obstetrician.

Dr. Frank Lynch, Chicago: I believe that a little explanation of some of the conclusions of Dr. Williams is needed to an audience composed largely of laymen. In the medical schools of this country there are men of all grades. Real medicine began, it might be said, only about sixty years ago. Good surgical work began as recently as twenty years back. This paper, making a summary of obstetrics, includes the old and the young teachers and obstetricians, and the young men are in the better position. The paper is true, but the statements must be qualified. Not all graduates go directly into practice; many go into hospital work and get experience. One school in Chicago practically insists on a year of hospital work, for which they give a degree of honor. Until the public knows how to choose a physician there is no hope for good obstetrical teaching. What is wanted is trained men, not operating-rooms. The way to get good teaching is to pay properly equipped men for teaching the young physicians.

Has the Trained, Supervised Midwife Made Good? Shall Midwives be Licensed or Abolished?

Dr. James Lincoln Huntington, Boston, sketched conditions in foreign countries where they have trained, supervised midwives, as in England and Germany, where the results are said to be unsatisfactory. America has no laws concerning midwifery, but they should be abolished and not licensed. The Boston lying-in hospital with out-patient service, assisted by the public and social workers, seems to have solved the problem.

DISCUSSION

Mrs. William Lowell Putnam of Boston presented a scheme for assistance in this work by lay women, and described such an organization which is doing good work in Boston.

Mrs. Upham of the Chicago Lying-In Hospital and Dispensary, also described the work done by an organization of about 500 Chicago women in an educational way along these lines.

Dr. George W. Webster, president of the Illinois State Board of Health: I called the attention of the National Federation of State Boards, in 1904, to the facts disclosed by Dr. Williams. The time devoted to obstetrics in some schools amounts to 150 hours. There are schools in which the time devoted to obstetrics in the entire four years' course is only sixty hours. There are only thirteen states in the Union having laws in any way governing the licensing and control of midwives. In fourteen states the law says that the provisions of the medical practice acts shall not apply to them. In all other states the laws are silent on this subject. I am convinced that the question is not wholly an educational question, but an economic question. In Chicago the services of a midwife may be obtained for $2.50, and if the service is as good as that of the physician, as Dr. Williams says, they cannot be blamed for accepting the service. We must supply something good at an equally low price. We cannot legislate midwives out of existence any more than we can poverty, drunkenness or crime.

Dr. Evans, New York: The average cost of the attendance of a midwife in New York is from $5 to $10. Contrast this with the service rendered by the lying-in hospitals and dispensaries. The 50,000 births attended by midwives would pay for better service for the whole city and allow of the use of this material for teaching purposes.

Schools for Midwives

The paper of Dr. S. Josephine Baker, director of child hygiene, health department, New York, was read by Miss Carolyn C. Van Blarcom. There are 1,400 midwives registered in New York, but this is probably not half the number practicing. The midwife is usually an ignorant, untrained woman, and the average cost of her services is $8. Criminal practice among the midwives is on the same footing as in the case of the physician. The laws concerning the midwives' schools in Europe are old and have not kept up with other medical work. Denmark and Germany have advanced. In France midwives are trained but they are not controlled afterward. The school started in New York for the training of midwives, in connection with Bellevue Hospital, has a six-months' course, three months of which are spent in the house where the midwives are taught obstetrical nursing, how to make a diagnosis, the principles of breast-feeding, cleanliness, etc. The second three months are spent in the homes of patients, where under the supervising nurse or the physician the midwife is taught to apply what she has learned in the school. The idea is to establish more of these schools and legalize their registration and licensing by the state.

DISCUSSION

Miss C. Van Blarcom, New York: I do not agree with Dr. Huntington and Dr. Lee; I believe that the English system is going to make for better health of the children and their mothers. I have just returned from a study of the working of the system there. The sentiment there is in favor of training midwives. The movement was started by the London Obstetrical Society thirty years ago, which is significant. It has the support of all the expresidents of the Royal Obstetrical Society, of Dr. Osler and others. The question is one of better care. Two standards of obstetrics are not desirable. The object is not to invade the province of the doctor, but the problem is one of securing adequate attention and care.

Dr. C. S. Bacon, Chicago: I believe if it is possible to abolish the midwives it would be well. In America each state can institute experiments and the whole country can profit by them. Whatever may be done in Boston or in Massachusetts, I believe that in New York and Chicago the abolition of the midwife is absolutely impossible. As to midwife schools, if this matter is not to be allowed to go without any attention, there must be schools for midwives. It is doubtful whether the medical colleges can go into this work, but a university, which has its medical and other departments, can properly have a department of midwifery.

Dr. R. S. Yarros, Chicago: It is important to have something done for the benefit of the people who cannot have regular physicians but must have midwives. It is not alone a question of elevating the standard of obstetrical teaching.

Dr. J. W. Schereschewsky of the U. S. Public Health and Marine-Hospital Service introduced a resolution, which was adopted by the section, to the effect that the teaching of obstetrics in the United States is at present inadequate and that no time should be lost in elevating obstetrics to the importance at least accorded to medicine and surgery; investigation of local midwife conditions was urged as a means of obtaining information; that the extension of outdoor obstetrical service be advocated as a method of preventing disease and a high mortality-rate.

(To be continued)

UTAH STATE MEDICAL ASSOCIATION

Annual Meeting, held at Salt Lake City, Oct. 4-5, 1911

The President, Dr. Fred W. Taylor, in the Chair

The Bacteriology of Diphtheria

Dr. R. W. Ashley, Salt Lake City: In diphtheria the earlier the diagnosis the better for the patient and the community. A culture taken from the throat will in twelve hours, often less, clear up the diagnosis and indicate the treatment necessary. During the past year in Salt Lake City 25 per cent. of all cases of diphtheria on record at the board of health were discovered by the examination of cultures taken from the throats of children, previously ill, and seeking to obtain permits to return to school. The diagnosis in each case, previously made by the attending physician, was "sore throat" or "tonsillitis." Effective quarantine in all cases should be regulated by bacteriologic examinations, and every patient infected should be isolated until the bacilli have entirely disappeared. In the average case this requires about two weeks. Mild cases do not always remain mild, and every year many children die of diphtheria while being treated for "sore throat" or "tonsillitis." Every case of sore throat should be looked on with suspicion, as a contagious disease, until it is proved otherwise. Cultures taken from the throats of 4,146 school children in Boston, a few years ago, showed that 1.33 per cent. harbored the Klebs-Loeffler bacillus; and a second examination, a week later, of 4,087 cultures, showed that 0.93 per cent. were positive. Later, 298 absentees, new pupils, etc., were examined and nine were found positive. In the grand total out of 8,531 throats examined, 1.16 per cent. were found positive.

DISCUSSION

Dr. R. C. Smedley, Salt Lake City: An army officer at Manila reports that his own daughter was a diphtheria carrier for a great many months, and that large quantities of antitoxin were administered, but without causing the bacilli to disappear from her throat. From a swab of the throat an almost pure culture of the staphylococcus was obtained, and an antitoxin derived from this strain and administered in the usual way brought about very gratifying results in a short time.

Dr. F. S. Bascom, Salt Lake City: I desire to emphasize the necessity of care and watchfulness in every case of sore throat. A boy was brought to me by his mother complaining of a sore throat. Examination showed a throat but slightly congested. I had committed myself in saying that I did not consider the condition serious, when the mother informed me that the city bacteriologist had pronounced the case diphtheria. The child was kept under observation, and within a week later there was unmistakable evidence of diphtheria. This case might have gone unprotected had the organism not been discovered.

Foreign Bodies in the Orbit

Dr. L. W. Snow, Salt Lake City: A boy, aged 5, was struck in the right eye with a grain of wheat, blown by a companion through a hollow cane. Two weeks after the accident, the eye was inflamed and painful; the only visible evidence of an injury was a small corneal ulcer on the nasal side of the pupil. There was no indication that the object had entered the eye-ball. A severe panophthalmitis developed, and within three weeks from the date of the injury the eye was hopelessly lost. Then a kernel of wheat, swollen and beginning to germinate, came out from some part of the orbital cavity. Symptoms of sympathetic irritation in the sound eye indicated the necessity of an immediate enucleation. The injured eye-ball was found filled with pus.

A boy, 2½ years of age, fell with a lead pencil in his hand. An inch or more of the pencil passed through the upper lid into the orbital cavity. Immediate surgical aid was sought. The wound was adequately enlarged and several pieces of wood and lead were removed but the point of the pencil was not found. I saw the child the next day and, under chloroform anesthesia, examined the wound carefully. Several small pieces of wood were removed. Two years after the accident the eye appears normal in every respect.

A boy, 2 years old, fell from a fence on a broken willow twig that passed through the lower lid of the right eye. A large piece of wood covered with bark was removed from the orbit, but the wound discharged for two months, when I saw the patient for the first time. A fistulous tract was curetted, considerable diseased tissue was removed, but no foreign body was discovered. The wound discharged at intervals for more than a year, and several particles of bark came away. Last February I made a free incision through the wound, near the lower border of the lid, and explored the posterior part of the orbit. Considerable bark and a small pocket of pus was found. A drain was introduced and a prompt cure followed.

Tonsillotomy and Tonsillectomy

Dr. F. W. Stauffer, Salt Lake City: Before attempting any operation on the tonsil a careful diagnosis is important, to determine the extent of the disease and the effect, if any, on the general system. Operations before 15 should be conservative, barring, of course, cases of tuberculous cervical glands and general systemic infections. In these cases complete enucleation of the tonsil in its capsule is the proper procedure even in childhood. The ideal operation would be the removal of all tonsillar tissue, including the crypts, but leaving the capsule in place, except where there are signs of tuberculous or general infection, or where there are tuberculous deep cervical glands. It is also imperative in frequent attacks of quinsy. A simple and effective method, in general, is to remove as much of the diseased tonsil as possible with some form of tonsillotome and a punch to remove any diseased crypts remaining. The pendulum has swung to the extreme limit in radical tonsil surgery and it is hoped it will not react too strongly toward conservatism. There is a rational middle ground determined by reason and judgment.

DISCUSSION

Dr. R. R. Hampton, Salt Lake City: I advocate the complete removal, or tonsillectomy. I doubt if only the diseased part of a tonsil, the diseased crypts, can be removed. The crypts run down and branch out, and a few infected crypts left behind would mean recurrence in time. Sixty per cent. of tonsils are removed on account of mechanical interference with the functions of the nose and throat. I have never observed any ill effects following complete tonsillectomy. The worst cases of systemic infection that I have seen have occurred in the deeply buried variety of tonsil; in one case of this type acute Bright's disease developed one month later. It is in this type also that one most commonly finds caseous plugs embedded in the crypts.

Dr. A. R. Irvine, Salt Lake City: European surgeons are beginning to adopt the radical operation on account of the frequency of relapses after incomplete removal of the tonsil, especially in cases in which systemic infection can be traced to tonsillar infection.

Dr. W. M. Stookey, Salt Lake City: The tonsil question will not be settled definitely until the function of the tonsil is positively known. I believe in the complete removal of the tonsil. In my experience the results have been proportional to the completeness of the operation. Unless the tonsils of very young children seriously interfere with the functions of the throat, they should not be disturbed. As only a microscopic examination could reveal the extent of infection in a diseased tonsil, I do not believe that the diseased part could be removed alone.

Congenital Idiopathic Dilatation of the Colon: Hirschsprung's Disease

Dr. J. F. Critchlow, Salt Lake City: Some unusual features ot this rare disease were noted in a case coming under my care. A man, born in Sweden, age 42, occupation mine-foreman, entered the hospital suffering from severe shock, abdominal pain, nausea and vomiting, with the history that his present illness began about forty-eight hours previously, with great abdominal pain, colicky in character. All efforts by his attending physician to secure any bowel movements by the use of cathartics or enemas had failed. He expelled no gas since the onset of the symptoms, and singultus was present. One year previously he had a very severe similar attack. Since then he has had attacks of colic of moderate severity about once a month, with no vomiting, and relieved by cathartics. His expression was anxious, his face covered with cold sweat; pulse 110, rapid and weak; temperature 99.2 F; breathing shallow. Examination of the abdomen revealed great distention, extending from the pubes to the rib-margin, equally resonant throughout, except some dulness in the flanks; no mass was palpable. Examination of the urine showed nothing abnormal; specific gravity, 1,028.

A median incision below the umbilicus was made, followed by a gush of clear fluid from the abdominal cavity. A large, smooth, tense, purple bowel presented in the wound. Its great size, and the longitudinal band, enormously widened, identified it as some portion of the colon. Extending the incision to the umbilicus, and introducing the hand, a startling condition was disclosed. What seemed to be the ascending colon extended perpendicularly from the pubes to the diaphragm, curved backward under it and back again to its source near the left side of the bladder, making two parallel arms of a loop filling both iliac fossæ as well as the upper abdomen; both arms of the loop came together near the bladder, forming an elipse of enormously dilated gut. Distention was due mainly to gas, yet weighted down with semi-fluid material. On the anterior surface, midway up the associated arms, was discovered a firm bridge of tissue and attached to the anterior abdominal wall above the umbilicus by recent adhesions. The viscus was tapped and drained of volumes of putrid-smelling gas and liquid, and two basins of blood-stained feces, to facilitate delivery of the gut through the incision. The hole in the bowel was sutured and the gut delivered through the wound. It was then discovered that there still remained in the abdomen a normal ascending, transverse, and descending colon to a point 3 or 4 inches below the splenic lexure. At this point the colon passed in front of the other arm, becoming enormously dilated, and passed up the right and down the left of the abdomen to the rectum, the dila-ation ceasing at this point. The loop of tissue mentioned proved to be a "monstrous" arrangement of the mesentery. t was a complicating volvulus, resembling a giant horseshoe on a rubber pad. When the true condition was recognized, esection of the affected portion was undertaken. The descending colon and upper rectum were sutured end to end and drainage provided. The patient was in poor condition when he left the table. Hypodermoclysis and other supportives were exhibited. The patient succumbed to shock, thirty-six hours ollowing the operation.

DISCUSSION

Dr. J. E. Tyree, Salt Lake City: One of the striking eatures of this case was the deep pigmentation of the tissues, ndicating a chronic process. The pigmentation might be due o either bile in the intestinal contents or extravasated blood nto the intestinal wall and mesentery. Hypertrophy of all f the coats of the intestine was present, excepting the serosa. Hypertrophy and hyperplasia involving the circular and long-tudinal fibers of the muscular coats were very pronounced possibly indicating the continuous effort of the bowel to mpty itself.

Dr. O. B. Fowler, Denver: I have a case of this kind now nder observation. The subject is a man 44 years of age. By the administration of bismuth by the mouth, and injec-ions of bismuth into the rectum, and the employment of the Roentgen ray, we have been able to make a positive diag-osis. The patient suffers from well-marked symptoms of uto-intoxication. He has often gone for weeks without a movement of the bowel. To cure this condition, we expect to o a resection of the bowel.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Oct. 11, 1911

The President, Dr. C. B. Longenecker, in the Chair

reventive Medicine: Present Achievement and Future Field of Activity

Dr. D. H. Bergey: Some of the more important measures mployed in preventive medicine are isolation, disinfection, mmune serums, vaccines, chemotherapeutic agents, and the hemical, physical and biologic agents used in the purification water, sewage and milk. The efficiency of isolation is frequently defeated through neglect of proper care on the part physicians and nurses. Disinfection is often ineffectual because inefficient materials are employed in too great dilution or for insufficient time. The prophylactic value of diphtheria and tetanus antitoxin has been demonstrated repeatedly. The great value of vaccine virus in warding off smallpox, and the value of vaccine in eradicating typhoid, cholera, gue and dysentery cannot be estimated. Of the chemotherapeutic agents, quinin in malaria and salvarsan in syphilis of great value in limiting disease and death. The t activities of laboratory investigators lead us to hope at other valuable chemotherapeutic agents may soon be vered. The filtration of water and sewage and the pasurization of milk serve to reduce the morbidity and mority rates, not only of the diseases of the gastro-intestinal act, but the general mortality rates in communities where e measures are employed.

The important diseases which are still not under satisfactory trol are scarlet fever, measles, pneumonia and tuberculosis. The careful application of the preventive measures, now in our hands, will serve to control more effectively these great scourges of humanity. It is probable that the day is not far distant when we shall have more efficient prophylactic measures in the form of vaccines, immune serums or chemotherapeutic agents to control the latter diseases.

DISCUSSION

Dr. B. A. Thomas: I must take exception to Dr. Bergey's statement that immune serums other than antidiphtheritic and antitetanic are valueless. Any one having had clinical experience with the use of antigonococcic serum must be convinced of the great value, therapeutically, of this agent in acute, subacute and, to a less degree, chronic gonorrheal synovitis. In view of the failures to produce an efficient antistaphylococcic serum, about two years ago I endeavored to immunize a ram by suspensions of dead staphylococci followed by living suspensions. A polyvalent suspension of eighteen various strains from abscesses, furuncles and carbuncles was used. The animal was highly immunized, employing the opsonic index as a guide. At the conclusion of four months the ram was bled to death and the serum collected and sealed in a sterile ampulla. I have used this serum in two or three dozen cases, including bacteriemia, recurrent furunculosis and aggravated carbunculosis, and in the majority of cases with immediate benefit. I am inclined to think that the therapy of the future in these cases may be the administration of serum in the acute attack because of its more immediate effect, followed subsequently by the autogenous bacterin for purposes of more prolonged immunization to prevent recurrences.

Dr. Leonard D. Frescoln: Our necessary association with the lower forms of animal life might be dwelt on in this connection. The ordinary house-cat is often the means of spreading ringworm and favus. The dog has been referred to in spreading hydrophobia, and in Australia there is a six months' quarantine on newly arrived dogs. This brings up the question of municipal and government control. Our country is behind some other great nations in this matter of regulation in the way of controlling carriers of disease. It is an easy matter to report transmissible diseases by postals furnished by the city; then early fumigation with formaldehyd, etc., may be begun and the root of the matter struck. Practitioners should endeavor to detect and report cases of scarlet fever, tuberculosis, etc., early.

Dr. A. C. Abbott: The foundation-stones of the structure called modern preventive medicine were in a very large part laid by men who were not practitioners of medicine in the ordinary sense of the term, and whose education and interests had comprehended subjects other than those strictly medical. For instance, Pasteur, to whom we owe so much, was not identified with practical medicine, though the value of his researches to problems of preventive medicine cannot be overestimated. Metchnikoff, whose doctrine of phagocytosis has done so much to elucidate the problems of immunity, is not a medical man but a zoologist who realized the importance of particular lines of zoologic investigation to some of the riddles of medicine. Koch, one of the masters of medicine, we find in his youth while pursuing a country practice, supplying himself, through work in special lines of investigation, with knowledge that had not been included in his medical course; knowledge which he regarded as necessary to the problems that he proposed to undertake. Ehrlich, it is true, is a medical man, but it is alleged that he was regarded at the University of Berlin as one of the poorest medical students that had presented himself for examination, and had it not been for the brilliancy of researches already done, in branches related to medicine, doubt has been expressed that he would have received his medical degree. Had Dr. Meigs, who wrote those classical papers on malaria, been educated more broadly in the fields of natural science, it might not have been necessary for us to wait for the discovery of the cause of malaria until the matter was taken up by Laveran. Carlos Finlay, a practitioner of medicine, did, however, possess knowledge and interest which led him to pursue studies not strictly medical. His observations enabled him to offer suggestions that must be taken as the humble beginning of a glorious end, surely one of the triumphs of modern medicine, the revelations on yellow fever that have led to its control.

The problems of modern preventive medicine demand an education quite different from that offered or required of the medical student a few years ago, and to this end a modification of the curricula of our schools is imperative. Demands are everywhere being made for broader preliminary training, and it is a pleasure to note that they are being met. Given students possessing broader understanding of the natural and physical sciences, it is possible for the teaching in our schools to be so ordered as to meet the demands of the times; without students so equipped such teaching is ineffective and wasted.

Dr. Aaron Brav: In considering the various processes and mode of infection from the viewpoint of prevention we should think at once of the common drinking-cup of our schools. Hundreds of children are compelled to drink from a cup that has probably not been cleansed during the entire season. This evil should be remedied by the board of health. A sterilizing plant could be devised for the correction of this very obvious danger.

Diphtheria Antitoxin and Anaphylaxis

Dr. John A. Roddy: The regularity with which first injections of horse-serum sensitize guinea-pigs, and the severe manifestations of anaphylaxis and high mortality which usually follow second injections of horse-serum are no proofs of an inherent danger of therapeutic sera administered to man. Human beings are less frequently sensitized by serum than guinea-pigs; when hypersusceptibility is caused by the injection of horse-serum into man it is usually developed to a less marked degree than in guinea-pigs. When a second injection of horse-serum into man is followed by anaphylactic phenomena, the symptoms differ considerably from those manifested by anaphylactic guinea-pigs. They are usually less sudden in onset, of a very much less violent character and very rarely fatal or productive of any irreparable harm. Ill effects, other than those of anaphylaxis, hardly ever follow the proper use of therapeutic sera to-day. Among more than 15,000 patients treated by J. C. Wilson, S. Woody, R. Brundage, H. Price and J. P. Kerr, and receiving a single injection of diphtheria antitoxin, not one showed any ill effect whatever. Of about 10,000 patients treated by the same physicians less than 150 showed symptoms of anaphylaxis after receiving a second injection of diphtheria antitoxin. In most cases the manifestations were mild. All recovered from anaphylaxis but two. Two died probably as a direct result of induced hypersusceptibility to horse-serum. Seventy per cent. of all diphtheria patients who are given a first injection of less than 20,000 or 30,000 units of antitoxin, do not have all the toxin neutralized and consequently need a second injection.

DISCUSSION

Dr. Daniel M. Hoyt: I have been particularly interested in noting how small the danger is from the use of antitoxin. A strong argument is presented against legislation adverse to this life-saving measure. If a person has been an asthmatic, antitoxin should be administered with great caution. In a paper published by Gellette (*Therap. Gaz.*, 1909, xxxiii, 159) twenty-eight cases are cited of severe general reaction following the use of antitoxin. Of these cases fifteen were fatal; in eighteen, nine of which were fatal, there was a history of asthma. While not an argument against the value of antitoxin, it is obvious that the histories of our patients, particularly in the administration of immunizing doses in a household, should receive careful inquiry.

Dr. B. A. Thomas: The guinea-pig is a poor criterion for the study of anaphylaxis in the human being. The comparative symptomatology is so variable. Certainly the danger from anaphylaxis or hypersusceptibility is no cause to contra-indicate the intelligent use of serum, antidiphtheritic or otherwise. Relative to diphtheria antitoxin, the profession has come to realize the inefficiency of the old small dosage. I am of the conviction that in the case of other immune serums, notably antitetanic serum, the dose is still too small for curative purposes. I believe anaphylaxis is a much overexaggerated occurrence. It has been my province to immunize, both actively and passively, several hundred persons during the past five years, and with one or two exceptions, I have never seen a case of hypersusceptibility, the exceptions being mild reactions and unworthy of note.

Dr. Samuel Wolfe: A clear investigation might demonstrate that anaphylaxis is comparatively more frequent where diphtheria antitoxin is used for prophylaxis or in doubtful cases, as in such it does not come in contact with the causal factors of the disease and must expend itself without being neutralized. A chemical antidote and a physiologic antitoxin however, could hardly be regarded as comparable.

A Bacteriologic Study of Cultures Made From the Thyroid

Dr. John J. Gilbride: The frequent occurrence of Graves' disease in certain districts of Europe and this country, and the acute exacerbations occurring in the course of the disease are facts of special interest, as is also the occurrence of the disease in several members of the same family. I undertook to determine whether infection plays a rôle in the etiology of hyperthyroidism. The cultures were made according to the method of obtaining cultures from tissues at autopsy. They were made from the thyroid at the time of operation. Cultures were made from fourteen cases of goiter, six of exophthalmic goiter and eight of cystic goiter. A growth was obtained from the culture in two cases. In one, a case of exophthalmic goiter, the *Micrococcus tetragenus* was found; in the other case, one of cystic goiter, the *Streptococcus vermiformis* of Sternberg was discovered.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

NATIONAL W. C. T. U. ENDORSES A NATIONAL DEPARTMENT OF HEALTH

The Women's Christian Temperance Union has endorsed in no uncertain terms the establishment of a national department of health. The following account of this action and a copy of the resolutions adopted have been received from Mrs. Martha M. Allen, National Superintendent of Medical Temperance, Forest Hills Gardens, Elmhurst, L. I., N. Y.:

The National Woman's Christian Temperance Union held its annual convention recently in the city of Milwaukee. Preceding the convention letters were sent to the general officers of the society from the president of the National League for Medical Freedom, and from other persons interested in that league, seeking to influence the convention against taking any action in favor of a national department of health. One writer even asked permission to address the convention on the subject. A committee, consisting of Mrs. Margaret Dye Ellis of Washington, D. C., superintendent of legislative work; Mrs. Martha M. Allen, superintendent of medical temperance, and Dr. Louise Purington of Boston, superintendent of health and heredity, was appointed to formulate a reply to these letters. The reply was the following resolution which was passed by the convention without a dissenting voice or vote:

> "We cordially approve of the movement for a national department of health at Washington, believing that such a department would be in the interest of the people in matters of pure food, unadulterated drugs and sanitation; that it would regulate the inspection of milk, meats and the water-supply, thereby leading to a lessened infant mortality and the prevention of disease.
>
> "We urge this measure with the understanding that such a department shall in no sense represent any school of medicine."

That this resolution passed without a dissenting vote speaks well for the intelligence of the 500 delegates, for much effort had been put forth by the League for Medical Freedom to influence individual members adversely. Mrs. Allen was asked privately at the convention by many women for her opinion in the matter, and she replied that state and city boards of health had not proved "a menace to freedom," but had rendered incalculable service to the people, and she saw no reason why a national department of health should be different in these respects. Asked if the American Medical Association is not a "trust," she replied "It cannot be a 'trust' as it has nothing to manufacture or sell. It is an organization for mutual help, as is our own organization."

SCHOOL HEALTH AND HYGIENE EXHIBITS

John B. Hawes, M.D.
Secretary of the Board of Trustees of Massachusetts Hospitals for Consumptives; Assistant Physician to Out-Patients, Massachusetts General Hospital
BOSTON

I have called the exhibits and charts here described "health and hygiene" rather than "tuberculosis" exhibits, for two reasons: (1) There still exists and will continue to exist for a long time to come a very strong, and to my mind not altogether unreasonable, prejudice against allowing children to be taught or shown anything that has to do with death and disease — even its prevention; and (2) the lessons to be taught the children by such exhibits and charts belong really to the broader subject of health and hygiene, and deal only indirectly with tuberculosis.

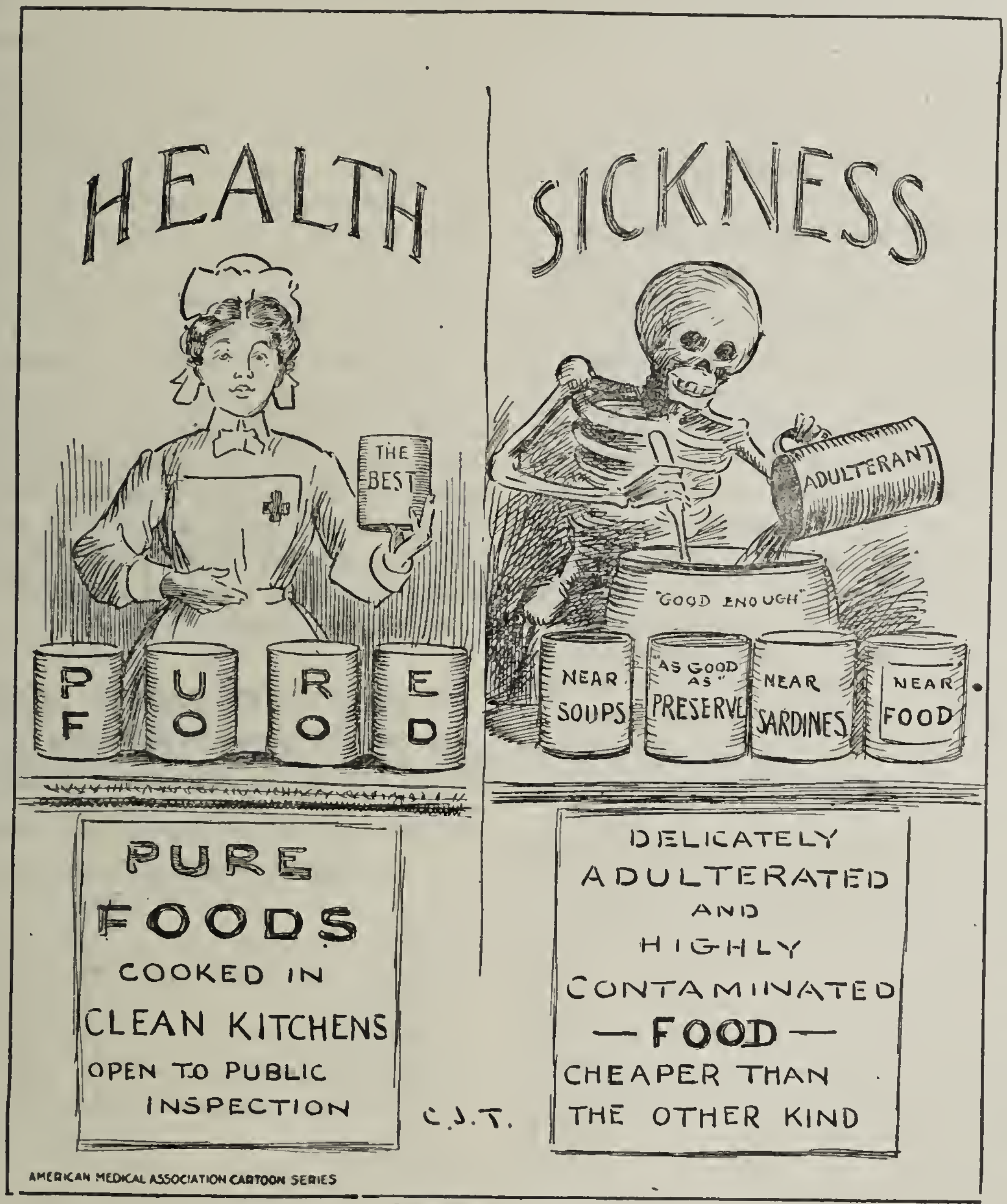
That the present teaching of hygiene and the rules of health in our public schools are either absolutely lacking or woefully inefficient cannot be denied. No amount of studying or reading even from such excellent schoolbooks as the "Gulick Hygiene Series," or talks from teachers, however well delivered, can impress on children's minds what can be easily and strikingly shown by a few simple pictures, photographs, diagrams or charts. I have never forgotten the pictures of the interior of the stomach of a man whose habits were, to say the least, not temperate, shown me by the principal when I was in one of he lower grades of the grammar school; there is no reason why pictures and charts far more instructive and infinitely ess gruesome, or better still, cheerful and pleasant, should not be impressed with equal force on the minds of children to-day. Dr. Charles W. Eliot, in a recent address, called attention to he fact that our methods of teaching young children must be changed and that advantage must be taken of the fact that hildren can absorb and profit by what they can see long before they can gather much from reading or listening to thers read or speak.

Prior to the year 1908, in Massachusetts, there was little or o teaching of hygiene or prevention of disease in our public chools. During that year, however, the legislature passed a aw which made it compulsory that tuberculosis and its prevention should be taught in the schools. To supplement this aw a committee of Boston physicians, at the request of the tate Board of Education, prepared a short pamphlet on the general subject of tuberculosis, a copy of which was placed in the hands of all school-teachers in the state. I doubt very much if the passage of the law, good in itself, accomplished anything more than to add to the burdens and perplexities of the already overworked school-teacher. The need of some step of a practical nature was evident. Two years later, in 1910, the tuberculosis committees of the Massachusetts Medical Society introduced a bill into the legislature calling for an appropriation of $1,000 to provide for a small number of tuberculosis exhibits. This bill was passed and the preparation of these exhibits fell largely into my hands as secretary of the Board of Trustees of Hospitals for Consumptives.

The requirements of an exhibit intended to teach school children certain facts concerning tuberculosis, health, hygiene and prevention of disease, etc., are in my opinion somewhat as follows: A. The exhibit must be comparatively inexpensive, so as to be within the reach of towns and cities whose appropriation for school purposes is limited. B. It must be compact, so that it can be easily set up and transported from school to school and from room to room. C. The lessons it teaches must be of the simplest and most striking character.

I have tried, with what success remains to be seen, to meet these requirements as fully as possible. Our exhibit, as finally constructed after months of planning and experimenting, consists of a single large frame about 5 feet high, 4 feet wide and 4 inches thick. This frame is built of light but strong wood, and opens like a book, with pictures, mottoes, etc., arranged on the inside of each cover. There are strong hinges on the back, brass protectors for the corners and simple clasps in front, so that the whole thing can be shut up, locked, labeled and easily expressed to its destination. It can be moved about the room by one person and can be easily handled by two men.

The exhibit consists of forty-eight 8 by 10-inch frames which contain mottoes or photographs. There is a row of mottoes along the top and a similar row along the bottom. The pictures in the column underneath each motto are intended to illustrate what is said in that particular motto. For instance, underneath the first motto, "Crowded tenements where the windows are kept shut, where dirt and darkness abound, are breeding places for consumption," are four illustrations of the worst sort of tenement rooms. It is perfectly simple for any teacher to demonstrate what is wrong in the living conditions here shown and to demonstrate what should be changed to make them better. At the bottom of this column is the motto, "Health is the poor man's stock in trade. A tenement with sunshine and good air at $4 a week is cheaper than one without at $3 per week." The next column takes up the subject of dusty and dangerous trades and the part they play in producing tuberculosis. The motto at the top reads "Tuberculosis breeds in dusty, dirty and


HEALTH
SICKNESS
THE BEST
ADULTERANT
"GOOD ENOUGH"
P U R E
F O O D
NEAR SOUPS
"AS GOOD AS" PRESERVE
NEAR SARDINES
NEAR FOOD
PURE FOODS COOKED IN CLEAN KITCHENS OPEN TO PUBLIC INSPECTION
DELICATELY ADULTERATED AND HIGHLY CONTAMINATED — FOOD — CHEAPER THAN THE OTHER KIND
C.J.T.
AMERICAN MEDICAL ASSOCIATION CARTOON SERIES

AT WHICH SHOP?

badly ventilated workrooms and factories. There is no danger of tuberculosis in a properly ventilated and well-aired workroom." Pictures illustrating this show men at work at granite cutting and in an iron foundry, with clouds of dust, a dirty and poorly ventilated bakery, and, last, a machine-shop with ideal conditions where there is plenty of fresh air and light. Other mottoes call attention to the need of fresh air and sunshine, open windows, cleanliness, etc., and are illustrated by pictures showing methods of getting fresh air at home by means of balconies, tents in the yard, tents on the roof, etc.

There are two very striking pictures showing how milk is contaminated. A typical tailor sweatshop is compared with a room where conditions are as they should be. In the right-hand panel mottoes are devoted more toward the prevention of disease and are planned to demonstrate what children should do to keep healthy and strong. Such mottoes as "Keep the body clean and a cheerful mind; worrying doesn't mend matters," "Take time for regular rest, exercise and recreation; you will do better work," "The best way to treat tuberculosis is to avoid getting it," "The children shown in the pictures have not got tuberculosis, they are learning how to live so as to avoid getting it in the future," are illustrated by photographs of public baths, playgrounds, outdoor schools, and children taking their exercises out of doors, while attending our ordinary public schools.

The frames are firmly screwed into place and the pictures are covered with celluloid rather than glass. The total cost of this exhibit is $35. Out of our appropriation twenty such exhibits were made. A pamphlet entitled "School Tuberculosis Exhibit; Suggestions in Regard to its Use and Demonstration," was prepared by me and issued by the Board of Trustees of Hospitals for Consumptives. Copies of this pamphlet in sufficient numbers are sent along with the exhibit. These exhibits have been distributed throughout the state as widely as possible. Wherever possible, we have urged the local antituberculosis association, under whose auspices in almost every case the exhibit is managed, to buy the exhibit outright, thus providing us with funds to build others. Where this could not be done the exhibit has been loaned for a period of months sufficient to demonstrate it in all the schools. Nearly all of the twenty exhibits built from the original appropriation are loaned in different towns and cities in the state, while an equal number have been bought outright by various antituberculosis associations.

I have tried to make it clear to every one to whom we have either loaned or sold an exhibit that this is only an experiment and that, in many instances, changes and modifications should be made to suit local conditions. The ideal plan, in my opinion, for the demonstration and use of such an exhibit would be somewhat as follows: The exhibit is sent to a certain public school. At a given time arrangements are made with some physician well acquainted with the subject to meet the teachers and to explain and demonstrate the exhibit to them. It should then be set up in a schoolroom where it can be examined by the children in their leisure hours and demonstrated to them in small groups by the teachers, or, better still, by the school physician or school nurse. After one class has made a careful study of it, the children should be given an examination based on the lessons which they are supposed to have learned. The exhibit should then be sent to another room and the process repeated.

In order to get further information for future work along this line I sent a circular letter to all those who were using our exhibit asking their opinion as to its value, and suggestions as to how they would change or add to it. All my replies were unanimous in stating that the exhibit was of very great practical value. Worcester qualified this statement by saying it was good for pupils in the high school and down to the seventh grade of the grammar school. Clinton likewise said that it was not of value below the seventh grade. Fitchburg believed its value to be very great except to the youngest children. There was a general consensus of opinion that it was hard to handle and move around, and many seemed to think that with fewer and larger pictures it would do better work than in its present form; many made the suggestion that certain of the pictures could be easily enlarged and placed either on cardboard or linen backs so as to be hung up and separately demonstrated. The Boston Tuberculosis Association has had the pictures in the exhibit colored, which certainly adds to its attractiveness, but also to its expense. The Boston association has also had a small stand, about 1½ feet high, made, on which to place the exhibit.

From my experience with this exhibit so far and from a careful consideration of the replies sent in answer to my circular letter, I have come to the conclusion that at least two different grades of exhibits are needed, one somewhat the same as the one here described, but altered or added to in order to meet local needs, where there are photographs of actual conditions, and another form of exhibit infinitely simpler, in which by means of striking diagrams (not photographs) lessons of the simplest nature are taught. A committee of the Boston Association for the Relief and Control of Tuberculosis is now at work planning some "health charts" according to this idea. These charts, as now planned, will consist of a dozen or more sheets of paper at least 2 by 3 feet in size, backed by linen, and fastened together at the top by a wooden rod. On each sheet there will be one motto, illustrated by a picture or two contrasting pictures, in at least three colors. Such a chart with twelve pages, attractively gotten up and decorated by any large lithographing concern would cost under $5, after the initial cost of preparing plates, etc., had been met.

The advantages of such a chart for young children are obvious: 1. It is inexpensive. 2. It is easy to demonstrate and requires little or no technical knowledge on the part of the teachers. 3. It is light and easy to handle so that it can be hung over the front of the teacher's desk, or on a wall, or in any other convenient place. 4. It is simple and will not confuse young children's minds by the multiplicity of ideas presented. 5. If properly prepared, with but a single fact to be learned on each page, it will teach things worth knowing in as forcible a manner as the picture of the alcoholic stomach was impressed on my youthful imagination.

295 Beacon Street.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

Third Month—Fourth Weekly Meeting

Gout[1]

THEORIES OF CAUSATION

Uric Acid Theories:[2] (1) Increased formation and decreased elimination. (2) Decreased alkalinity of blood, without increased formation. (3) Excessive formation and accumulation, exciting inflammation. (4) A hypothetic ferment. (5) Accumulation from diseased condition of kidneys.

CLINICAL VARIETIES

Acute Gout: Prodromata, pains, restlessness, dyspepsia, urine. Asthmatic attacks.

Attack—Time of onset, joints usually involved, local signs, temperature, length of attack.

Retrocedent Gout: Visceral or suppressed gout. Gastro-intestinal, cardiac, cerebral symptoms.

Chronic Gout: Transition from acute to chronic. Joints involved. Deposits, location and chemistry. Deformity. Course. Associated conditions.

Irregular Gout: Heredity and lithemic state. (a) Joint and muscle pains. Muscles and joints usually involved. (b) Cutaneous eruptions. (c) Gastro-intestinal disorders. (d) Cardiovascular symptoms. (e) Nervous manifestations. (f) Urinary symptoms. (g) Pulmonary and ocular disorders.

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[1] Osler's Modern Medicine, von Noorden's Diseases of Metabolism.

[2] Magnus-Levy: Amer. Jour. Med. Sc., November, 1910.

ARTHRITIS DEFORMANS

ETIOLOGY: Neuropathic origin, reasons therefor. Bacteriology. Evidences of an infectious origin. Metabolic changes. Sex. Age. Social condition and nervous shock.

PATHOLOGY: Changes occurring in synovial membranes, in cartilages, in periarticular structures, in bones. Value of *x*-ray. Differentiate pathology from gout and chronic rheumatism.

SYMPTOMS: Acute—Frequency, age and sex. Relation to pregnancy and lactation. Multiple arthritis. Course.

Chronic—Symmetrical arthritis, pain, physical signs, characteristic deformity of hands and feet. Muscles, skin, nails. Monarticular arthritis. Spondylitis deformans. Heberden's nodes, age, sex, joints, physical signs. Course of chronic form. Arthritis deformans in children.

Monthly Meeting

The Cardiac Complications of Rheumatism.
Diagnosis and Treatment of Rheumatoid Arthritis.
Uric Acid in Gout.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 5-8. Sec., Dr. Charles L. Tisdale, 929 Butler Building, San Francisco.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, December 12. Secretary of the Medical Council, Dr. Henry W. Briggs, Wilmington.

FLORIDA: Eclectic, 1805 Florida Avenue, Tampa, December 4. Sec., Dr. Hiram J. Hampton.

KENTUCKY: The Armory, Louisville, December 19-21. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: Regular, 1211 Cathedral Street, Baltimore, December 12. Sec., Dr. J. McP. Scott, Hagerstown.

OHIO: Columbus, December 5-7. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Harrisburg, December 12-15. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, December 19-22. Sec., Dr. R. S. Martin, Stuart.

Illinois March, May and June Reports

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examinations held at Chicago, March 2-4; East St. Louis, May 3-5, and at Chicago, June 20-22, 1911. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. At the examination held in Chicago, March 2-4, the total number of candidates examined was 74, of whom 53 passed and 20 failed. One candidate did not complete the examination. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
University of California	(1910)	1
Bennett Medical College	(1911)	1
Chicago College of Medicine and Surgery	(1911)	27
Coll. of Med. and Surgery, Physio-Med., Chicago	(1910)	1
Northwestern University Medical School	(1911)	4
Reliance Medical College	(1909)	1
Rush Medical College	(1910-1) (1911-13)	14
Harvard Medical School	(1908)	1
University of Michigan, Dept. of Med. and Surg.	(1911)	1
University of Pennsylvania	(1902)	1
Woman's Medical College of Pennsylvania	(1905)	1

FAILED

College	Year Grad.	Total No. Examined.
Bennett Medical College	(1909-1) (1910-2)	3
Chicago Coll. of Med. and Surg.	(1910-1) (1911-2)	3
College of Medicine and Surgery, Physio-Medical, Chicago	(1905) (1910) (1911)	3
Jenner Medical College	(1907) (1910)	2
National Medical University, Chicago	(1909)	1
Coll. of P. and S., Chicago	(1909) (1910)	2
Reliance Medical College	(1909)	1
Rush Medical College	(1911)	1
Sioux City College of Medicine	(1906)	1
Barnes Medical College, St. Louis	(1910)	1
University of Pennsylvania	(1906)	1
Tokio Medical College, Japan	(1905)	1

At the examination held in East St. Louis, May 3-5, the total number of candidates examined was 69, of whom 52 passed, 16 failed, and 1 withdrew. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
College of Physicians and Surgeons, Chicago	(1911)	4
Harvard Medical School	(1911)	1
Univ. of Michigan, Dept. of Med. and Surg.	(1910)	1
Barnes Medical College	(1909-1) (1910-1) (1911-9)	11
St. Louis University	(1910-1) (1911-21)	22
Washington University, St. Louis	(1910-1) (1911-10)	11
Cornell University Medical College	(1910)	1
Miami Medical College, Cincinnati	(1901)	1

FAILED

College	Year Grad.	Total No. Examined.
Chicago College of Medicine and Surgery	(1911)	1
Coll. of Med. and Surg., Physio-Med., Chicago	(1911)	1
Hahnemann Med. College and Hospital, Chicago	(1890)	1
National Medical University, Chicago	(1911)	1
College of Physicians and Surgeons, Chicago	(1910)	1
Keokuk Med. Coll., Coll. of P. and S.	(1908)	1
University of Louisville	(1908)	1
Barnes Medical College	(1908-1) (1911-2)	3
Homeopathic Medical College of Missouri	(1909)	1
St. Louis College of Physicians and Surgeons	(1907)	1
St. Louis University	(1911)	3
University of Pennsylvania	(1886)	1

At the examination held in Chicago, June 20-22, the total number of candidates examined was 222, of whom 166 passed and 55 failed.[1] One candidate did not complete the examination. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Bennett Medical College	(1911)	9
Chicago Coll. of Med. and Surg.	(1910-1) (1911-16)	17
Coll. of Med. and Surg., Physio-Med., Chicago	(1911)	1
College of P. and S., Chicago	(1910-1) (1911-27)	28
Hahnemann Med. Coll. and Hospital, Chicago	(1911)	7
Hering Medical College and Hospital, Chicago	(1911)	4
Illinois Medical College	(1901)	1
Jenner Medical College	(1910-1) (1911-2)	3
National Medical University, Chicago	(1909)	1
Northwestern Univ. Med. School	(1909-1) (1911-67)	68
Rush Med. Coll.	(1891-1) (1909-1) (1910-1) (1911-18)	21
Keokuk Med. Coll., Coll. of P. and S.	(1906)	1
University of Louisville	(1911)	1
Harvard Medical School	(1901)	1
Omaha Medical College	(1900)	1
University of Pennsylvania	(1910)	1
Royal Hungarian University	(1893)	1

FAILED

College	Year Grad.	Total No. Examined.
Bennett Medical College	(1910-1) (1911-3)	4
Chicago College of Medicine and Surgery	(1911)	9
College of Medicine and Surgery, Physio-Medical, Chicago	(1908-1) (1910-2) (1911-2)	5
Coll. of P. and S., Chicago	(1910-1) (1911-8)	9
Hahnemann Med. College and Hospital, Chicago	(1911)	2
Hering Medical College	(1910-2) (1911-1)	3
Illinois Medical College	(1910)	1
Jenner Medical College	(1905) (1910) (1911)	3
Northwestern Univ. Med. School	(1910-1) (1911-6)	7
Reliance Medical College	(1909) (1910)	2
Sioux City College of Medicine	(1906)	1
Barnes Medical College	(1910-1) (1911-3)	4
St. Louis College of P. and S.	(1910)	1
University Medical College, Kansas City	(1911)	1
Eclectic Medical College, Cincinnati	(1911)	1
Meharry Medical College	(1908) (1910)	2

Louisiana October Report

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 19-21, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 36, of whom 20 passed and 16 failed. Two candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1911)	94
College of Physicians and Surgeons, Little Rock	(1911)	75
Howard University	(1909)	88.4
University of Louisville	(1911)	76.4, 77.8, 79.9
Kentucky School of Medicine	(1908)	84.4
Tulane University of Louisiana	(1911)	83.2
Flint Medical College	(1910)	82.6
Jefferson Medical College	(1910)	89.5
Vanderbilt University	(1911)	88.2
Memphis Hospital Medical College (1907) 75; (1910) 83.3; (1911) 76, 80.6.		
Maryland Medical College	(1910)	*5.9
Baylor University	(1910)	86
University of Texas	(1911)	88.4
Western University, London, Ontario	(1905)	86.6

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1910)	50.3
University of Louisville	(1909) 70.7; (1910)	69
Flint Medical College	(1910)	72.1
Maryland Medical College	(1910	*5.9

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[1] Subject to revision owing to applications for rerating pending.

St. Louis College of Physicians and Surgeons.....(1907) 71.7
Meharry Medical College......................(1910) 68.3
Memphis Hospital Medical College (1902) 71.2; (1909) 68.6; (1910) 25.6,* 71.9; (1911) 59.8, 63.4, 63.8, 64.1, 72.3.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1909)	Illinois
Meharry Medical College	(1907)	Arkansas

* Did not complete examination.

Wisconsin October Reciprocity Report

Dr. John M. Beffel, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Appleton, Oct. 10, 1911, 16 candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern Univ. Med. School	(1903) (3, 1910)	Illinois
College of Physicians and Surgeons, Chicago	(1895) (1904) (2, 1909) (1910)	Michigan; Illinois.
Chicago College of Med. and Surgery	(1908) (2, 1910)	Illinois
Bennett Medical College, Chicago	(2, 1910)	Illinois
Omaha Medical College	(1903)	Nebraska
University of Freiburg, Germany	(1897)	Iowa

Book Notices

The Treatment of Fractures. With Notes on a Few Common Dislocations. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital. Seventh Edition. Cloth. Price, $6 net. Pp. 708, with 990 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Previous editions of this work have been reviewed fully in The Journal so that an extensive review is not called for now. The new feature of the present edition is the presentation of those facts which during the past three years have been accepted as important in the treatment of bone injuries. A chapter on the operative treatment of fractures has been added. The author seems to belong to the rather large class of men who would advise operative treatment only in exceptional cases and even then with much hesitation and misgiving. Scudder believes that greater care with regard to the essentials of non-operative treatment will make the operative treatment unnecessary. He avoids a direct statement, except to say that in his opinion the broad indications for operation in recent closed fractures, in the absence of damage to soft parts, is inability to bring fragments into such apposition and alignment that good functional results will follow in a reasonable time. The methods of operating are described briefly. Many more roentgenograms are used in this edition and the author speaks more often and more emphatically of the value of the Roentgen ray as a diagnostic agent and to control the setting of a fracture. Evidence of careful revision is also seen in the chapters on skull fractures, fractures of the spine, nasal bones and femur. The author seems still to believe in the free and unlimited use of plaster of Paris, although the tendency to-day is to limit its use more and more.

An Introduction to Dermatology. By Norman Walker, M.D., F.R.C.P., Physician for Diseases of the Skin, The Royal Infirmary, Edinburgh. Fifth Edition. Cloth. Price, $4 net. Pp. 346, with 142 illustrations. New York: William Wood & Co., 1911.

Walker's "Introduction to Dermatology" appeared first in 1899. It was an outgrowth of his Edinburgh lectures to students, and was frankly offered as an orientation of the complex field of dermatology. From the time of its appearance it has been recognized as an excellent book—one that gave a careful statement of dermatology, but at the same time bore a distinct impress of the author's personality. It was and is a personal book—and a personal book that reflects credit on the author. In twelve years five editions have been called for, and that is a good evidence of the estimate in which the work is held. The succeeding editions have varied chiefly by additions to the contents. This edition takes note of recent additions to dermatologic knowledge but otherwise shows few variations from the fourth.

Veterinary Bacteriology. A Treatise on the Bacteria, Yeasts, Molds and Protozoa Pathogenic for Domestic Animals. By Robert Earle Buchanan, Ph.D., Professor of Bacteriology in the Iowa State College of Agriculture and Mechanical Arts, Division of Veterinary Medicine. Cloth. Price, $3. Pp. 516, with 214 illustrations. Philadelphia: W. B. Saunders, 1911.

The publication of this meritorious text-book of veterinary bacteriology will facilitate the instruction of this important branch of the subject and will prove to be of enormous value both to the instructor and student. The plan of the work is excellent and the author has confined himself to the subject in hand with success so that the book is not overburdened with irrelevant reading-matter. The bacteriology of human diseases is discussed only at the border-line of human and veterinary medicine, a fact which renders the book complete without increasing the volume unreasonably. The treatment of the chapters on bacteriologic technic is brief and clear, and as the author states in the preface, not intended to take the place of a practical laboratory guide.

Section 1, which treats of the morphology, physiology and classification of bacteria, is comprehensive and clear. The only criticism is against the rather dogmatic expression of the author's opinion of the relation of bacteria to plants, and the relation of the science of bacteriology to botany. It seems that a more conservative stand would have been better. The chapters on immunity are clear, up to date and as exhaustive as this difficult subject warrants in elementary text-books. Descriptions of the various disease bacteria are concise and well illustrated.

The book is to be recommended to those engaged in the study and practice of veterinary medicine. The style is simple and clear, and the 214 illustrations taken from the best sources.

The Goulstonian Lectures on the Sensibility of the Alimentary Canal. Delivered at the Royal College of Physicians on March 14, 16 and 21, 1911. By Arthur F. Hertz, M.A., M.D., F.R.C.P., Assistant Physician and Physician in Charge of the Department for Nervous Diseases, Guy's Hospital. Cloth. Price, $1.50. Pp. 83. New York: Oxford University Press, 1911.

These lectures constitute an excellent discussion of this new field of knowledge. The author contributes numerous experiments and clinical observations of his own as a basis for the theories advanced. The failure to elicit a response to tactile stimulation from the mucous membrane of the entire alimentary tract down to the anal canal is in accord with previous observations. His conclusions, however, that the esophagus and stomach are insensitive to stimulation by dilute hydrochloric acid and organic acids, and that the contact of hydrochloric acid with a gastric ulcer does not directly produce pain but only secondarily by inciting muscular tension, are at variance with the prevailing teaching. With Ross and Head, he believes in two distinct types of pain; the one a true visceral pain, produced only by tension of the muscular layer; the other a referred pain, afferent impulses from the affected organ first proceeding to the spinal cord and thence radiating to the skin, muscles and connective tissue of the corresponding spinal segment.

The monograph treats of clinical phenomena associated with abdominal disease from the standpoint of the physiologist. The book has only eighty pages and is well worth reading.

A Manual of Clinical Diagnosis by Means of Laboratory Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology and Experimental Medicine at the College of Physicians and Surgeons, Baltimore, Md. Seventh Edition. Cloth. Price, $5 net. Pp. 778, with 168 illustrations. Philadelphia: Lea & Febiger, 1911.

This seventh edition presents a new departure in that the methods applicable in each disease with the usual findings are collected in a separate part of the work, so that the physician may compare the findings in any particular case with the clinical laboratory picture of the disease suspected. The names of diseases are arranged alphabetically. The book has been thoroughly revised. The Wassermann reaction and the Noguchi modification are fully described. In every department the work seems to have been brought fully up to date and its excellence will sustain the reputation which this manual has already achieved. The book is finely illustrated, colored plates being used to a large extent.

Medicolegal

Sufficiency of Indictment of Chiropractor—Conviction Affirmed in Second Case—Iowa Law and Requirements Explained

(State vs. Corwin (Ia.), 131 N. W. R. 659)

The Supreme Court of Iowa affirms a conviction of the defendant, who was accused of having professed and actually undertaken to cure and heal without having obtained, and caused to be recorded, a certificate from the state board of medical examiners. The indictment charged that he "did willfully and unlawfully assume the duties of a physician, and make a practice of treating persons afflicted with diseases and did then and there willfully and unlawfully publicly profess to cure and heal persons afflicted with disease by a system of treatment called 'chiropractic.'" That is held sufficient.

The court says that section 2579 of the Iowa Code defines who shall be deemed practicing medicine, surgery, or obstetrics, or as a physician, and these are divided into three classes: (1) any "who shall publicly profess to be a physician or surgeon or obstetrician and assume the duties"; (2) those "who shall make a practice of prescribing and furnishing medicine for the sick"; and (3) those "who publicly profess to cure or heal." Section 2580 imposes a penalty on any person who by his conduct brings himself within any of these classes. So that, construing the statutes together, they enumerate several acts disjunctively which may constitute the offense of practicing as a physician without a license, and when several acts are enumerated disjunctively as constituting an offense, and are not repugnant to each other, they may be alleged conjunctively in an indictment. The different acts which constitute the offense in one practicing without a license are not necessarily inconsistent with each other, and the indictment, even if it had charged the acts of the defendant such as to bring him within all three classes, would not have been vulnerable to the criticism of charging more than one offense. Nor was there error in ruling that the facts were pleaded with sufficient particularity. These were stated, in substance, in the language of the statute, and the rule prevails that, when this so individuates the offense that the offender has proper notice from the statutory terms of the particular offense charged, it is enough. A specific detail of the particular things done was not essential to apprise the accused of the offense charged. It was sufficient for that purpose to allege the acts declared by the statute to constitute the offense.

It was contended that the operation of the statutes should be limited to those professing or undertaking to practice medicine and surgery. But the state may determine what acts constitute practice as a physician, and may impose conditions on the exercise of that privilege. Moreover, this court has construed the statutes of Iowa to include those who without medicine or the practice of surgery publicly profess to cure and heal, and has held the medical practice statutes constitutional. In the case of State vs. Miller (124 N. W. R., 167, reported in the Medicolegal Department, on page 1474 of The Journal of April 30, 1910) the accused was a chiropractor. No useful purpose would be served by reconsideration, notwithstanding the interesting brief presented by counsel for the defendant.

The defendant published a series of articles in the newspapers, denominated "Talks with a Chiropractor," in which he directed public attention to the so-called chiropractic system of healing, to the shortcomings of the medical profession, and especially to himself as a practitioner of that system. He also undertook to heal a number of persons, and in doing so first required them to strip the back to the skin and lie on the table when he would examine the spinal column with his hands, and by sudden pressure restore the vertebræ out of place to their normal position. Manifestly he not only publicly professed to cure and heal, but undertook to do so.

If the theory is of such consequence to the world as counsel contended, it would seem that the study such as the state requires of anatomy, physiology, general chemistry, pathology, surgery, and obstetrics would not be objectionable. Surely the requirement that every one who proposes to devote himself to the prevention, cure, or alleviation of disease and pain shall possess some knowledge of the nature of disease, its origin, its anatomical and physiological features, its causative relation, and of the preparation and action of drugs, ought not to be denounced as exacting or unreasonable. Indeed, without such preparation, one might entertain a suspicion that the proposed healer was acting selfishly, and not from an intelligent conviction that his method was preferable to others. All the state insists on is qualification, and, when possessed of this and armed with a certificate so evidencing and duly recorded, the practitioner may follow any system of healing he may choose.

Liability for Injury of Persons with Latent Diseases—Waiver of Privilege as to One Physician Does Not Extend to Another

(Jones vs. City of Caldwell (Idaho), 116 Pac. R. 110)

The Supreme Court of Idaho holds that it was error, in this personal injury case, to refuse to instruct the jury that, if they found from the evidence that the plaintiff was caused to fall by a defect in the sidewalk negligently permitted to exist by the defendant, the defendant was responsible for all of the ill effects which naturally and necessarily followed the injury in the condition of health in which the plaintiff then was at the time of such fall, and it was no defense that such injury might have been aggravated and rendered more difficult to cure by reason of the plaintiff's state of health at that time, or that by reason of latent disease the injuries were rendered more serious to her than they would have been to a person in robust health. The court says that if the latent condition itself did not cause pain, suffering, etc., to the patient, but such condition plus the accident caused such pain, the fall, and not the condition, was the proximate cause of the injury. A person or corporation has no more right negligently to inflict injuries on a sick person than on a well person, and the existence of latent disease brought into activity by a fall or other injury will not constitute a defense to an action to recover damages for such injuries.

The court further holds that, under the statutory provision of that state that "a physician or surgeon cannot, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient," the plaintiff might waive her right to secrecy in respect to one of her physicians; but such waiver did not operate as a waiver of her right to object to the testimony of another of her physicians called by the defendant. The court says that the decided weight of authority is in favor of the view that a waiver of the privilege as to one physician does not waive the privilege as to any other physician. It is also very clear that the Idaho statute forbids and prohibits the examination of a physician without the consent of the patient, and this privilege extends to the individual witness, and not to the consultation or transaction in which he was a physician. In other words, each individual physician is a witness within the meaning of this statute, rather than a number of physicians who may be present or participate in a consultation, being treated as one witness. Nor, by calling a physician as an expert, can the provisions of the statute be evaded and the witness permitted to base his opinions on information acquired while attending the patient. If that were permitted, the provisions of the statute would be without force or effect.

Employer Liable for Use of Phenol in First-Aid Chest

(Croghan vs. Schwarzenbach (N. J.), 79 Atl. R. 1027)

The Supreme Court of New Jersey affirms a judgment for damages against an employer where a superintendent of his factory told one employee to wash the bleeding finger of another employee, and also told him to look for bandages in a medicine chest containing medicines for first aid for persons injured in the factory, and the employee so directed negligently used the contents of a bottle of carbolic acid in dressing the wound, by reason of which the finger was gangrened and had to be amputated. The court holds that a jury could infer that the use of a medicine found within the medicine chest was within the authority given by the defendant's agent to the employee to dress the wounded finger.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Bulletin of Johns Hopkins Hospital, Baltimore

November, XXII, No. 249, pp. 383-414

1 Medical Paintings of Velasquez. J. W. Churchman, Baltimore.
2 *Ether Glycosuria. J. H. King, B. S. Chaffee, D. B. Anderson and L. H. Redelings, Baltimore.
3 *Effect of Occlusion of Various Hepatic Vessels on Liver. M. C. Winternitz, Baltimore.
4 Teaching of Experimental Pathology and Pathologic Physiology to Large Classes. R. M. Pearce, Philadelphia.
5 Protest Against Indiscriminate Use of Organic Compounds of Silver in Ophthalmic Practice. S. Theobald, Baltimore.
6 *Jaundice in Pneumonia. F. McPhedran, Baltimore.
7 Abdominal Lipectomy. W. F. Shallenberger, Atlanta, Ga.

2. **Ether Glycosuria.**—The authors' experiments confirm the previous findings in the literature that ether causes a definite glycosuria which may make its appearance as early as twenty minutes after beginning the anesthesia and disappears by the end of twenty-four hours. The reducing property of the urine is due to dextrose. The cause of the glycosuria is a definite hyperglycemia. The liver is the organ which furnishes the increase in sugar to the blood, as shown by the absence of the occurrence of a hyperglycemia and glycosuria when the liver is removed from the circulation by an Eck fistula. Severance of all the splanchnic fibers of the celiac plexus going to the liver did not remove the hyperglycemia and glycosuria elicited by ether.

3. **Occlusion of Various Hepatic Vessels.**—Winternitz found that on account of the extensive anastomosis of the intrahepatic branches of the portal vein and the hepatic artery, occlusion of either of them is usually without effect on the liver parenchyma. The portal vein may be completely occluded and the liver only appear slightly smaller and congested. In these cases an extensive collateral circulation usually establishes itself in the hepatoduodenal ligament and the portal blood is in this way carried to the interlobular vessels. Following occlusion of the portal vein the entire liver, if it is the main branch, or only the part supplied by the occluded vein, may present a much more congested appearance. This is due to the insufficiency of arterial anastomosis which is enough to nourish the liver cells and prevent necrosis, but which allows the blood from the systemic veins to dam back into the liver capillaries. This picture is only produced when the general circulation is impaired. When the smaller interlobular branches of the portal vein are occluded the anastomosis with the hepatic artery becomes ineffectual and there is a total mechanical obstruction of the circulation in the area. This is followed by infarct formation. There is necrosis of the liver cells often accompanied by hemorrhage. The necrosis of eclampsia belongs to this group. Occlusion of branches of the hepatic artery may result in true infarct formation. This is rare, firstly, on account of its peculiar position at the celiac axis, and secondly because of its abundant anastomoses. Occlusion of both the portal vein and the hepatic artery results in infarct formation unless the process is very gradual. Occlusion of the hepatic vein may bring about a congestion in the zone drained by it or may be absolutely without effect.

6. **Jaundice in Pneumonia.**—McPhedran estimated the corpuscular resistance in fourteen cases of lobar pneumonia with and without jaundice, in order to determine the question as to whether any of these cases might show a diminution of corpuscular resistance. In the fourteen cases there was increased fragility in only one case, this without jaundice; but in the cases with most marked jaundice there was, on the contrary, an increase in the corpuscular resistance. The urine in no cases showed any excess of urobilin. Bilirubin was present in the urine in three of the eight cases with jaundice. Autopsy showed no evidence of special changes in the liver. The blood-counts showed such a loss that one must consider it as due to a sudden great destruction. This loss is probably due to the hepatization.

Pennsylvania Medical Journal, Athens

October, XV, No. 1, pp. 1-84

8 Physician and His Societies, as Found in Pennsylvania. J. B. Donaldson, Canonsburg.
9 Etiology and Surgical Pathology of Impaired Gastric Drainage. L. J. Hammond, Philadelphia.
10 Limitations of Use and Methods of Employing Local Anesthesia in Rectal Surgery. L. H. Adler, Philadelphia.
11 Puerperal Infection. G. H. B. Terry, Wyalusing.
12 Blood Examination as Aid to Surgical Diagnosis. H. M. Armitage, Chester.

Journal of Missouri State Medical Association, St. Louis

November, VIII, No. 5, pp. 181-224

13 Prevalence of Infantile Paralysis in Missouri. A. O'Reilly, St. Louis.
14 *Etiology and Treatment of Dementia Præcox. G. W. Robinson, Kansas City.
15 *Carcinoma: With Special Reference to Carcinoma of Lip. T. E. Potter, St. Joseph.
16 *Two Cases of Tubal Pregnancy. F. G. Nifong, Columbia.
17 Symptoms Frequently Unrecognized as Being Indicative of Disturbance of Prostate and Verumontanum. J. R. Caulk, St. Louis.
18 Pathology of Rectum in Diagnosis and Treatment. W. H. Stauffer, St. Louis.
19 Functional Monoplegia. A. L. Skoog, Kansas City.

14. **Dementia Præcox.**—Dementia præcox Robinson regards as a very common psychosis, occurring in predisposed persons. Such predisposition may be recognized without difficulty. Preventive treatment will be very effective, saving many patients from developing the dementia; the treatment after the dementia develops, while not so effective, if properly carried out, will restore quite a few to a sufficient degree that they may be fairly useful citizens.

15. **Cancer.**—Potter emphasizes the necessity of removing all lymph structures in these cases. He says that the lymphatics should be most thoroughly removed no matter how far back they extend, nor what vessels are in danger of being cut in the attempt; to leave them only encourages a more rapid spread of the disease, and the complete removal is of great benefit even if there is not a permanent cure.

16. **Tubal Pregnancy.**—These cases are regarded of interest by Nifong because Case 1 exemplifies the more frequent and early results of tubal pregnancy, rupture, hemorrhage, some inflammatory reaction and the difficulty of diagnosis, being easily mistaken for pus tube, appendicitis or other pelvic trouble. Case 2 is unusual in that the pregnancy went to full term and labor was unavailing; also in the long period elapsing without trouble before surgical intervention.

Journal of Michigan State Medical Society, Battle Creek

October, X, No. 10, pp. 455-510

20 Paranoia and Certain Paranoid Conditions in Relation to Public and Medical Profession. C. B. Burr, Flint, Mich.
21 Progress of Medical Science During Last Thirty-Five Years. C. J. Ennis, Sault Ste. Marie, Mich.
22 Goiter and Its Surgical Treatment. H. M. Joy, Calumet, Mich.
23 Repair of Perineum. F. Townsend, Sault Ste. Marie, Mich.

November, X, No. 11, pp. 511-582

24 Diagnosis of Uncomplicated Ulcer of Stomach. J. T. Pilcher, Brooklyn.
25 Cysts of Gaertner's Duct. C. Georg, Ann Arbor.
26 *Relation of Premature Rupture of Amniotic Sac to Puerperal Infection. G. Kamperman, Ann Arbor.
27 Pyelonephritis of Pregnancy. W. F. Metcalf, Detroit.
28 *Blood-Pressure in Eclampsia. W. E. Welz, Detroit.

26 and 28. Abstracted in THE JOURNAL, October 28, 1911, p. 1484.

Southern Medical Journal, Nashville, Tenn.

November, IV, No. 10, pp. 725-794

29 *Practical Value of Ross "Thick Film" Method in Diagnosis of Malaria. W. M. James, Ancon, Canal Zone.
30 *Urticaria Edematosa, Following Cutaneous Tuberculin Reaction in Lupus Erythematous Disseminatus. J. L. Kirby-Smith, Jacksonville, Fla.
31 Treatment of Pulmonary Tuberculosis. F. S. Meara, New York.
32 Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax. M. E. Lapham, Highlands, N. C.
33 Intestinal Worms in Examination of One Hundred and Twenty-Two Children. N. Evans, Nashville, Tenn.
34 *Delayed Resolution in Pneumonia. J. C. McLeod, Bay Minette, Ala.
35 Stiffness of Spine. T. Toepel, Atlanta, Ga.
36 Complete and Permanent Removal of Septal Spurs. A. B. Mason, Atlanta, Ga.
37 Duty of Medical Profession and Public in Prevention of Their Most Common Diseases. J. B. Elliott, Moundville, Ala.
38 End-to-End Anastomosis of Blood-Vessels. G. J. Winthrop, Mobile, Ala.

29. **Ross "Thick Film" Method in Malaria.**—This is the third and concluding paper in the series. The study made by James was a complete one and it is impossible here to quote more than a few of the points made. James says that if Ross' figures are accepted as approximately correct, and he

believes that they should be so taken, it is evident that uncomplicated malaria does not produce fever unless the parasites are present in the peripheral blood in numbers sufficient to be readily demonstrated by the thick film process, provided the search is made intelligently. And it must be true that the organisms will be found in all cases when the fever and other symptoms are severe. We should not, then, with this method at our disposal, attribute to malaria fevers of which the etiology is obscure, since we are able to find the parasites if the illness is due to uncomplicated malaria. That such is the case, James is convinced by the results obtained in the 100 consecutive cases that he studied and by those in several hundred subsequent admissions. He states it as his belief that this method of Ronald Ross will prove of a great practical value to the practitioner as his more famous discovery has been of worth to the sanitarian.

30. **Urticaria Edematosa.**—Four hours after a von Pirquet test was made by Kirby-Smith his patient began to complain of the feeling of "fleas biting;" within eight hours there was a well developed urticaria. The patient had a temperature of 101, chill, marked swelling of the face, eyes closed from the edema, large urticarial weals on the body and extremities, considerable discomfort, restlessness and inability to sleep. The following day the patient was confined to bed, body and extremities covered with large urticarial weals, face considerably edematous; had developed a cough of a dry character, some temperature present; patient suffering considerably from the subjective symptoms of the rash; itching and burning sensations severe. After having used a lotion of calamine and oxid of zinc some comfort was obtained. On the third day the urticarial symptoms, which had seemingly abated, now became active again, with new lesions appearing. After a few hours there was a general decline in the intensity of the rash, but not for a week did all the lesions disappear.

34. **Delayed Resolution in Pneumonia.**—In the two cases cited by McLeod resolution was delayed for eight and sixteen weeks, respectively.

Journal of Indiana State Medical Association, Ft. Wayne

October 15, IV, No. 10, pp. 419-468

39 Necessity for Medical Cooperation. F. C. Heath, Indianapolis.
40 *Tuberculin and Autogenous Vaccines in Treatment of Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
41 Tuberculin Diagnosis. T. Potter, Indianapolis.
42 *Local Use of Tuberculin in Treatment of Open or Surface Forms of Tuberculosis. T. J. Beasley, Danville, Ind.
43 Cutaneous Blastomycosis. M. A. Austin, Anderson, Ind.
44 Some Common Errors in Treatment of Mental Diseases. C. W. Sawyer, Marion, Ohio.

40 and 42. Abstracted in THE JOURNAL, October 21, 1911, pp. 1391 and 1392.

Annals of Surgery, Philadelphia

November, LIV, No. 5, pp. 577-720

45 Acute Hematogenous Infection of Kidney. F. J. Cotton, Boston, Mass.
46 Malignant Papillary Adenoma of Kidney. J. B. Squier, New York.
47 Polyp of Urinary Bladder in Thirteen Months' Old Child. I. S. Koll, Chicago.
48 *Intraperitoneal Operation for Extensive Carcinoma of Bladder with New Method of Treating Divided Ureter. P. M. Pilcher, Brooklyn.
49 Splenectomy for Rupture of Spleen. J. C. McCoy, Paterson, N. J.
50 Prolapsed Spleen with Acute Torsion; Splenopexy. F. H. Lahey, Boston.
51 Cysts of Omentum. C. N. Dowd, New York.
52 Cirrhosis of Stomach (Linitis Plastica). H. H. M. Lyle, New York.
53 *Extensive Removal of Intestine. J. D. Whitall, Philadelphia.
54 Right Inguinal Hernia Following Appendectomy. J. P. Hoguet, New York.
55 Fracture-Dislocation of Atlas. F. L. Carson, Shawnee, Okla.
56 *Muscle Grafting for Gunshot-Wound of Shoulder. B. B. Cates, Knoxville, Tenn.
57 Impacted Fractures Through and Near Femoral Neck. V. Z. Cope, London.
58 *Catgut Sterilization. W. H. Hutchings, Detroit.
59 Treatment of Lacerated and Incised Wounds of Extremities. J. A. Kelly, Philadelphia.
60 Obesity and Its Surgical Treatment by Lipectomy. H. E. Castle, San Francisco.

48. **Carcinoma of Bladder and Ureter.**—The operation employed by Pilcher was as follows: Incision from umbilicus to symphysis; peritoneal cavity opened. Trendelenburg posture; pelvis emptied of intestines and protected by gauze pads; bladder widely opened in the median line and growth well exposed. Using scissors, the bladder wall which was involved was detached from the healthy bladder wall down to the urethral opening and the left ureter opening. At the point of exit of the left ureter it was found that the growth was superficial, having extended along the mucous membrane without involving the deeper structures. It had not apparently extended into the lumen of the ureter. The mucous membrane, the submucous structures, and a portion of the muscular tissue surrounding and underlying the left ureter opening including all of the tissues involved in the malignant growth, were freed and dissected up, the ureter itself not being cut across. By using traction on the flap which had been separated, it was found that the ureter was loosened from its sheath within the bladder wall and could easily be pulled down through the bladder wall. In this particular case over 2 inches of normal ureter were drawn through the bladder wall into the interior of the bladder. The ureter was cut across in situ, about 1 inch from its ostium, and allowed to slip back into place, the lumen cut across and the end split up about ¼ inch to avoid narrowing the outlet by cicatricial contraction. After all the cancerous tissue had been removed, including much of the surrounding tissues beneath the symphysis, a portion of the anterior vaginal vault and all but a section of the urethral orifice, the bladder was reconstructed. The vesicovaginal opening was not closed and a rubber drainage tube was led through it from the bladder to the vagina. The anterior and lateral walls were brought together first by a running Connell suture of catgut and reinforced by a running Lembert suture of catgut. The intraperitoneal portion of the bladder was closed by a separate suture and reinforced a la Mayo. The peritoneal cavity was closed without drainage. The left kidney discharged its urine via the left ureter, then through the ureterovesical fistula into the bladder. The patient made an uneventful operative recovery. There was no leakage of urine excepting through the vesicovaginal opening. The leakage per vaginam ceased about the sixteenth day.

53. **Extensive Removal of Intestine.**—Whitall reports a case of recovery after resection of 10 feet 8 inches of the ileum which had been stripped of its mesentery and was caught in a perforation in the fundus of the uterus.

56. **Muscle Grafting for Gunshot Wound.**—In this case Bates removed the ankylosed and carious head of the humerus and resected an inch or more of the shaft; then loosened the insertion of the coracobrachialis and the anterior half of the deltoid and sutured them with several strands of catgut to the freshened upper end of the biceps muscle. In order to lessen tension on the sutures the arm was kept in hyperflexion. For carrying purposes this arm is as strong as the sound arm.

58. **Catgut Sterilization.**—The method employed by Hutchings is as follows: Raw catgut without any previous treatment is placed in suitable containers which are left open. These tubes are then placed in an ordinary vacuum desiccator the bottom of which is covered with sulphuric acid and connected with a vacuum pump. The air is then exhausted until a pressure of less than 4 mm. is secured, the more perfect the vacuum the better the result. When this is attained the desiccator is closed, disconnected from the pump and set aside. Eight days are long enough to secure dryness. At the end of this time air is allowed to enter the desiccator. If perfectly dry air is needed it can first be passed through Wolff bottles containing sulphuric acid. The tubes are then rapidly sealed and are ready to sterilize. Any method of heating may be employed. Hot-air ovens have been found uncertain, as it is very difficult to regulate the temperature. In his work Hutchings has employed a mixture of glycerin and distilled water with a boiling point of 150 C., the container being fitted with a reflex condenser. The sealed tubes are placed in this and boiled two hours, thus securing two hours of dry heat at 150 C. In order to test the sterilization of gut prepared in this way, the following experiments were undertaken: Number 4 catgut was cut in 1½-inch lengths and placed in 250 c.c. Erlenmeyer flasks, containing suitable culture media,

These flasks were then inoculated with "hay" bacillus, "potato" bacillus, anthrax, tetanus and dirt from the street (aerobic and anaerobic) and incubated at 37.5 C. for twenty-one days. At the end of this time they were removed and submitted to the sterilizing process above described. One hundred and fifty samples of each kind of infected gut were used. There were no contaminations. In order to be perfectly sure that they were sterile, twenty-five samples of anthrax and tetanus gut were transplanted into guinea pigs. In no instance did they produce anthrax or tetanus in the animal. Control animals which were inoculated with the gut before sterilization died of the diseases.

Journal of Tennessee State Medical Association, Nashville

June, IV, No. 2, pp. 45-92

61 Cancer with Especial Reference to Cancer of Breast. H. M. Tigert, Nashville.
62 Milk in Its Relation to Health of Infants. H. E. Tuley, Louisville, Ky.
63 *Fractures of Tibia and Their Treatment. P. F. Eve, Nashville.
64 Traumatic Perforation of Abdominal Viscera. W. M. McCabe, Nashville.
65 Radium. G. P. Edwards, Nashville.

August, IV, No. 4, pp. 131-173

66 Use and Application of Carbon Dioxid Snow. J. M. King, Nashville.
67 *Diagnosis and Treatment of Acute Inflammatory Glaucoma. W. Dotson, Gallatin.
68 *Vaginal Hysterectomy. J. A. Gaines, Nashville.
69 Case of Oblique Inguinal Hernia Complicated by Arterio-Venous Aneurysm. D. Eve, Nashville.
70 Lacerations of Deep Urethra. J. J. Waller, Oliver Springs, Tenn.
71 Arteriosclerosis. W. J.. Matthews, Johnson City.

September, IV, No. 5, pp. 175-213

72 Clinical Pathology and Surgical Phases of Goiter. W. D. Haggard, Nashville.
73 *Appendicitis with Concurrent Typhoid. W. D. Sumpter, Nashville.
74 *Treatment of Syphilis. F. Glenn, Nashville.
75 *Salvarsan and Wassermann Reaction in Sixty Cases of Syphilis. W. Litterer, Nashville.
76 Simple Method of Giving Salvarsan Intravenously: Report of Cases. E. T. Newell, Chattanooga.
77 Chronic Influenza. O. N. Bryan, Nashville.

63. Abstracted in The Journal, May 6, 1911, p. 1354.

67 and 68. Abstracted in The Journal, May 6, 1911, pp. 1355 and 1356.

73, 74 and 75. Abstracted in The Journal, May 6, pp. 1355 and 1356.

California State Journal of Medicine, San Francisco

November, IX, No. 11, pp. 447-488

78 *Geographic Influences in Etiology of Skin Disease. E. D. Chipman, San Francisco.
79 Toxemias of Pregnancy. L. H. Briggs, Oakland.
80 *Some Points to be Considered in Feeding Infants. L. Porter, San Francisco.
81 Syphilitic Osteoperiostitis. R. Bine, San Francisco.
82 Tentative Classification of Exceptional Children. M. P. E. Groszmann, Plainfield, N. J.
83 Differential Diagnosis of Labyrinthine Affections. G. P. Wintermute, Oakland.

78. **Etiology of Skin Disease.**—The diseases which are apparently affected by geographic factors in Chipman's statistics are acne, eczema, dermatitis venenata, seborrheic eczema and urticaria. The special influences which seem responsible for the variation are manner of life, climate, plants and parasites, each one of which is characteristic of California, either in kind or in degree.

80. **Infant Feeding.**—Porter points out that a clean milk-supply is of such inestimable advantage that it is the duty of every physician to strive in every way to educate patients to an appreciation of the advantages of certified milk.

Journal of Experimental Medicine, Lancaster, Pa.

November, XIV, No. 5, pp. 445-556

84 *Pathology of Intraperitoneal Bile Injections in Rabbit. C. H. Bunting and W. H. Brown, Madison, Wis.
85 *Cultivation of Tissues in Vitro for Study of Cytotoxins. R. A. Lambert and F. M. Hanes, New York.
86 *Elimination of Phenolsulphonephthalein in Various Experimental Lesions of Kidney. A. B. Eisenbrey, Philadelphia.
87 *Lethal Cardiac Anaphylaxis in Rabbit. J. Auer, New York.
88 Salvarsan and Acute Anaphylaxis. J. Auer, New York.
89 *Hypertrophy and Regeneration of Islands of Langerhans. R. L. Cecil, New York.
90 Presphygmic Period With Micrograph. A. C. Crehore, New York
91 Intra-Stomachal and Intra-Intestinal Inoculations of Trypanosome Virus With Tests for Immunity. B. T. Terry, New York.
92 Chemo-Biologic Study of Relations of Pepsin to So-Called Anti-Pepsin. W. W. Hamburger, Chicago.
93 Absence of Adrenalin in Malignant Renal Hypernephromas. C. Brooks, Chicago.

84. **Pathology of Intraperitoneal Bile Injections.**—Sufficient clinical and experimental evidence has accumulated to demonstrate clearly that bile is a toxic secretion. Certain experiments carried out by Bunting and Brown seem to indicate the truth of this contention. In considering the results of their experiments, two features are to be noted: the general toxic action of the bile and the direct pathologic effect. The minimal fatal dose of bile when injected into the peritoneal cavity seems to lie between 0.25 and 0.50 of a cubic centimeter per kilogram, the latter dose constantly producing a fatal result in less than twenty-four hours. This seems to be about twice the dose necessary to kill when introduced intravenously. Death is apparently due to direct action of the bile on the myocardium. The local pathologic effects may be briefly summarized in the statement that bile apparently produces necrosis of every type of tissue with which it comes in contact.

85. **Cultivation of Tissues in Vitro.**—The authors found that mouse sarcoma, which grows vigorously in the plasma of normal rats, shows little or no activity in the plasma of rats immunized by mouse sarcoma injections. Rat sarcoma, readily cultivated in the plasma of normal guinea-pigs, either remains quite inactive, or presents a feeble growth in the plasma of guinea-pigs previously treated with rat tissues. The inhibition of growth in cultures of rat and mouse sarcomata in plasma from animals of a foreign species immunized against these tissues, is due, in all probability, to the action of cytotoxins.

86. **Elimination of Phenolsulphonephthalein.**—The study of a variety of experimental renal lesions in the dog by Eisenbrey demonstrates that the phenolsulphonephthalein test of Rowntree and Geraghty is one of the most satisfactory and at the same time most delicate methods of estimating the functional activity of the kidney. The elimination of the test dye is decreased in so-called spontaneous nephritis and and in experimental nephritis due to potassium chromate, uranium nitrate, cantharidin, diphtheria toxin and arsenic, and in those lesions caused by snake venom, hemolytic serum, prolonged renal anemia and extensive reduction of the kidney substance. Its elimination is not diminished, but is increased, in the presence of the renal lesion caused by nephrotoxic immune serum and for this discrepancy no explanation is at hand. The test is a reliable method of demonstrating improvement in the functional activity of the kidney, as is shown in our study of spontaneous nephritis. The increased elimination of the dye occurring after small doses of various irritants, which is frequently characteristic of the early stages of a severe nephritis and which is seen also several days after unilateral nephrectomy, would appear to have an important relation to the problem of kidney function; and although probably not of clinical importance, it is worthy of further study as a phase of renal activity.

87. **Lethal Cardiac Anaphylaxis in Rabbit.**—According to Auer acute lethal anaphylaxis in the intact rabbit is caused by a failure of the heart, due to a change in the heart itself; it is peripheral and independent of the central nervous system for its production.

89. **Hypertrophy of Islands of Langerhans.**—Cecil emphasizes the fact that the occurrence of hypertrophy and regeneration of the islands of Langerhans affords considerable evidence in favor of their anatomic and functional independence.

Medical Record, New York

November 11, 80, No. 20, pp. 961-1008

94 Blood-Pressure in Prognosis. H. W. Cook, Minneapolis, Minn.
95 Trachoma. M. V. Safford, Boston.
96 Manic Depressive Insanity, Then Syphilis, Later General Paralysis. W. F. Lorenz, Mendota, Wis.
97 Henoch's Purpura. J. L. Bendell, Albany, N. Y.
98 Printed Instructions for Clinic Patients. W. H. Sheldon, New York.

Journal of Biological Chemistry, Baltimore

November, X, No. 4, pp. 295-343

99 Catalase of Sea Urchin Eggs Before and After Fertilization, With Special Reference to Relation of Catalase to Oxidation in General. S. Amberg and M. C. Winternitz, Baltimore.
100 *Utilization of Proteins of Wheat. L. B. Mendel and M. S. Fine, New Haven, Conn.
101 Maximum Production of Hippuric Acid in Animals With Consideration of Origin of Glycocoll in Animal Body. A. I. Ringer, New York.
102 *Utilization of Proteins of Barley. L. B. Mendel and M. S. Fine, New Haven, Conn.

100. **Utilization of Wheat Proteins.**—In their feeding experiments the authors attempted to control the extraneous factors as far as possible, by improving the texture and mechanical condition of the crude products, or purifying the individual proteins. The present paper deals with wheat. The experimental trials on man and dogs indicate that "glidin," gluten and the two characteristic proteins of wheat, gliadin and glutenin, are as thoroughly utilized as the nitrogenous components of fresh meat.

102. **Utilization of Barley Proteins.**—The utilization of 85 per cent. of the barley preparation with its 8 gm. of fiber and 11 gm. of hemicelluloses (of which 9 gm. reappeared in the feces) leads the authors to believe that under favorable conditions, barley protein, like that of the closely related cereal, wheat, would be almost perfectly digested.

American Journal of Surgery, New York

November, XXV, No. 11, pp. 341-372

103 Our Present Knowledge in Regard to Infantile Paralysis. R. T. Taylor, Baltimore.
104 *Experimental Demonstrations in Surgical Drainage. J. N. Rhoads, Philadelphia.
105 Surgical Complications of Gonorrhea. E. O. Smith, Cincinnati.
106 Surgical Essentials. F. E. Neef, New York.
107 Submucous Resection of Nasal Septum. H. Hays, New York.
108 Ileo-Ileocolic Intussusception Due to Adenoma of Ileum, in Child Five Years of Age; Resection of Twelve Inches of Gangrenous Intestine; Recovery. M. S. Kakels, New York.
109 Usefulness of Special Containers for Proctoclysis. C. S. Venable, San Antonio, Texas.

104. **Surgical Drainage.**—Capillarity *per se*, says Rhoads, cannot drain pus from an abdominal cavity. Capillarity plus gravity will drain pus from any cavity. He suggests that cavities whose openings are parallel to the external end of drainage material should have the material extended to a place where it could hang pendant, and, inevitably, it should be covered with waxed paper or some other waterproof material. Cavities whose orifices are below their level will give no trouble. They would, however, drain better with gauze than with a tube, because the gauze could be better manipulated, thereby compelling the pus to take a certain road to a receptacle. Even such a drainage should be covered with an impervious material in order to prevent the opening from becoming blocked up with inspissated pus. Solid soft rubber rods are utterly useless for drainage, unless they are covered with a vapor-proof dressing. A single soft rubber rod will not drain under any condition. Two such rods when in juxtaposition will drain if wet and placed in a pendant position, but only for a short time if not protected from the air. Rhoads has found that all fluids obey this law, whether they are heavier than pus, such as glycerin, molasses or heavy petroleum machine oil, or lighter than pus, as is alcohol, ether and water. For abdominal work the drainage material should be at least long enough to reach the bottom of the cavity up the glass tube, over the abdomen and down to the bed, or if the formation of the pus is profuse, to a bucket on the floor, as Rhoads has found that the longer the pendant arm the more rapid the flow. The abdominal tube and material should be kept saturated by immersion in a normal salt solution, and then there is no waiting for absorption, but the gauze instantly begins to drain. Hence, there is no need of the slow, arbitrary process of removing the gauze daily or oftener; and it really should be oftener; the fact is, it should be moved hourly, or as fast as it becomes saturated, because it can never get out of its own accord. When the drainage is accomplished by molecular cohesion, plus gravity, it is continuous from the instant the equilibrium is upset outside of the body, and will continue as long as the pus continues to form, and must of necessity be a hundred times shorter than when the drainage is accomplished only when the gauze is lifted out of the tube.

New York Medical Journal

November 4, XCIV, No. 19, pp. 909-960.

110 Evolution of Operating Table. W. S. Bainbridge, New York.
111 Heredity and Tuberculosis. G. B. Sweeny, Pittsburgh.
112 *Bronzed Diabetes (Hemochromatosis). G. Blumer, New Haven, Conn.
113 *Routine Postoperative Roentgenization in Cancer. C. E. Skinner, New Haven, Conn.
114 Case of Dural Endothelioma Involving Frontal Lobes. N. J. Dynan, Washington, D. C.
115 Diagnosis of Gastric Catarrh. J. A. Work, Elkhart, Ind.
116 *Acute Dilatation of Stomach Following Herniotomy Done Under Local Anesthesia. H. H. M. Lyle, New York.
117 Tubal Sterilization as Prophylactic Measure. M. A. Werner, New York.
118 Surgical Measures vs. Palliation in Epididymitis. F. C. Walsh, San Antonio, Texas.

November 11, XCIV, No. 20, pp. 961-1008

119 Thyreoparathyroid Secretion as Wright's Opsonin. C. E. D. Sajous, Philadelphia.
120 Fatalities of Delay in Diagnosis and Treatment of Rectal Diseases. J. P. Tuttle, New York.
121 Sera and Vaccines: Prophylactic and Curative. J. H. Egbert and O. O'Neill, Willimantic, Conn.
122 Use of Pure Tuberculin in Pulmonary Tuberculosis. C. Rayevsky, Liberty.
123 Combined Vaccine Therapy in Pulmonary Tuberculosis. G. Sanders, New York.
124 Monthly Mortality in Registration Area. H. A. Brown, Washington, D. C.
125 Furunculosis as Cause of Death. L. I. Harris, New York.
126 Symptomatic Parotiditis. P. W. T. Moxon, New York.

112. **Bronzed Diabetes.**—The case reported by Blumer presented the triad of symptoms and signs which characterize typical examples of bronzed diabetes. In thirty cases, in which the history of the diabetes is clear, the duration of life from the onset of symptoms to the death of the patient was less than a year in twenty-three. In only one did the patient live more than two years after the onset of the diabetes. So that, in a great majority of cases, the clinical picture is that of the severer form of diabetes. The symptoms are marked, the emaciation is great, the percentage of sugar is large and but little influenced by diet, and the fatal ending usually results from acid intoxication. In some of the patients, however, the sugar disappears completely from the urine in the last stages of the disease, and this disappearance undoubtedly accounts for at least some of the reported cases of hæmochromatosis with marked pancreatic lesion, but without glycosuria. The skin pigmentation, which, according to Roessle, is entirely lacking in about one-sixth of the cases, varies greatly in intensity in different cases.

In thirty-three patients of whom the age was given, twenty-nine cases occurred between 30 and 60 years; only two occurred between 20 and 30, and the same number between 60 and 70. There seems little question that alcohol plays an important part in the etiology of many, but by no means all, of the reported cases. A history of a preceding syphilis was obtainable in some cases; its significance is doubtful. In many of the patients no adequate cause for the disease is found. Pigmentation, with or without cirrhosis of various internal organs, is the chief characteristic of the disease. The pigmentation involves mostly the abdominal organs, especially the liver, the pancreas and the lymph-nodes. The thoracic organs may also show pigmentation, and there may be marked pigmentation of the thyroid and salivary glands. The chorioid plexus of the lateral ventricles, and other portions of the brain may show pigmentation.

113. Abstracted in THE JOURNAL, Oct. 7, 1911, p. 1230.

116. **Acute Dilatation of Stomach.**—Lyle's patient was operated on for a large right inguinal hernia. The operation was done under local anesthesia. The hernia had descended into the scrotum and contained a large amount of omentum. In order to reduce the hernia and guard against a future recurrence, it was decided to remove the redundant portion of the omentum. The mass removed weighed 4 pounds and 2 ounces. The hernia was repaired according to the Bassini method. The patient was returned to the ward in excellent condition. He was allowed some tea and toast. About one hour later, the patient began to complain of pain and distention in the epigastric region. The lower border of the stomach seemed to be about 3 inches below the umbilicus. Repeated stomach washings, combined with postural changes, gave

temporary relief, large amounts of fluid and great volumes of gas escaping. Eight hours after the initial attack, the lower border of stomach was thought to be in the right iliac fossa. Next morning the distention began to decrease, and all the acute symptoms disappeared within the following forty-eight hours. With the decrease of the distention, the patient's condition soon returned to the normal. Within a short time the hernia recurred. He was readmitted to the hospital and the hernia repaired under ether anesthesia. The smooth recovery following this operation was in marked contrast to the stormy convalescence of the previous one.

Journal of Medical Society of New Jersey, Orange

October, VIII, No. 5, pp. 229-282

127 Splenectomy for Rupture of Spleen: Four Cases. J. C. McCoy, Paterson, N. J.
128 Some Diseases of Gall-Bladder. F. M. Donohoe, New Brunswick, N. J.
129 Advantages of Autopsy and Other Pathologic Anatomic Examinations. H. S. Martland, Newark, N. J.
130 Edemas Occurring Without Albuminuria in Infancy. D. J. M. Miller, Atlantic City, N. J.

Bulletin of Manila Medical Society

September, III, No. 9, pp. 153-165

131 *Incidence of Placenta Prævia in Manila With Report of Twenty-Two Cases. H. A. Sison, Manila.

.131. **Placenta Prævia.**—Of the twenty-two cases here reported, seven had previous abortions and of the nineteen cases that were examined, fifteen had retroversions and three had previous subinvolutions. Of the four primipara examined all had retroversions. Sison says the majority of the single women examined in the gynecologic dispensary of the Philippine General Hospital have retroversions. The frequent occurrence of retroversions in young Filipino girls, especially in the lower classes, is probably accounted for by the usual custom of allowing girls of 7 to 10 years of age to be the nurses for their young brothers and other relatives. These children also often have responsibilities of housework, carrying heavy baskets to the market and attending the younger members of the family.

Woman's Medical Journal, Cincinnati

October, XXI, No. 10, pp. 213-236

132 Serum Reaction in Diagnosis of Syphilis. J. W. Fisher, Middletown, Conn.
133 Eugenics or Deficiency. I. T. Smart, New York.
134 Vesico-Vaginal Fistula. A. Conklin, Chicago.
135 Chronic Dyspepsia. J. T. Pilcher, Brooklyn.

Boston Medical and Surgical Journal

November 9, CLXV, No. 19, pp. 709-746

136 Biologic Basis of Specific Therapy. S. Flexner, New York.
137 Association of Mental Symptoms With Contusions of Eye. E. R. Williams, Esmont, Va.
138 Vincent's Angina. E. H. Place, Boston.
139 *Epithelioma: Irritation as Cause. J. A. Honeij, Boston.

139. **Epithelioma.**—Out of a group of 150 patients seen by Honeij, 32 per cent. gave a positive history of irritation to some benign growth or injury to the normal epithelial surface.

American Journal of Medical Sciences, Philadelphia

November, CXLII, No. 5, pp. 625-780

140 *Tricuspid Stenosis, Report of Five Cases. T. B. Futcher, Baltimore.
141 *Operability of Intramedullary Tumors of Spinal Cord. C. A. Elsberg and E. Beer, New York.
142 Acute Phlegmonous Gastritis Due to Streptococcus Pyogenes. W. S. Baird, Montreal.
143 *Cardiac Murmurs During Attacks of Biliary Colic. D. Riesman, Philadelphia.
144 *Human Trypanosomiasis. C. N. B. Camac, New York.
145 Experience With Pulmonary Tuberculosis During Last Year. S. G. Bonney, Denver.
146 *Perforation of Intestines Due to Tuberculous Ulceration. J. M. Cruice, Philadelphia.
147 Prenatal and Infantile Tubercular Predispositions. J. B. Huber, New York.
148 *Leukocytic Picture in Pulmonary Tuberculosis. M. Solis-Cohen and A. Strickler, Philadelphia.
149 *Normal Differential Leukocyte Count. C. H. Bunting, Madison, Wis.
150 *Blood in Disease Commonly Called Nervous Disease. J. Collins and D. M. Kaplan, New York.
151 Case of Banti's Disease: Splenectomy Followed by Typhoid and Appendicitis. J. Fuhs, Brooklyn.
152 Some Phases of Spastic-Paretic Syndrome of Cerebral Diplegia. L. P. Clark, New York.
153 *Atherosclerosis, With Special Reference to Physiologic Development and Pathologic Changes in Intima. W. E. Sanders, Baltimore.

140. Abstracted in The Journal, June 17, 1911, p. 1851.

141. **Operability of Intramedullary Tumors of Spinal Cord.**—Based on the anatomic grounds the authors suggest the following method of treatment for intramedullary tumors of the cord. If after laminectomy and incision of the dura the surgeon finds that he has to deal with a localized intramedullary growth, he should make a small incision, about 1 cm. long, in the posterior median column a few millimeters outside of the posterior median fissure, at the spot where the growth seems to be nearest the surface of the cord. The incision should be deep enough to cut the pia and the substance of the column down to the tumor. The tumor will then begin to bulge through the incision. No matter how markedly the tumor will seem to bulge, the surgeon must not attempt to remove the growth, for he will be sure to cause grave injury to the cord. He must leave it to Nature to extrude the tumor. As the normal intramedullary pressure will tend to readjust itself, the growth, which has caused an increased pressure, will be gradually pushed out of its bed. Nature will do this by a slow and gradual process and the tumor will be slowly extruded, with a minimum of injury of nerve fibers. Therefore, after the small incision into the cord has been made, the muscles and skin must be closed and the actual removal of the growth left to a second operation. After about one week the wound is reopened and the tumor, which will in all probability be found outside of the cord, can be removed by dividing the few adhesions which remain. If the manipulations are done with delicacy and care, no injury should be done to the cord substance. When the tumor has been removed, the pia should be closed by fine silk sutures and the dura, muscles and skin sutured in the usual manner. In the case of intramedullary tumors which extend over a large number of segments and which infiltrate the cord substance, a small incision into the cord made in the manner above described at the level of the most marked symptoms, may allow of the partial extrusion of the tumor, with perhaps amelioration of the symptoms. It is not at all beyond the range of possibility that some cases of spinal gliosis, syringomyelia and hematomyelia will come into the domain of the surgeon. It is perfectly feasible to drain a central cavity in the cord into the subdural space and perhaps prevent the symptoms due to pressure of the fluid on the nerve fibers. In the same way it may be possible to benefit certain cases of hematomyelia by allowing the blood-clot to be extruded from the substance of the cord. The authors term this method of treatment the "extrusion of intramedullary tumors."

143. Abstracted in The Journal, June 10, 1911, p. 1753.

144. **Human Trypanosomiasis.**—Camac reports a case where the patient survives more than four years after the disease was diagnosticated.

146. **Perforation of Intestines.**—It is claimed by Cruice that perforation of the intestines in chronic pulmonary tuberculosis occurs in from 1 to 5 per cent. of cases. It is possible to diagnosticate complete perforation in only a limited number of cases. It is only possible to diagnosticate local abscess due to perforation when the mass can be felt, but it is never possible to diagnosticate with certainty a partial perforation.

148. **Lymphocytes in Tuberculosis.**—Improvement in pulmonary tuberculosis according to these authors is associated with an increase in the proportion of lymphocytes in the blood at the expense of the polymorphonuclear cells. As the patients grow worse the proportion of polynuclear cells increases at the expense of the lymphocytes. None of the other types of white cells is affected by either condition. As a consequence, the percentage of lymphocytes will usually be less and the percentage of polynuclears will be greater the more advanced the disease and the greater the amount of lung tissue involved. As a patient begins to improve there is usually an increase in the proportion of polynuclear cells containing one and two nuclei, the increase often being maintained for several weeks, but not indefinitely. Mononuclear, transitional and eosinophil cells are unaffected by the stage, extent, or progress of the disease. The leukocytic picture in pulmonary tuberculosis corresponds with the patient's resistance to the disease rather than with the extent of the lesion.

By means of the leukocytic picture it is often possible to determine the resistive power of a tuberculous patient and to form a fairly accurate estimate of the chances for recovery.

149. **Normal Differential Leukocyte Count.**—The average of the total counts made by Bunting is 7,580, while 60 per cent. of the cases lie between 6,000 and 8,000, with a minimum of 5,000 and a maximum of 12,000. Of the neutrophils, 60 per cent. of the counts lie between 50 and 60 per cent., with the remaining 40 per cent. almost equally divided between those above 60 per cent. and those below 50 per cent. The average of the counts is 54.6 per cent. Further, 60 per cent. of the small mononuclears lie between 30 and 40 per cent., with 30 per cent. of the counts below 30 per cent., and but 10 per cent. above 40 per cent. The average is 33.1. Eosinophils range from 0.8 to 9.6 per cent., with an average of 3.2 per cent., with 25 per cent. of the counts below 2 per cent., 25 per cent. between 2 and 3 per cent., 25 per cent. between 3 and 4 per cent., and the other quarter above 4 per cent. Basophils range from "none seen in counting 500 cells" to 1.8 per cent.; the average being 0.8 per cent., and 40 per cent. of counts showing more than 1 per cent. The large mononuclears vary from 0.4 to 3.6 per cent. with an average of 1.6 per cent. The transitionals are about the most constant in percentage, 66 per cent. of the counts lying between 6 and 8 per cent., with but one count below 6 per cent., and but three above 9 per cent., the average being 7.4 per cent.

150. **Blood in Nervous Disease.**—The authors point out the importance that the study of blood conditions had in leading them to correct diagnosis in five cases of so-called nervous disease.

153. **Atherosclerosis.**—Sanders' paper is based on the microscopic study of the vascular system of twenty cases selected from about 300 autopsies. The author claims that many of the cells observed in the fissures and clefts of the elastica interna, in the smaller vessels, are muscle-cells and occupy an analogous position to the longitudinal muscular layer of the aorta. The fatty spots so commonly observed on the intima bear no actual or causal relation to atherosclerosis. They invariably begin in the superficial layer of the intima and are usually a manifestation of infection. Sanders believes that this type of sclerosis is invariably the expression of senility and very rarely occurs before the fifth decade of life. Its earliest manifestations begin, invariably, in the intima and are characterized by a hyperplasia of its connective-tissue layer and also its deeper elasticomuscular layer, the latter subsequently undergoing degeneration of both its cellular and elastic elements. It is impossible to say whether the fatty degeneration of the elastic fibers begins in the fibers themselves or in their cement substance. The primary causes of atherosclerosis is an exhaustion of the elasticity of the elastic tissue in the vessel wall, and the hyperplastic changes in the intima are compensatory. There is no histologic evidence of a primary involvement of any elements in the media and a fatty degeneration of the elastic fibers of this tunic is very rarely seen. No one has been able to produce atherosclerosis experimentally.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

October 28, No. 2652, pp. 1053-1144

1 Medical Education, Past and Present. R. Saundby.
2 Clinically Obscure Malignant Tumors of Nasopharyngeal Wall. W. Trotter.
3 Deviations of Nasal Septum and Submucous Resection Operation. J. W. Wood.
4 *Case of Tonsillar Calculus. J. M. McCarthy.
5 *Treatment of Pulmonary Tuberculosis by Inducing Artificial Pneumothorax. H. Rhodes.
6 Mechanical Effects of Massive Left-Sided Pleural Effusion. N. C. Rutherford.
7 *Creatin and Creatinin in Animal Metabolism. W. H. Thompson and T. A. Wallace.
8 *Treatment of General Septic Peritonitis. R. Morison.
9 Gastroscopy: Plea for Its Routine Employment by Gastric Experts. W. Hill.
10 *Inquiry into Value of Sterilization of Skin by Iodin. C. Leedham-Green.
11 Two Cases of Sarcoma: Treatment by Radium. G. S. Ryerson.
12 Technic of Wound Treatment. A. Thomson.
13 Fibromatous Tumors of Mesentery. W. J. Greer.
14 Treatment of Fracture of Carpal Scaphoid and Indications for Operation. A. MacLennan.
15 Operation for Abdominal Aneurysm, with Preliminary Report of Two Cases. W. I. de C. Wheeler.
16 *Further Series of Eighty-One Consecutive Cases of Cleft Palate Treated by Operation. J. Berry.
17 *Tuberculous Mesenteric Glands and Abdominal Conditions They May Give Rise To. G. P. Newbolt.
18 Some Functions and Surgical Uses of Omentum. D. P. D. Wilkie.
19 Appendicitis Without Physical Signs. H. J. Paterson.

4. **Tonsillar Calculus.**—The size of the calculus in McCarthy's case was unusual. The stone measured 2.5 cm. in length, 2.5 cm. in breadth and about 1.5 cm. in depth and weighed 4.635 grams (71.59 grains). Chemically it consisted for the most part of calcium phosphate with a fair admixture of calcium carbonate and a trace of magnesium phosphate.

5. **Artificial Pneumothorax in Pulmonary Tuberculosis.**—Rhodes uses Brauer's method because his experience and observations have convinced him that this method seems to offer a greater chance of success, and, on the whole, less danger to the patient.

7. **Creatin and Creatinin in Animal Metabolism.**—The authors believe that Folin overlooked the significance of his results and that the retention of creatin, whether given with food or formed in the body, is mainly connected with carbohydrate metabolism. In three cases examined by them there was an excretion of creatin in the urine, apparently increasing with the severity of the glycosuria. There was also a marked diminution in the output of creatinin. In a mild case of diabetes the addition of creatin in 1-grain doses to the food had no pronounced effect on the output of sugar, whereas the administration of creatinin in doses of 0.15 to 0.18 gram, whether hypodermically or with the food, temporarily increased the output of sugar by nearly 50 per cent. From this a practical point arises, namely, that soups, meats and meat extracts liable to contain creatinin should not be given with the diet.

8. **Treatment of General Septic Peritonitis.**—The various forms of treatment proposed for this condition are reviewed by Morison.

10. **Value of Sterilization of Skin by Iodin.**—Leedham-Green gives the results of his tests as follows: The simple spirit proved to be decidedly inferior to the iodin and sublimate alcohol. These two clearly showed themselves to be powerful skin disinfectants. A true sterility of the skin was, of course, never obtained, but both methods always greatly reduced the infectivity of the area, even when it had been previously grossly contaminated. When both skin and silk thread were dry the result was distinctly good, the majority of the tubes remaining sterile. But when the thread was wet and still more when the skin was tested after being moistened with sterile saline or albuminous fluids, the results were disappointing. In an unpleasant proportion of cases the skin proved to be still surgically infective and this was so when it had not been previously artificially infected. Neither of the two methods can be said to guarantee sterility and the skin, which had proved to be practically sterile directly after the process of disinfection, gradually became more and more infective as, under the influence of fluid, the hardened epithelium became loosened. Up to the present (for the experiments are still going on) sublimate alcohol has given the better results. There was a slight superiority even when it was merely painted on the skin like the iodin; when it was freely rubbed on, as in the usual method of alcohol disinfection, the superiority was more marked and at times pronounced.

16. **Cleft Palate Treated by Operation.**—Berry performs the Langenbeck operation. Of the fifty-nine cases in which the hard palate was involved as well as the soft, union of the soft palate occurred fifty-eight times after the first operation. The fifty-ninth case was one of complete double cleft of the whole palate operated on at fourteen months; after the second operation union took place. Of twenty-one cases of cleft limited to the soft palate, complete union after the

first operation occurred seventeen times. In three cases a small hole was still present when last seen. The remaining case has been a complete failure.

17. **Tuberculous Mesenteric Glands.**—That tuberculous mesenteric glands may give rise to acute abdominal crises is the claim made by Newbolt. The examples he presents of volvulus and acute peritonitis due to the rupture of a suppurating gland are the most common, though no doubt acute obstruction from bands may occasionally be put down to this disease. Besides the acute, various subacute or chronic conditions may occur, giving rise to pain, simulating appendicitis, etc., which need surgical interference. Medical treatment and open air is not always sufficient to cure and several of Newbolt's patients have come from country districts where they have been under treatment. The condition is chiefly met with in young adults. Tuberculous mesenteric glands and tuberculous peritonitis merge the one into the other and it is probable that early operation by removal of the appendix and the glands in the cecal region, where possible, may occasionally cut short this disease. Whether the laparotomy or the removal of the appendix as a focus of irritation does this it is difficult to say. Whenever the glands are so much enlarged as to be palpable, and when, in addition, they give rise to pain, Newbolt says they should be removed, in order to get rid of a condition which may terminate in an acute emergency. Where there are a number of glands of small size it is useless to attempt to remove them, but if any one of them is caseating it should be excised. That is to say, when met with in the course of an abdominal operation, when complicating an appendicitis and few in number, they should be dissected out, unless this involves risk to the patient, and in this case one should wait and interfere later if necessary.

Lancet, London

October 28, CLXXXI, No. 4600, pp. 1179-1246

20 Acute and Chronic Suppuration of Nasal Accessory Sinuses. H. Tilley.
21 *Treatment of Diabetes Mellitus. E. I. Spriggs.
22 Postnasal Catarrh in Children and Its Consequences. E. Smith.
23 *Rheumatism. F. J. Poynton and A. Paine.
24 *Etiology of Scarlet Fever. R. W. C. Pierce.
25 Torsion of Funis as Cause of Death of Twins. H. A. Lediard.
26 *Action of Products of Homogeneous Fetal Autolysis on Malignant Tumors in Man. G. Fichera.
27 Results of Operation for Hammer Nose. F. B. Jefferiss.
28 Operation for Ruptured Meningo-Encephalocele. W. Edmond.
29 Case of Strangulated Left Inguinal Hernia Whose Sac Contained Appendix Vermiformis (Inflamed), Cecum and Ileo-Cecal Valve. D. G. Cheyne.

21. **Treatment of Diabetes Mellitus.**—It is pointed out by Spriggs that the success of dietetic treatment of diabetes depends very largely on the skill in cooking which is at the disposal of the patient and particularly on the varieties of appetizing dishes which can be made from foods with the help of the starchless flour and the various sugar-free jams and cakes which are provided. If the patient is on a fixed allowance of carbohydrate it is a good plan to supply him with a list of the various ways with which he can supply that amount.

23. **Rheumatism.**—A boy, aged 14 years, previously healthy and with a good family history, suffered from a first attack of acute rheumatism of five days' duration. It commenced with pain in both knees and ankles and later in the left shoulder. The temperature was 100.5 F. and the pulse-rate 100. Both knee-joints were tender and full of fluid and the other joints named above were painful. For twenty-four hours an apical systolic murmur was faintly audible, but this disappeared and the boy made a rapid and complete recovery. He was treated with salicylate of soda. A greenish fluid, which coagulated and contained some fibrinous shreds, was obtained on tapping. From this a diplococcus was isolated and grown in pure culture and was the infective agent which Poynton and Paine used in their experiments. All the injections were made from bouillon cultures into the auricular veins. The first animal injected with a large dose died from general pericarditis. The second was six weeks old and received ½ c.c. of a bouillon culture. Multiple arthritis followed and mucous diarrhea, the animal dying from an intussusception of some days' duration. A pure culture of the diplococcus taken from the joint of this animal was used for the third rabbit. This was seven weeks old and was inoculated with 1 c.c. of a bouillon culture. Monarthritis of the left knee-joint developed with general illness and diarrhea and death occurred on the third day. The post-mortem examination showed that for 1½ inches in the middle two-fourths of the appendix there was acute inflammation. The left knee-joint showed the usual early synovitis. The diplococcus was recovered in pure culture from the left knee-joint and the heart's blood. Four other rabbits were inoculated and developed multiple arthritis but no appendicitis; one developed, in addition to multiple arthritis in both elbow-, knee- and carpal joints some diarrhea and was killed when *in extremis* on the fifth day. The middle two-fourths of the appendix showed small, opaque areas, deep-seated in the substance of the wall and this part was swollen and firm to the touch. A pure culture of the diplococcus was recovered from a knee-joint. A depressed area in the appendix proved to be an acute ulcer. Another series of inoculations was made from the culture taken from the first rabbit that had suffered from acute appendicitis and one of this series was killed when *in extremis* on the third day. During life arthritis of both knee-joints had shown itself and there was some diarrhea with general illness, the result of the inoculation. The middle two-fourths of the appendix was ballooned and in the walls were small, opaque areas not so extensive as in the preceding case and situated chiefly along the mesenteric attachment. The viscera showed no noteworthy features and both knee-joints were in a condition of early arthritis. The diplococcus was recovered from one of these in pure culture. The last series that has been inoculated consisted of three young rabbits, seven weeks old, which were injected intravenously with very small doses (0.25 and 0.1 c.c.) of a bouillon culture from the knee-joint of the preceding rabbit with appendicitis. All developed arthritis and one diarrhea; this one died on the ninth day. There was marked arthritis of the left carpal joint and slight arthritis of both knee-joints, the synovial membranes of which were red and congested. About ½ ounce of turbid fluid was removed from the peritoneal cavity and the serous membrane showed early inflammatory changes. The appendix at the junction of the last one-fourth with the first three-fourths showed an opaque area deeply seated in its wall. The authors point out that the association of arthritis, mucous diarrhea and appendicitis is of interest in its bearing on the difficult question of auto-intoxication from the bowel in the human subject as a cause of arthritis. It suggests that rather than this being the primary factor, the probability is that all the lesions may be the result of some primary cause circulating in the blood-stream and determining to these various positions.

24. **Etiology of Scarlet Fever.**—Pierce reports cases which he believes tend to confirm the opinion he has long held, that a fair proportion of the patients admitted into hospitals as suffering from scarlet fever, although presenting signs which are indistinguishable from those of true scarlet fever, have not in fact necessarily contracted the infection from a previous case of the disease.

26. **Products of Homogeneous Fetal Autolysis.**—The effect of homogeneous products of fetal autolysis in cases of malignant tumors in the human subject is reported on by Fichera. The observations, begun early in September, 1909, and continued without interruption, have been all conducted on inoperable cases, of which only seven had received no surgical treatment. Twenty-nine had been operated on, even repeatedly, including recurrent cases and several with multiple and voluminous metastases. In each case the histologic diagnosis was confirmed without exception and the clinical evolution was followed up, both anatomically and microscopically, by means of the excision of small portions, repeated even eight times. The number of patients submitted to the injections was thirty-six. Of these, fourteen stopped the treatment early by their own desire for various personal reasons, having received from three to ten injections. In four of the other twenty-two cases the treatment has been only recently begun. Of the remaining eighteen patients, eight have derived no

marked benefit, except in a few cases some delay in the progress of the tumor or an initial improvement of the general condition, but only to be followed by a progressive deterioration, so that in three of these cases a fatal result occurred. As for the other ten cases, the beneficial effects are evident; and while in five cases the treatment is still proceeding, because the tumors have neither disappeared nor become modified in structure, in the other five cases the neoplastic tissues have completely disappeared, or in the residual tissue repeated excisions have demonstrated the complete transition of neoplastic into sclerotic connective tissue. Of these, three presented metastases which had degenerated sooner than the primary tumor in a manner analogous to that observed in four other cases in which the glandular metastases have now disappeared, although the original tumor, or its reproduction, still exists, more or less modified.

Journal of Laryngology, Rhinology and Otology, London

October, XXVI, No. 10, pp. 505-560

30 Radium in Diseases of Nose and Throat. T. G. Ouston.
31 Visual Fields in Anterior Nasal Sinusitis. G. F. C. Wallis.
32 Lateral Sinus Thrombosis Followed by Pyemic Abscess in Prostate; Operation; Recovery. J. G. French.

Medical Press and Circular, London

October 4, XCII, No. 3778, pp. 359-382

33 Tuberculosis of Upper Air Passages. G. C. Cathcart.
34 Chronic Catarrhal Otitis Media: Its Pathology, Symptoms, Diagnosis, Prognosis and Treatment. C. A. Adair-Dighton.
35 Medical Ethics. A. V. Elder.
36 Medical Science and Its Auxiliaries in Encyclopedia Britannica. J. Kott.
37 Twenty-Three Cases of Uterine Fibroids Removed by Abdominal Hysterectomy or Myomectomy. F. Ivens.

October 11, XCII, No. 3779, pp. 383-408

38 Tuberculosis of Upper Air Passages. G. C. Cathcart.
39 Hemoglobinuric Fever in Isthmian Canal Zone. W. E. Deeks.
40 Future of Surgery. W. M. Eccles.
41 Roentgen-Ray Examination of Urinary System. E. R. Morton.

October 18, XCII, No. 3780, pp. 409-434

42 Treatment of Ulcerative Colitis. D. Power.
43 *Unusual Case of Intestinal Obstruction. R. A. Stoney.
44 Differential Diagnosis of Alcoholic Coma from Other Forms of Coma. L. D. Mason.

43. **Intestinal Obstruction.**—In this case the omentum and transverse colon were found to be in the pelvis, twisted on themselves and incarcerated between an enlarged uterus and the sacral promontory; a coil of the lowest part of the ileum had passed behind this part of the large intestine and the whole of the rest of the small intestine had a complete twist round its own mesenteric axis from right to left. These two volvuli were untwisted and the contents of the small gut were milked from the duodenojejunal flexure and the ileo-cecal valve to the opening previously made and out through a Paul's tube, which was then removed and the opening in the bowel sewed up. The intestines were then returned to the abdominal cavity and the incision closed, except in the lower part, where a split rubber tube and gauze were passed down to the bottom of the pelvis. The patient was then returned to bed, the operation having taken just one hour. The patient recovered.

Annales de Médecine et Chirurgie Infantiles, Paris

October 15, XV, No. 20, pp. 625-656

45 *Congenital Spastic Paralysis. (La maladie de Little. Etiologie, pathogénie et anatomie pathologique.) V. Hutinel and L. Babonneix.

45. **Little's Disease.**—Hutinel and Babonneix say that the symptomatology varies so much from case to case that each writer on the subject has a separate conception of Little's disease; the patients rarely come to necropsy. Some writers insist that it is a separate morbid entity, others that it does not differ from other cerebral diplegias. After reviewing the present status of knowledge on the subject, Hutinel and Babonneix declare that all that can be affirmed positively to date is that in the majority of cases the main symptoms, the contracture, intellectual impairment and convulsions are of cerebral origin. There is no evidence as to a familial character: the cases reported as familial do not stand criticism as to the identity of the syndromes. The data at hand show that history of toxi-infections during pregnancy and premature birth or complicated delivery at term is the rule in the majority of cases.

Archives des Maladies du Cœur, Etc., Paris

October, IV, No. 10, pp. 609-672

46 The Heart Tracings Taken While Reclining on Left Side. (Le cardiogramme normal et pathologique pris systématiquement dans le décubitus latéral gauche d'après la méthode du Professeur Pachon.) C. Pezzi and H. Sabri.
47 Structure of the Valves in the Veins. (Structure des valvules veineuses.) R. Argand.
48 Innervation of Right Auricle. (Innervation intra-cardiaque de l'oreillette droite.) R. Argaud.

Presse Médicale, Paris

October 18, XIX, No. 83, pp. 833-840

49 *Research on Hereditary Transmission of Experimental Tuberculosis. (Etude expérimentale de l'hérédité tuberculeuse.) L. Landouzy and L. Laederich.
50 *Massage of the Heart for Chloroform Accidents. (A propos du massage du cœur dans les syncopes chloroformiques.) P. Wiart.

October 21, No. 84, pp. 841-856

51 *Anaphylaxis in the Evolution of Infectious Diseases. (De l'anaphylaxie dans l'évolution des maladies infectieuses.) P. Courmont and A. Dufourt.
52 *Treatment of Hypospadias in Children. (Hypospadias pénien chez l'enfant.) M. Ombrédanne.

49. **Transmission of Experimental Tuberculosis to Offspring.**—Landouzy and Laederich used dogs, rabbits and guinea-pigs for their experiments which demonstrated anew that tubercle bacilli can pass from the tuberculous mother to the offspring—although this evidently rarely occurs in numbers sufficient to be detected except by inoculation of animals—and that the influence of the infection in the mother is liable to induce various malformations in the young, dystrophies of various kinds, and congenital functional disturbances. They warn that while the old notion of inheritance of tuberculosis was too exclusive, yet now the pendulum has swung to the opposite extreme and the idea of exclusively acquired infection has crowded out the proper appreciation of the influence of the inherited taint, which, with syphilis and alcoholism, form the great triad of destructive forces for the individual and for the race.

50. **Massage of the Heart.**—Comparing the fifteen successful cases of resuscitation by this means after a chloroform accident with the eleven cases of only partial success shows that five minutes seems to be the usual limit for possible revival of the arrested heart action by massage. In only a very few instances was the patient resuscitated after a longer interval than this. The list of successes includes six cases published since 1909. It is important not to wait too long before resorting to massage, but it is still a question whether one is justified in opening the abdominal cavity to admit the hand if the operation was at some other point, but massage done through the diaphragm, in connection with artificial respiration, seems to give the patient the best chance for resuscitation.

51. **Anaphylaxis in Infectious Diseases.**—Courmont and Dufourt experimented with seventy-eight guinea-pigs and the serum from eight typhoid patients, the results confirming their previous statements in regard to a hypersensitization in the phase of typhoid preceding recovery. The abrupt transition from this phase of anaphylaxis, allergy or hypersensitiveness, to the phase of immunity is one of the most striking characteristics of acute infectious diseases. In a chronic infection, such as tuberculosis, the phase of anaphylaxis or allergy persists almost indefinitely, as is evidenced by the reaction to tuberculin in man and animals.

52. **Hypospadias in Children.**—Ombrédanne applies a modification of Segond's technic for treatment of exstrophy of the bladder. It is applicable as early as the age of 3, but it requires three sittings with intervals of three and two weeks. The various steps and the outcome are described in detail with illustrations.

Archiv für Kinderheilkunde, Stuttgart

LVI, Nos. 4-6, pp. 241-483. Last indexed October 14, p. 1326

53 Septic Disease in Children. (Zu den septischen Erkrankungsformen im kindlichen Alter.) A. Baginsky.
54 *Hygiene for Children's Walking Tours. (Die hygienischen Gesichtspunkte für die Veranstaltung mehrtägiger Jugendwanderungen.) H. Roeder.
55 Training to Increase the Supply of Milk in Wet-Nurses. (Zur Leistungsfähigkeit der Brustdrüse der Ammen.) J. Laurentius.
56 Familial Jaundice in New-Born Infants. (Beitrag zum habituellen Icterus gravis der Neugeborenen.) C. May.

57 Children's Hospitals with Infant Wards. (Ueber Bau und Einrichtung von Kinderkrankenhäusern mit Säuglingsabteilungen vom Standpunkt der öffentlichen Gesundheitspflege.) A. Franz.
58 Hemolytic Property of Milk. (Ueber Milchhämolyse.) B. Schmidt.
59 Research on Biology of Milk. (Untersuchungen zur Biologie der Milch mittels der anaphylaktischen Methode.) Heuner.
60 Infant Feeding. (Zur Physiologie und Pathologie der Säuglingsernährung.) A. O. Karnitzky.
61 Swelling of Glands in Axilla, Neck and Groin as Premonitory Sign of Acute Infectious Diseases. (Ueber ein prämonitorisches Zeichen für die Diagnose von acuter Infectionskrankheit.) G. de G. Giunta.
62 Diabetes in Two Infants. (Zusammenstellung zweier pathologisch-anatomisch untersuchter und ganz verschiedenartiger Fälle von Glycosurie, mit einigen daran geknüpften Bemerkungen über das Verhalten des Pankreas bei Neugeborenen.) K. A. Heiberg.
63 Vaccination Against Scarlet Fever. (Zur Frage über die Scharlachvaccination und Anginen.) G. E. Wladimiroff.

54. **Walking Tours for School-Children.**—Parties of children from 12 to 14 years old, from the crowded parts of the cities, were taken for a six-day walking tour, the girls covering an average of 9⅓ miles a day, the boys 12⅓ miles. The principal meal was taken at the close of the day. Examination of the children before and for three months afterward showed that they had gained as much in weight and health generally as is usually gained by a sojourn of several weeks at an ordinary health resort. The children profit by the considerable physical demands made on them by this exercise and the varied features of the tour, the whole stimulating the metabolism in a way unattainable by ordinary measures. Roeder says that anything less than the six-day period and the above day's march falls short of the desired effect, and more is too much of a strain. The integrity of the internal organs must be ascertained beforehand, and provision made for good food and good quarters. Under these conditions, such walking tours, he adds, may find a definite place in the treatment of certain conditions of under-nourishment, neurasthenia, anemia and chlorosis in children, but he warns that in a hilly country the length of the march must be shortened to conform to the extra exertion of climbing hills.

Archiv für klinische Chirurgie, Berlin

XCVI, No. 1, pp. 1-252. Last indexed October 14, p. 1327

64 Hour-Glass Stomach. (Diagnostische und therapeutische Erfahrungen beim Sanduhrmagen.) F. Härtel.
65 Operations on the Chest Under Insufflation of Air and Ether. (Erfahrungen in der Thorax-Chirurgie mit der intratrachealen Insufflation von Luft und Aether—Meltzer Auer. Werth dieser Methode für die allgemeine Chirurgie.) C. A. Elsberg (New York).
66 Treatment of Consequences of Bilateral Lesions of Recurrent Nerve. (Zur Behandlung von Folgezuständen doppelseitiger Recurrensschädigung.) M. Martens.
67 Operative Treatment of Arterial Aneurysm. (Beitrag zur sogen. idealen Operation der arteriellen Aneurysmen.) E. Heller.
68 *Experimental and Clinical Study of Varices on the Legs. (Varicen der unteren Extremitäten.) A. Zancani.
69 Multiple Cartilaginous Exostoses. (Zur Frage der multiplen cartilaginären Exostosis.) B. Herzfeld.
70 *Serodiagnosis of Cancer. (Ueber neuere Methoden der serologischen Krebsdiagnose.) Stammler.
71 Plastic Operations on the Hands. (Ueber plastische Operationen an den Händen.) P. Klemm.
72 *Puncture of Corpus Callosum to Relieve Pressure on the Brain; Fifty-One Cases. (Weitere Erfahrungen über den Balkenstich bei Hirnerkrankungen.) v. Bramann.
73 Technic for Abdominal Section. (Erfahrungen mit den Sprengel'schen Bauchquerschnitten und ein neuer plastischer Querschnitt auf die Niere.) J. Bakes.
74 Incision of Kidneys and Kidney Pelvis and Its Influence on Function. (Nieren- und Nierenbeckenincisionen und deren Einfluss auf das Gewebe, sowie auf die Functionsfähigkeit der Niere.) W. N. Nowikow.
75 Caustic Depilatory for Sterilization of Field of Operation. (Sterilisirung der Haut des Patienten vor einer Operation.) A. Don (Dundee, Scotland).

68. **Varicose Veins.**—Zancani discusses the structure of the normal saphenous vein and of the resected varicose veins from nineteen patients. The insufficiency of the valves is primary to the development of the varices, and treatment should aim to interrupt the column of blood extending from the right heart to the site of the varices to relieve the weight; this can be best accomplished, he says, by ligating the internal saphena at its mouth and the intercommunicating veins between the superficial and the deep venous systems of the leg.

70. **Serodiagnosis of Cancer.**—Stammler comments on the interesting fact that all the new serodiagnostic measures are based on the presence of one and the same substance, the ferment-acting body often found in malignant disease. He examined the serum from hundreds of patients with and without cancer, making comparative tests with the various technics. None proved absolutely specific for cancer but any one may sustain a wavering diagnosis. The meiostagmin reaction was found most constant and reliable; the findings were positive in 83 per cent. of 100 cancer cases and only in 14 per cent. of 140 cases of other diseases. The findings with the various tests are tabulated for comparison, twelve pages being devoted to the tables.

72. **Puncture of the Corpus Callosum to Relieve Pressure on the Brain.**—Bramann now has a record of fifty-one cases of brain disease in which he relieved the brain from pressure by puncture of the corpus callosum. (The technic was described in The Journal, Oct. 30, 1909, page 1520.) In twenty-eight cases the trouble was a tumor, in eighteen hydrocephalus, and epilepsy in three. In about half of the thirty-three cases with choked disk, it retrogressed and almost normal vision was restored. In fifteen cases there was no change and in two of these no benefit was derived even from a supplementary trephining, the trouble being a tumor at the base of the brain. No benefit was derived in two of the three cases of long chronic epilepsy. He says that puncture of the corpus callosum is a harmless procedure, according to his experience, and decompressive trephining should not be applied until after the puncture has been tried and has failed to relieve. He cites a few typical cases to show the prompt relief obtainable especially in hydrocephalus, and the permanent improvement when the brain has not been irreparably injured.

Archiv für Verdauungs-Krankheiten, Berlin

October, XVII, No. 5, pp. 511-646

76 *The First Quarter Century of Specialism in Stomach and Intestinal Disease. (Zum 25 jährigen Bestehen des Magen-Darmspezialismus. Rückblicke und Ausblicke.) I. Boas.
77 *Diagnosis of Pancreas Disease. (Zur Diagnostik der Pankreaserkrankungen.) A. Werzberg.
78 Colloidal Nitrogen in Urine in Diagnosis of Cancer. (Wert des colloidalen Stickstoffs im Urin bei der Krebsdiagnose.) M. Einhorn, M. Kahn and J. Rosenbloom (New York).
79 *Duodenal Ulcer. (Ulcus duodeni: Symptomatologie und Therapie.) M. Pewsner.
80 *Motor Insufficiency of the Stomach as Cause of Constipation. (Zur Pathogenese der Obstipation.) E. Ageron.

76. **The First Quarter Century of Specialism in Stomach and Intestinal Disease.**—When Boas founded, in 1886, his special clinic for gastro-enterology it was the first of the kind in Germany, and he reviews the ground traveled by the specialty since then. He comments on the fact that when the various specialties split off from general medicine they did not begin to blossom and bear fruit until they became more and more surgical. This has been true of gynecology, the ear, throat, bladder and kidney specialties and it is along this line, Boas thinks, that gastro-enterology promises to develop. The necessary preliminary training in internal medicine and the knowledge thereby acquired of what it is possible to accomplish with internal measures, will keep the specialist from carrying surgery too far, as he will duly appreciate the fruitful and less dangerous field of internist measures. The specialist who "weighs rather than ventures" (*das Wägen dem Wagen voranzustellen pflegt*), will have the confidence of general practitioners and of the general public which detects a tendency to one-sidedness very readily. Boas suggests permanent personal union with an abdominal surgeon as the most promising compromise for the present until the specialist himself masters expert surgical skill, the two watching over the patient constantly together at any change or aggravation, and the specialist taking an active part during operations, not merely looking on from a respectful distance but palpating and deciding with the surgeon the best mode of access, and aiding in the after-care. Too often, Boas remarks, patients succumb after laparotomies to complications which might have been avoided by specialist oversight; every abdominal operation, he declares, entails injury of vital parts and the after-care is of the utmost importance.

77. **Diagnosis of Pancreas Disease.**—Werzberg reviews all the diagnostic measures at our disposal, reporting comparative tests with them. The importance of the lipase for the diag-

nosis is still uncertain, as also that of the diastatic ferment which is secreted by the pancreas as well as by the intestinal mucosa. But the Gross-Fuld casein test may be regarded, he asserts, as specific for pancreas functioning. The technic is simple and easy and with it the general practitioner can readily test the functioning of the pancreas in every case n which there is suspicion of pancreas disease. Werzberg's tests in the clinic, with both stomach content and feces, and n dogs proved conclusively, he states, that the casein test for the presence of trypsin is a reliable index of pancreas functioning. If casein is not digested by an extract of the stools, this testifies to lack of trypsin in the stool and hence to nsufficiency on the part of the pancreas.

Werzberg dissolves 0.2 c.c. sodium bicarbonate in 200 c.c. distilled water and heats to 50 or 60 C. (122 to 140 F.) and then stirs in 0.2 c.c. casein, boils the mixture for one minute and then filters. He pours 10 c.c. of this casein solution into each of five test-tubes and adds to each in turn 1 c.c., 0.8 c.c., 0.5 c.c., 0.3 c.c. or 0.1 c.c. of an extract of the stool obtained with a 1 per thousand soda solution in a proportion of 1 to 10, filtering repeatedly until the extract is limpid. After the stool extract has been added to the casein solution in the test-tubes, he adds 0.5 c.c. chloroform, and when all has been well stirred he incubates the set of glasses at 37 C. (98.6 F.). On addition of 0.3 c.c. of a 1 per cent. solution of acetic acid to each tube the fluid remains limpid if the casein has been digested by the trypsin in the stool, while with lacking trypsin the undigested casein renders the fluid turbid.

79. **Duodenal Ulcer.**—Pewsner has had sixteen cases of duodenal ulcer in the last three years with operation in three and necropsy in one case. Duodenal ulcer was also found in eleven of 1,627 cadavers at the Moscow institute, that is, n 0.64 per cent., but the duodenum was not examined in all. He gives the details of his sixteen cases, insisting on the importance of pure air, peace of mind and toning up the general condition as factors in internal treatment of duodenal ulcer, and the necessity for impressing on the patients that the tendency to ulcer production persists afterward as before, nd that they must watch over their diet and have the stools occasionally examined for blood. In some cases the duodenal ulcer auses no distinct subjective symptoms; sometimes weakness nd pallor are the only signs of trouble. In one of his cases the nemia from the ulcer was regarded as primary and the patient was treated for years on this assumption. In two irls of 12 and 14 the anemia was ascribed to their growing o rapidly. Examination of the stools in these three cases rst revealed that the anemia was secondary. The abrupt nset of the pains, their persistence for a few hours or days nd then complete subsidence, the patient possibly feeling ntirely well in the interim, are the main features of these ulcero-duodenal attacks, which resemble tabetic crises. In ine cases there was considerable tenderness above the umbilicus toward the parasternal line. In eight cases there was nother tender point at the back, over the right twelfth dorsal nd first lumbar vertebræ. In a few cases there was a zone f tenderness corresponding to the location of the duodenum, ut the tenderness rapidly disappeared when the patient kept n bed. In one case the ulcer was not suspected, the patient, n apparently healthy woman of 27, having merely four transient attacks of pain in the course of eighteen months, three imes in connection with menstruation. The fourth attack as accompanied by fatal perforation peritonitis.

80. **Constipation from Motor Insufficiency of the Stomach.**—geron says that the Roentgen rays revealed disturbances in motor functioning of the stomach as the probable primal and hief cause of constipation in an astonishingly large propor- on of cases. He presents evidence to prove that the feces re moved along by an impulse proceeding from the stomach; ne argument for this is the desire to defecate which was experienced ten or fifteen minutes after breakfast—never efore—in a group of persons taking a test diet for several eeks. The filling of the stomach and its evacuation are vidently the factor which starts the defecation process. oarse foods to promote intestinal peristalsis should be voided until the atonic stomach can be trained to take care f them. The supply of fluids should be of a kind to stim- late bowel peristalsis and they should be given at the time hen the stomach can pass them along most readily, that is, efore retiring and before rising in the morning. During e day little fluid should be taken with or between the eals. He advises exploratory lavage of the stomach to determine whether solids or fluids are passed out of the stomach most readily in the individual case, but in the majority of cases he finds beneficial the routine ordering of a pint of milk or thin oatmeal gruel on retiring and before rising in the morning. The reclining position in bed, especially with the pelvis raised, materially facilitates the emptying of the atonic stomach. Laxatives and laxative foods aggravate gastrogenic constipation: the insufficient stomach is unable to expel them at the proper time, while their putrefaction and fermentation generate gases which distend the intestines and in turn render the bowel insufficient. The induced electric current applied to the stomach is often a valuable adjuvant, but mineral waters distending a stomach with motor insufficiency are liable to do more harm than good. It is remarkable, he adds, how the Roentgen rays confirm his views in regard to the close connection between the emptying process in the stomach and the impulse for expulsion of the bowel content at the other end of the intestinal tube. The whole procedure is seen with roentgenoscopy to form a single process, just as he had concluded from his clinical experience and theoretical premises before the rays were applied, and as has been confirmed by his success in conquering constipation due to this cause by measures addressed mainly to the stomach. He adds that the preparations of agar-agar, advocated as ballast for bowel functioning, load down the stomach and are not passed along, while buckwheat porridge (Buchweizengrütze), thoroughly cooked, with butter, answers the same purpose and is readily evacuated by the stomach, according to his experience.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXI, No. 1, pp. 1-116. Last indexed October 21, p. 1408

81 *The Three Stages of Human Tuberculosis. (Über den zyklischen Verlauf der menschlichen Tuberkulose.) K. E. Ranke.
82 *Tuberculosis and Pregnancy. (Tuberkulose und Schwangerschaft.) L. Cohn.
83 *Pneumonia with Apical Tuberculosis. (Kruppöse Pneumonie bei chronischer Spitzentuberkulose.) E. v. Czyhlarz.
84 No Pulmonary Improvement from Sanatorium Treatment of Tuberculous Stonecutters. (Heilstättenresultate bei lungentuberkulösen Steinhauern mit Bezug auf die gesetzliche Invalidenrente.) S. Gottschalk.
85 *Tuberculous Endothoracal Glands and Hilus of the Lung in Adults. (Das klinische Gesamtbild der endothorakalen Drüsen- und Lungenhilustuberkulose der Erwachsenen.) H. Philippi. (Das Blutbild und die "Blutreaktion" nach Tuberkulininjektionen bei endothorakaler Lymphdrüsentuberkulose.) E. Schulz.
86 The Air of a Pneumothorax. (Weitere Untersuchungen über Pneumothoraxluft.) F. Tobiesen.

81. **Cyclic Course of Tuberculosis.**—Ranke calls attention to the three phases of tuberculosis, corresponding to the three stages of syphilis. In the first stage the infection is rapidly generalized, the glands involved. In the second phase, infectious processes of blood-borne origin develop in bones, joints or glands, but the organism has reacted with production of antibodies which localize and tend to arrest the processes. In the third and late phase, with phthisis or lupus, there is a high degree of immunity to new infection. Tuberculosis in infants and glandular tuberculosis in children correspond to the first phase, similar to the diffuse general tuberculosis induced in animals by a first infection. In both cases the severity of the infection depends on the size of the dose of tubercle bacilli causing the infection. Both syphilis and tuberculosis thus accompany the bearer from the moment of infection to his death, often years and years after, and possibly with some other cause responsible for death finally. That the analogy between tuberculosis and syphilis has not been generally recognized before is due to the more chronic course of the former and the less striking differences between the three phases, and also to the fact that the first infection generally occurs in infancy and its manifestations have often been ascribed to other causes, and its peculiar character as a generalized glandular affection has been accepted as a characteristic of the age. But a first infection at any age starts in with this same diffuse general and glandular form. If the tuberculosis runs a very acute course the three phases may blend deceptively into each other.

82. **Tuberculosis and Pregnancy.**—Cohn states that in his fifty-eight cases during the last four years, the pregnancy

in fifty-three cases did not seem to influence the tuberculosis in a noticeable manner. The tuberculosis was of various types, quite severe in some, but the disease did not appear to be modified in any way, being apparently just the same afterward as before, even in two women who passed through three pregnancies in a little more than three years. In the five other cases the tuberculosis became aggravated a year after the childbirth in two; in two others there was aggravation of the disease after the pregnancy and still greater aggravation after a second pregnancy not long after. In the fifth case there was merely a mild transient aggravation. He was impressed, however, with the constantly unfavorable influence of lactation, and he advises against breast nursing in the interests of both mother and child, permitting it only under strict supervision, weighing the woman regularly.

83. **Pneumonia with Chronic Apical Tuberculosis.**—Czyhlarz reports forty-four cases of croupous pneumonia in patients with a chronic apical tuberculous process. The latter seems to induce a predisposition for the pneumonia and it seems to run a milder course than under other conditions.

85. **Clinical Picture of Mediastinal Glandular Tuberculosis in Adults.**—Philippi and Schulz discuss the syndrome of tuberculosis of the endothoracal glands and hilus of the lungs in adults, the rôle of the lymph glands in blood-production, and the blood reaction to injection of tuberculin with mediastinal glandular tuberculosis, tabulating the details in thirty-two cases. The main symptom of tuberculosis of the endothoracal glands or hilus of the lung seems to be a pronounced paravertebral dulness between the spine and the middle of the scapula, generally separated from the dulness over the apex by a free zone and a parasternal dulness most pronounced in the second interspace. Resonance is impaired over the corresponding dorsal vertebræ and there is increased resistance over the hilus dulness. Breathing is more or less of the bronchial type, generally impure, often with a whooping sound in hard coughing. Bronchophony is exaggerated and roentgenoscopy may give positive findings. With active processes in the endothoracal glands there is always a pronounced lymphocytosis, which can be increased by injections of tuberculin. The temperature is subfebrile and variable and the cutaneous tuberculin reaction is generally positive with a weak solution of tuberculin. There is often a tendency to recurring marginal pleuritis. In addition to these principal symptoms there may be pains in the back or chest, tenderness over the affected parts or corresponding vertebræ, paroxysmal dyspepsia, irregular heart action, functional disturbances in the vocal cords, paroxysms of coughing, occasional "stitch in the side," pallor, variable bronchitic symptoms, accentuation of the vocal fremitus, impure sounds over the large vessels, and accentuation of the second pulmonary sound corresponding to the dulness. The details of six typical cases are given to illustrate the harmony between the physical and radiographic findings.

Berliner klinische Wochenschrift

October 23, XLVIII, No. 43, pp. 1917-1960

87 *Pseudoleukemia. (Uber die Hodgkinsche Krankheit, das maligne Lymphogranulom.) K. Ziegler.
88 *Mechanical Factors in Digestion. (Ueber die Nahrungsverwertung bei atonischer Enteroptose und über den Einfluss mechanischer Momente auf die fermentative Spaltung der Nahrungsstoffe.) R. Ehrmann.
89 *Diet in Nephritis. (Materialien zur Diätetik bei Nephritis.) A. Kakowski.
90 Action of Hydrogen Dioxid on Enzymes. (Einwirkung von Wasserstoffsuperoxyd auf das enzymproduzierende Vermögen der Schleimhaut und auf die ausgeschiedenen Enzyme.) L. E. Walbum.
91 *Endonasal Removal of Hypophysis Tumors. (Ueber endonasale Operationsmethoden bei Hypophysis-Tumoren mit Bericht über 12 operierte Fälle.) O. Hirsch.
92 Technic for Biologic Tests. (Ueber weitere Versuche, Antigen-Antikörperwirkungen sichtbar zu machen.) W. Weichardt.
93 Experimental Research on Regeneration of Peripheral Nerves. (Experimenteller Beitrag zum Studium der Regeneration der peripheren Nerven.) M. Dominici.

87. **Hodgkin's Disease.**—Ziegler regards pseudoleukemia or malignant granuloma as, with the exception of tuberculosis, the most frequent and important disease of the lymphatic system. There are generally no subjective symptoms during the first, the local stage, but weakness, anemia and cachexia accompany the second phase, the generalization, and there may be an itching exanthem, with irregular fever and sometimes sweats, pains in the sacrum, abdomen and limbs an somnolency. The disease generally proves fatal in one o two years, but it may run a more acute course or drag alon for five, seven or more years. The peripheral lymph node may be exclusively involved or only the deep ones, especiall the retroperitoneal, or both systems may be affected. I some cases the spleen may be almost exclusively affecte To date it has proved impossible to transmit the disease t animals. He says that the variety of bacteria found in th lesions demonstrates their secondary character. Tuberculosi is the most frequent complication. Arsenic is the only dru that has ever displayed any efficacy, and this only in isolate cases. It should be given in comparatively large doses, kep up for months; operative treatment can be only palliative Before the glandular enlargements have reached the connective-tissue stage, roentgenotherapy has proved successful beyond all expectations in some cases.

88. **Mechanical Factors in Digestion.**—Ehrmann's chemica and clinical research has demonstrated that the muscula contractions, the kneading and pressing, in the digestive trac have a powerful influence in promoting the action of th digestive juices. Persons with strong musculature can thu get along well even with defective secretory conditions, a also persons with atony of the muscles can digest fairly wel if the digestive juices are particularly powerful. His wor emphasizes the benefit liable to be derived from massage i cases of atony, thus supplying from without, in the massage the missing mechanical factors.

89. **Tomatoes in Nephritis.**—Kakowski reports careful stud of the metabolism in five patients with nephritis, who at tomatoes freely, both raw and cooked. He was unable t detect any evidence of injury from the tomatoes, spinach or other greens in any form of acute or chronic nephritis He concludes that the traditional dread of these vegetable with kidney disease has no basis and that there is no reaso to forbid the occasional ingestion of small amounts.

91. **Endonasal Removal of Hypophysis Tumors.**—Hirsch ha performed this operation in twelve cases. In nearly ever one of the ten successful cases, the acromegaly, headache an disturbances in vision were notably improved. The endonasal method is applicable for all cases in which the sell turcica protrudes toward the sphenoidal sinus. Two of th patients did not survive the operation but the technic wa not responsible for the fatal outcome.

He opens into the sphenoidal sinus at several sittings, firs removing the middle turbinate bone, then clearing out the ethmoi bone and finally resecting the anterior wall of the sphenoid bone which exposes the sella turcica. This is chiseled off and its floo removed as far as possible. This in turn exposes the dura an when this has been cut around the hypophysis tumor becomes visible and may thus be curetted away. As this technic permits onl a small opening, and this not in the median line, he prefers no submucous resection of the septum, according to Killian's technic but carrying the resection farther back, to the rostrum of th sphenoid bone, extending it to the anterior walls of the sphenoi bone. This exposes the hypophysis tumor better than the othe technic, and it is more readily shelled out after slitting the dura An iodoform tampon is introduced between the layers of the mucos to insure drainage.

Deutsche medizinische Wochenschrift, Berlin

October 19, XXXVII, No. 42, pp. 1921-1968

94 *Constipation as Factor in Asthma. (Beziehungen der Koprostase zum Bronchialasthma.) W. Ebstein.
95 Cerebral Defects in Speech. (Ueber Aphasie und Anarthrie.) H. Gutzmann.
96 Remote Effects of Hypophysis Tumors. (Ueber Dystrophi adiposo-genitalis bei Neubildungen im Hypophysengebiet insbes. vom praktisch-chirurgischen Standpunkt.) L. Pick
97 *Inoculation with Spirochetes and Wassermann Reaction i Rabbits. (Ueber Spirochaete pallida-Kulturimpfunge nebst Bemerkungen über die Wa. R. beim Kaninchen.) H Sowade.
98 Serotherapy in Typhoid. (Behandlung von 20 Typhusfälle mit dem Typhusserum von Kraus.) H. Forssman.
99 *Modern Diagnostic Measures for Tuberculosis. (Der gegenwärtige Stand der Tuberkulosediagnostik.) O. Roepke.
100 Gangrene of Gall-Bladder from Perforation of a Gastric Ulcer (Gallenblasengangrän durch Magengeschwürperforation.) H Riese.
101 *Treatment of Rachitic Curvature of the Legs. F. Hohmeier
102 Fracture of Lesser Trochanter. (Die Fraktur des Trochante minor.) F. Bähr.
103 *Intramuscular Injections of Blood in Successful Treatment o Pernicious Anemia in a Parturient. (Fall von perniziöse Anämie im Wochenbette und seine Behandlung durch intramuskuläre Injektionen von defibriniertem Menschenblut. P. Esch.

94. **Constipation in Relation to Asthma.**—Ebstein does not uggest that asthma is always due to constipation, but tates that he has in a number of cases found that the asthma ubsided as chronic constipation was cured. In one, such atient there was an interval of nine years before the asthma eturned, accompanied by dyspepsia and constipation; as astro-intestinal functioning was restored to normal the sthma disappeared anew. In every case of asthma it is a ood plan to be sure that the digestive tract is functioning roperly as the first step in treatment. In one of the cases escribed a boy of 8 was cured of unusually severe asthma y relief of constipation.

97. See editorial in The Journal, November 18.

99. **Serodiagnosis of Tuberculosis.**—Roepke concludes from is review of the present status of differential diagnosis of uberculosis that the chronic, fluctuating course of tubercu osis does not promise instructive findings from serodiagnosis; e changes in the blood are not specific or permanent enough or this in adults. In children the cutaneous, Pirquet test reliable and instructive, harmless and simple, but is of little se for adults.

101. **Treatment of Rachitic Curvature of the Long Bones.**—ohmeier has applied with excellent results the Roepke and nzoletti technic for correction of rachitic deformity. They nmobilize the limb and the bone softens in the plaster cast; four or six weeks the cast is removed and the softened one is then readily straightened. Holmeier has applied the ethod with eminently satisfactory results in seven children about 4. For older children, osteotomy and osteoclasis are eferable, as also when roentgenoscopy shows sclerosis of the one.

103. **Transfusion of Blood in Treatment of Pernicious nemia.**—Esch reports a case of pernicious anemia developing the second half of a pregnancy, with a rapid turn for the orse after delivery which had been unusually favorable. y the seventeenth day there was fever, with only 488,000 d corpuscles, 2,700 whites and hemoglobin 22 per cent., but e internal organs seemed sound. He injected 35 c.c. of fibrinated blood taken from a woman with 70 per cent. moglobin. After three more injections in two weeks the emia rapidly subsided and the hemoglobin increased to 53 r cent. The dyspnea, nausea and vomiting were arrested the first injection, and by the end of two months the ood showed normal conditions, with 75 per cent. hemoglobin. ve injections were made in all in less than a month, the nounts ranging from 25 to 70 c.c.

Medizinische Klinik, Berlin

October 22, VII, No. 43, pp. 1645-1682

4 Psychotherapy. (Psychotherapeutische Richtungen.) J. Donath.
5 *Tabetic Virgins. (Tabische Jungfrauen.) K. Mendel and E. Tobias.
6 *Treatment of Chronic Arthritis. (Technisches zur Behandlung der chronischen Arthritiden.) E. Plate.
7 *Oxyuris Vermicularis. F. Kanngiesser.
8 Depressing Influence of Experimental Jaundice on Production of Pepsin. (Einfluss des Ikterus auf die Pepsinbildung.) A. Grube.

105. **Tabetic Virgins.**—Mendel and Tobias found fourteen married women in their total 151 female tabetics in the st ten years. Eleven of the fourteen had a history sus ions of syphilis, but three others were virgins. It was certained, however, that one or both of the parents of these ree virgins had had syphilis and tabes, so that the tabes s due to an inherited taint in each one.

106. **Treatment of Arthritis.**—Plate describes several me anical contrivances which have proved very useful in treat nt of painful and stiff joints. One is a derrick which lifts patient, chair and all, into the bath tub sunk in the floor. e water reaches to the chin and he is left in the hot bath nearly an hour. Movements of the otherwise rigid joints possible in the hot water and great benefit is derived from s exercise. Plate has also modified the devices for applying perheated air to the hand, knee and other joints. In meas ing the muscles to detect or exclude atrophy, he marks the ints so the measurements can be made at the same spot h time.

107. **Helminthiasis.**—Kanngiesser reports a case of annoying oxyuriasis which he has been able to cure although all the usual measures have been perseveringly applied. The persistence of the parasites can be explained, he thinks, only by assuming some inaccessible nest in the appendix.

Jahrbuch für Kinderheilkunde, Berlin

October, LXXIV, No. 4, pp. 367-488

109 *Importance in Infant Feeding of Proper Balance of Fat and Lime in the Intestines. (Bedingungen für das Zustandekommen fester Stühle beim Säugling.) K. Stolte.
110 The Pulse Curve in Typhoid in Children. (Ergebnisse kardiosphygmographischer Untersuchungen beim Typhus abdominalis im Kindesalter.) W. Schlieps.
111 *The Heart in Scarlet Fever. (Scharlachherz.) R. Lederer and K. Stolte.
112 Relations Between Size of Chest and Skull and the Weight in Infants. (Beziehungen zwischen Brustwachstum, Schädelwachstum und Körpergewichtszunahme bei Säuglingen.) E. Zeltner.

109. **Proper Balance of Fat and Lime the Main Essential in Infant Feeding.**—Stolte comments on the conflicting statements of various pediatrists in regard to infant feeding, some obtaining excellent results with one food mixture while others found this mixture harmful, some denouncing the very elements in the food to which others ascribe its efficiency. Looking over the entire field from a higher standpoint shows, he says, that one feature is common to all the cases in which the infants thrived, namely, that the stools became less fluid, and his research indicates that this change in the consistency of the feces is the result of soap production and absence of fermentation. The aim in feeding therefore should be to ensure soap production and avoid fermentations. From this standpoint the benefit from the most varied systems of infant feeding is easily understood; each by different routes arrives at the same goal. The essential point is the proper balance of fat and lime in the bowel to ensure soap production. If too much or too little of either is present, the desired aim is not attained. Fermentations induce production of fatty acids which irritate the intestines and interfere with saponification. These views explain the advantages of "albumin milk" as the intestinal flora with this induce putrefaction rather than fermentations. They explain further the tolerance to carbohydrates with buttermilk, which contains especially large proportions of lactic acid and albumin. They also explain how diarrhea may be arrested by albumin milk, by buttermilk, by diluted milk, or by milk and lime water. With cow's milk more lime is needed to saponify the fatty acids generated in the intestine by splitting of the fat. Stolte found it possible to check diarrhea almost unfailingly when he gave the infants lime water with the diluted milk, without carbohydrates. The more complex the structure of the carbohydrate given, the longer it takes to be broken down into its ultimate elements, and thus the less material to ferment in a given period of time, and hence the less opportunity for the fermentation producers to do their evil work. These more complex polysaccharids include dextrin, flours and malt. This difference between the various carbohydrates was instructively shown in one of his cases in which the infant had diarrhea on albumin milk and cane sugar, while the stools became formed when flour was substituted for the sugar, and the stools became actually hard when nothing but a cereal gruel was given with the albumin milk. It is possible that the property of promoting putrefaction rather than fermentation is the chief advantage of the albumin milk; infants thrive on breast milk after serious illness although breast milk is poor in albumin, showing that the protein content alone is not the essential factor.

111. **The Heart in Scarlet Fever.**—Lederer and Stolte report the details of nine cases and of experimental research undertaken to determine the factors in the modification of the heart action during and after scarlet fever. The conclusions from this material are encouraging, as the data all confirm the assumption that the disturbances are due to lack of fluids in the organism; they increased and subsided parallel to the losing and gaining in weight of the little patients; that is, with the total amount of fluids in the body. Anatomic and chemical factors are altogether subordinate to the physical.

and by removing the cause, that is, by increasing the pressure in the vascular system, it was possible to banish at will the scarlatinal phenomena on the part of the heart.

Münchener medizinische Wochenschrift

October 17, LVIII, No. 42, pp. 2201-2256

113 *Vasoneuritic Syndromes in Children. (Ueber den vasoneurotischen Symptomenkomplex bei Kindern.) F. Hamburger.
114 Size of Heart at Close of Pregnancy. (Zur Frage der Herzgrösse am Ende der Schwangerschaft.) R. Müller and R. Jaschke.
115 *Serodiagnosis of Cancer. (Zur Serodiagnostik der malignen Tumoren.) P. v. Monakow.
116 Influenza Bacilli in the Blood. (Influenza-Bakteriämie.) E. Reiss and H. A. Gins.
117 Adrenal Functioning Not Excessive in Diabetes. (Ist beim Diabetes mellitus eine Ueberfunktion der Nebennieren nachweisbar?) A. Bittorf.
118 Operative Treatment of Gastric Cancer. (Zur Radikaloperation des Magenkarzinoms.) F. Sasse.
119 Salvarsan in Relapsing Fever. (Zur Frage über Mittel der Bekämpfung des Typhus recurrens—Anwendung des Salvarsan.) T. N. Remesow.
120 *Deafness After Salvarsan. (Ueber bilaterale Ertaubung und Vestibularausschaltung nach Salvarsan.) O. Beck.
121 Prescribing of Male Fern. (Die Verordnung von Extractum Filicis Maris.) M. Henius.

113. **Vasoneurotic Symptoms in Children.**—Hamburger thinks that not enough attention has been paid to the nervous and vasomotor symptoms of children while neurasthenia in adults has been so exhaustively studied. He describes in detail such symptoms on the part of the heart and vascular system and the causal factors. The children affected are generally bright and ambitious children who take things to heart and feel that they are misunderstood or unjustly treated by teachers and parents. A fright or great disappointment or other emotion or the accumulation of minor depressing moral influences is liable to bring on the vasoneurotic syndrome. Eye, ear and organic heart disease as well as nephritis must be excluded before diagnosing the vasomotor origin of the headache. With vertigo and syncope, anemia, epilepsy and cardiac defects must be excluded. The prognosis is good if the cause can be removed and here, besides general hygiene, the main point is for the physician to win the trust of the child.

115. **Serodiagnosis of Cancer.**—Monakow has been making comparative tests with the various technics for serodiagnosis of cancer but was unable to obtain reliable results with any except the meiostagmin test. The serum from one-fifth of all the cancer cases showed a destructive action on cancer cells while this destructive action was lacking in the serum from one-fourth of all the controls.

120. **Deafness After Salvarsan.**—Beck reviews the various cases that have been published of disturbances in the auditory and vestibular nerves after the use of salvarsan in syphilis, discussing them from the standpoint of the ear specialist. He knows of only three cases of bilateral deafness and blocking of the vestibular apparatus in syphilis untreated with salvarsan, and these three cases have already been commented on in the literature (Frey and Kownatzky). In his own experience he has had two cases after salvarsan, one of which has been already published by Mucha. The other is reported in detail. This patient was a man of 28, healthy except for recent mild syphilis. He was given an intravenous injection April 17, and six weeks later he became totally deaf in the left ear after two days of subjective noises, and two days later the right ear also became totally deaf, with blocking of the vestibular apparatus, although no symptoms of labyrinth trouble were apparent. Mercurial treatment was begun eight days after the onset of the deafness, four days after it had become total, and the elimination of toxins was promoted by injections of pilocarpin, but there had been no improvement in hearing to date. Beck suggests that it might be wise when giving salvarsan to follow it with pilocarpin to promote elimination of the arsenic after it has accomplished its purpose. Iodin and sweat baths might also prove useful. The patient said he had never had any ear trouble. The previous condition of the ears was not known in either of Beck's two cases.

Therapeutische Monatshefte, Berlin

October, XXV, No. 10, pp. 581-644

122 *Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. (Behandlung der Lungentuberkulose mit künstlichem Pneumothorax.) A. Cahn.
123 *Camphorated Oil in Pulmonary Tuberculosis. (Kampferb handlung der Phthisiker.) Volland.
124 Device to Keep Nostrils Open for Mouth Breathers. (Noc etwas gegen die behinderte Nasenatmung.) Volland.
125 Salvarsan in Malaria. (Heilung der Malaria quartana dure Salvarsan.) J. Reich.
126 Elimination of Arsenic After Injection of Salvarsan. (Aus scheidung des Arsens nach der intramuskulären Injektio des Dioxydiamidoarsenobenzols.) K. Muto and Y. Sanno.
127 *Chronic Poisoning from Hair Dye. (Chronische Vergiftun durch ein Paraphenylendiamin-Haarfärbemittel.) J. Damianos.
128 Salt Content of Sea Air. (Salzgehalt der Seeluft.) W Heubner.
129 *Test for Carbon Monoxid in the Blood. (Nachweis des Kohlen oxyds im Blute mittels Schwefelammonium und Wasserstoff superoxyd.) T. Lochte.

122. **Experiences with Induced Pneumothorax.**—Cahn ha modified the technic for inducing therapeutic pneumothora and reviews his experiences with this means for inducing compression of the lung. The results are excellent and permanen in about a third of all the cases and are fairly good in a fe more cases. In about a fifth of all the cases, however, som complicating pleurisy or empyema of the lung conflicts wit the desired outcome. Resection of ribs should be restricte to the rare cases of extreme shriveling of one lung with tota adhesion of the pleura.

123. **Camphor in Tuberculosis.**—Volland advocated five year ago the occasional subcutaneous injection of 10 per cent. camphorated oil (Kampferöl) and his experience since has prove anew, he says, the benefit to be derived therefrom in pulmonary tuberculosis. He has injected as much as 24 or 3 gm. in twenty-four hours in cases of severe hemoptysis.

127. **Poisoning from Hair Dye.**—The symptoms in the ca reported were like those of chronic anilin poisoning. The hai dye contained paraphenylendiamin, the use of which is prohibited in Germany, Austria and France. There is no restriction on its sale in Greece and the patient had been using i there about once a week since 1898. The chronic nervou exhaustion, dread, weakness, vertigo, photophobia and recu ring clonic spasms finally became so severe that the woma was confined to a dark room. Damianos had her head washe repeatedly to get rid of the dye and gave her hexamethylenamin for three weeks and large doses of bromids fo three months, by which time the patient was able to sit u and bear the light. Improvement continued, with no furthe attacks, but there is still a marked tendency to depressio The special features of the case were the photophobia, spas of the lids and epileptiform seizures resembling Jacksonia epilepsy.

129. **Test for Carbon Monoxid in Blood.**—Lochte states tha the fluid turns olive green when to 1 drop of normal bloo in 10 c.c. of water are added 10 drops of ammonium sulphat The fluid retains its cherry red tint if the blood in questio is saturated with carbon monoxid; the fluids are limpid an the spectrum can be readily determined, the spectrum fo carbon monoxid appearing at the same time as that f methemoglobin sulphate. Under a layer of paraffin the sol tions keep for a long time unmodified.

Therapie der Gegenwart, Berlin

October, LII, No. 10, pp. 433-480

130 Flexible Gastroscope. (Ein biegsames Gastroskop.) M. Sas mann.
131 *Salvarsan in Syphilitic Cardiovascular Disease. (Salvarsan behandlung syphilitischer Herz- und Gefässerkrankungen. W. Weintraud.
132 Grape Sugar in Severe Diabetes. (Verwertung reinen Trau benzuckers bei schweren Diabetikern.) G. Klemperer.
133 Cosmetic Radiotherapy. (Das Licht in der Kosmetik.) Kromayer.

131. **Salvarsan in Syphilis of Heart or Vessels.**—Weintrau gives in tabulated form the details of thirty-eight cases syphilitic cardiovascular disease in which he gave salvarsa Ehrlich has warned against administering salvarsan when th heart or vessels are below par for any reason, but Weintrau has never had any mishaps from this. The youngest patie in whom the syphilitic aortitis was diagnosed was 30 yea old, and the intervals since infection ranged from three forty years. All have been in comparative good health sin the injections of salvarsan, except one who has died recentl from cerebral hemorrhage.

Wiener klinische Wochenschrift, Vienna

October 19, XXIV, No. 42, pp. 1455-1486

Multiple Pseudofibromatosis in Dermatitis of the Hands and Feet with Atrophy. (Die multiple Pseudofibromatose im Zustandsbild der Akrodermatitis atrophicans.) G. Nobl.
*Syphilis of the Kidney. (Die klinisch-serologische Diagnose der luetischen Nierenerkrankungen.) R. Bauer.
Superficial Vascular Neuroses. (Ueber Neurosen der Hautge-fässe.) L. Hess and H. Königstein.
Destructive Action of Radium Emanations on the Eggs of Crabs and Salamanders. (Wirkung der Radiumemanation auf Eier niederer Tiere.) R. Bauer.

35. **Syphilitic Kidney Disease.**—Bauer reports three cases this comparatively rare affection. The discovery of isolated yloid disease of the kidneys, for which no other explanation be found, suggests a syphilitic origin. The Wassermann ction in the serum was pronounced in his three cases, as in the urine. These positive reactions do not indicate, vever, whether the kidney trouble is due to the direct il action of spirochetes or to the action of toxins alone. his first two cases mercurial treatment cured the patients ept for persisting slight albuminuria during the year or since. The third patient was practically moribund when t seen. He had had scarlet fever and diphtheria in youth acquired syphilis at 24, causing slight symptoms. Six rs afterward there was recurring diarrhea and after twelve nths' edema, ascites and anasarca developed and to such an ent that the patient, a man of 31, was completely bedridden died two months after entering the hospital; necropsy ealed extensive changes in heart, lungs and liver. The king features in all the cases were the albuminuria up to and 25 per 1,000, with scanty sediment and comparatively fuse output of urine, and the absence of changes in the rt or blood-pressure, and of symptoms suggesting uremia.

Zeitschrift für Urologie, Berlin

October, V, No. 10, pp. 801-880

*Diastase Content of Urine as Test of Kidney Functioning. (Experimentelle Beiträge zur Prüfung der Nierenfunktion.) J. Wohlgemuth.
*Intravesical Removal of Tumors of the Bladder. (Meine Methode der intravesikalen Operation der Blasentumoren.) V. Blum.
Variations in the Anatomy of the Ureter Mouths and Trigonum. (Portio intramuralis der Ureteren und Trigonum vesicae. Die Varianten der Formen derselben.) W. N. Schewkunenko.

38. **Diastase Content of Urine as Test of Kidney Function-**—Wohlgemuth states that as the elimination of salt, ar and dyes is reduced in the morbid kidney, so the dias-c ferment is eliminated in lesser proportions. Tests for amount of diastase in the urine thus throw light on ney functioning. The technic for the test is merely addi-of 1 drop of normal 1/10 solution of iodin to each of test-tubes containing progressively increasing amounts of urine, to each tube having been previously added the same ount of a 1 per cent. solution of starch. The iodin stains undigested starch blue, while in the tubes in which the on of a diastase is apparent the tint is yellow or orange. gives the exact technic for a little more complicated test ch requires twenty-four hours, and also for the rapid hod, complete in half an hour, which is accurate enough all practical purposes. Experiments on dogs and clinical riences in forty cases have confirmed the importance of diastatic ferment in the urine from each kidney separately an index of the functioning of the kidney involved, the ings being positive in some cases in which the indigo-nin test gave misleading findings, as was discovered at the ration. The tube showing the transition of tint from ge to purple is the one from which the index is computed.

39. **Intravesical Removal of Bladder Tumors.**—Blum reports -two operations of this kind with his flexible instrument states that all were successful except in one instance in ch threatening hemorrhage compelled a supplementary sion of the bladder.

Zentralblatt für Chirurgie, Leipsic

October 21, XXXVIII, No. 42, pp. 1401-1424

Care of Stumps After Resection of Stomach. (Zur Stumpf-versorgung nach Magenresektion.) F. P. Reichel. (Zur Behandlung des Duodenalstumpfes bei der Resektionsmethode Billroth II.) K. Schwarz.
142 Speculum for Inspecting Interior of Abdomen. (Beitrag zur Anwendung des röhrenförmigen Spekulums bei Laparatomien.) G. Nyström.

Zentralblatt für Gynäkologie, Leipsic

October 21, XXXV, No. 42, pp. 1453-1480

143 Individual Ampullas with Silver Nitrate for the Eyes of the New-Born. (Weitere Erfahrungen mit meiner Methode der Credéisierung.) H. Hellendall.
144 *Difficulty of Artificial Sterilization of Women. (Zur Schwierigkeit der künstlichen Sterilisation der Frau.) W. Falgowski.

144. **Artificial Sterilization of Women.**—Falgowski declares that the only effectual way to prevent further conception is to suture between the layers of the ligaments the stumps left by excision of the Fallopian tubes. In a gonorrheal case in which he excised the tubes and sutured the remaining ovary in the pouch of Douglas, a fistula developed between the uterus and the abdominal cavity and the woman has been pregnant twice since, although aborting both times.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 12, XXXII, No. 123, pp. 1299-1306

145 Biologic Forensic Tests of the Blood. (Sui veri criteri che governano la prova biologica per la differenziazione della specie del sangue.) G. Sulli.

October 15, No. 124, pp. 1307-1322

146 The Supply of Iron in the Liver at Birth. (Sulla distribuzione del ferro nel fegato dei bambini.) A. Filia.

October 22, No. 127, pp. 1339-1354

147 *Basophil Granules in Red Corpuscles Constant in Lead Poisoning. (Sul valore semejologico delle emazie granulari dei lavoratori del piombo.) G. Collina.

147. **Granulated Red Corpuscles in the Blood in Lead Poisoning.**—Collina found basophil granules in the reds only in 16.66 per cent. of a number of persons who had nothing to do with lead, while they were a constant finding in every one of the persons examined who had been working with lead paints for over five years, and in 87.5 per cent. of those employed at this trade for less than five years. None in either group displayed any other signs of the lead poisoning except one man who had recently had a chronic gastro-enteritis for two years which had then subsided, but the granules were most frequent and numerous in those working the longest with lead. China painting was the trade of most of these patients.

Policlinico, Rome

October, XVIII, Surgical Section No. 10, pp. 433-480

148 Woody Phlegmon of the Neck. (Contributo all'etiologia del flemmone ligneo del collo.) F. Piccininni.
149 Shape and Location of Arch of Subclavian Artery. (L'arco dell'arteria succlavia.) R. Casali.

Riforma Medica, Naples

October 16, XXVII, No. 42, pp. 1149-1176

150 Negative Fixation of Complement Test in Pellagra. (Alcune esperienze sulla fissazione del complemento nei pellagrosi.) A. Lui and M. Baccelli.
151 *Tuberculosis of the Parotid Gland. (Contributo allo studio della tuberculosi della ghiandola parotide.) L. Fioravanti.

151. **Tuberculosis of the Parotid Gland.**—Fioravanti has recently encountered a case of this kind but could find only thirteen similar ones on record. The patients were nearly all adults and the lesion generally developed as a primary and isolated affection in otherwise healthy individuals. The lesion may be single or with multiple foci, and may be closed or may ulcerate. Treatment can be only surgical, and the isolated lesion is readily removed and the patients are thus completely cured. There are no special symptoms from it. The oldest patients were in the sixties and the youngest a child of 3. The left gland is the one generally involved. Fioravanti's patient was a woman of 34 and transient relief was obtained by incision of the small tumor. After six months it began to increase in size until it was as large as a hen's egg, with a broad base and immovable, when it was removed.

Hospitalstidende, Copenhagen

September 20, LIV, No. 38, pp. 1065-1096

152 Ophthalmoscopic Changes with Otogenic Intracranial Disease. (Om oftalmoskopiske Forandringer ved intrakranielle Lidelser af otogen Natur.) S. Schou. Commenced in No. 37.

September 27, No. 39, pp. 1097-1128

153 *Congenital Spastic Paralysis. (Om Behandlingen af Morbus Little.) H. Scheuermann. Commenced in No. 38.

October 4, No. 40, pp. 1129-1160

154 *Therapeutic Electric Generation of Nascent Iodin. (Metode til terapeutisk Anvendelse af Jod in statu nascendi i Vævene.) A. Reyn.

155 Gastroptosis and Gastropexy. II. L. Kraft.

October 11, No. 41, pp. 1161-1184

156 Bennett's Fracture. V. Meisen.

157 Position of Normal Stomach. (Röntgenundersøgelsen af den normale Ventrikels Leje.) P. K. Faber.

158 Glaucoma as Consequence of Dislocation of the Lens. (Bemærkninger vedrørende Patogenesen af Glaucom som Folge af Linseluxation til forreste Kammer.) C. F. Heerfordt.

153. **Congenital Spastic Paralysis.**—Scheuermann devotes nine pages to tabulation of the details of twenty-five cases of Little's disease, with one of spastic paralysis consecutive to encephalitis and one with hydrocephalus, in all of which it was sought to remedy the condition by multiple operations on tendons and muscles. Recent reexamination has shown constant improvement in twenty-three cases, while no benefit from the operation was perceptible in two of the patients, and two succumbed in collapse a few hours after the operation. The paralysis was extremely severe in one of the unbenefited cases, and rhizotomy was proposed but was refused by the parents. The cerebral diplegia was only mild or moderately severe in the other cases.

154. See Abstract 73, in The Journal, November 18, p. 1729.

Nordiskt Medicinskt Arkiv, Stockholm

XLIV, Internal Medicine No. 1. Last indexed October 28, p. 1500

159 Experiences with the New Drugs in Treatment of Syphilis: None Dethrones Mercury. (Einige Versuche zur Behandlung der Syphilis mit Asurol, Atoxylquecksilber—intramuskulärer und subkutaner—Injektion von Ehrlich's "606" sowie mit Hectine und Hectargyre.) E. Welander.

160 *Albuminuria in Athletes. (Die Anstrengungsalbuminurie. Eine Studie über die Einwirkung maximaler Körperanstrengungen—des Sports und des Trainings—auf die Nieren.) I. Jundell and K. A. E. Fries. Continued.

160. **The Kidneys After Excessive Physical Exertion.**—Jundell and Fries examined 163 athletes after sports of various kinds, 265 times in all, examining 647 specimens of urine, making nine different tests. They compare their findings with similar ones on record, their general conclusion being that sports and athletic training, notwithstanding the apparently serious changes in the urine liable to be encountered, are entirely harmless in the long run for the kidneys. The urine may show albumin and tube-casts over and over again after this excessive physical exertion, for years and decades, but the kidneys are not damaged thereby and are not more predisposed to disease than under other conditions. The changes in the urine after severe exercise resemble closely those of nephritis, except that they gradually subside in the course of a few hours.

Ugeskrift for Læger, Copenhagen

October 19, LXXIII, No. 42, pp. 1533-1578

161 *Motor Insufficiency of the Stomach with Intestinal Disease. (Forsinket Ventrikeltømning ved Tarmlidelser.) A. Borgbjærg.

161. **Motor Insufficiency of the Stomach with Intestinal Disease.**—Borgbjærg discusses the literature on this subject and reports nine cases in which the motor functioning of the stomach was below par, explained by some intestinal trouble and subsiding as the latter was cured. The atony of the stomach was secondary to tapeworm in his first patient, a young woman, but there was no gastric insufficiency in another case of tapeworm. The motor insufficiency in another case was secondary to calcification of a bunch of glands in the mesentery, and gastro-intestinal functioning was restored to normal after resection of the part of the small intestine involved. In two other cases the gastric atony was likewise of reflex origin, due to chronic appendicitis and subsiding after appendectomy. The symptoms resulting from the atony were so pronounced that a gastric ulcer was assumed but no benefit was derived from a course of treatment on this basis. In two other cases the impairment in motor functioning was evidently secondary to a tumor in the cecum—cancerous in one—and normal conditions were restored after its excision. In another case the reflex atony apparently subsided after resection of a tumor which proved to be of tuberculous origin. In four other cases of chronic appendicitis and four of cancer of the large intestine, the motor functioning of the stomach was apparently normal.

Books Received

Books received are acknowledged in this column and s acknowledgment must be regarded as a sufficient return for courtesy of the sender. Selections will be made for review in interests of our readers and as space permits.

Text-Book of Embryology. By Frederick Randolph Bai A.M., M.D., Formerly Adjunct Professor of Histology and Em ology, College of Physicians and Surgeons (Medical Department Columbia University), and Adam Marion Miller, A.M., Instructo Anatomy, College of Physicians and Surgeons (Medical Departm of Columbia University). Second Edition. Cloth. Price, $4.50 Pp. 672, with 515 illustrations. New York: William Wood & 1911.

Audel's Answers on Automobiles for Owners, Operat Repairmen. Relating to the parts, operation, care, managem road driving, carbureters, wiring, timing, ignition, motor troub lubrication, tires, etc., including chapters on the storage batt electric vehicles, motorcycles, overhauling the car, etc. By Gid Harris and Associates. Cloth. Price, $1.50. Pp. 476, with illustrations. New York: Theo. Audel & Co., 1912.

Tuberculous Diseases of Bones and Joints. Their Pathol Symptoms and Treatment. By Sir W. Watson Cheyne, Bart., C F.R.C.S., F.R.S., Professor of Clinical Surgery at King's Coll Hospital. Second Edition. Cloth. Price, $5.50. Pp. 404, with illustrations. New York: Oxford University Press, 1911.

Die Harnsteine: Ihre Physiographie und Pathogenese. Dr. Otto Kleinschmidt, Volontär-Assistenten der Chirurgisc Universitäts-Klinik zu Königsberg i. Pr. Mit einem Vorwort von Aschoff, Freiburg i. Br. Paper. Price, 20 marks. Pp. 88, w illustrations. Berlin: Julius Springer, 1911.

Diseases of the Stomach. A Text-Book for Practitioners Students. By Max Einhorn, M.D., Professor of Clinical Medicin the New York Post-Graduate Medical School and Hospital. Fi Edition. Cloth. Price, $3.50 net. Pp. 531, with 112 illustratio New York: William Wood & Co., 1911.

Der vestibuläre Nystagmus und seine Bedeutung für neurologische und psychiatrische Diagnostik. Von Dr. Rosenfeld, Oberarzt der Psychiatrischen und Nervenklinik zu Str burg i. E. Paper. Price, 2.40 marks. Pp. 57. Berlin: Jul Springer, 1911.

Grundriss der hämatologischen Diagnostik und praktisc Blutuntersuchung. Ein Leitfaden für Anfänger, Studierende praktische Aerzte. Von A. Pappenheim. Paper. Price, 12 ma Pp. 262, with 8 illustrations. Leipzig: Dr. Werner Klinkha 1911.

A Text-Book of Materia Medica for Nurses. Including Th peutics and Toxicology. By George P. Paul, M.D., Town Hea Officer, Round Lake, New York. Second Edition. Cloth. Pr $1.50 net. Pp. 282. Philadelphia: W. B. Saunders Co., 1911.

Minor and Emergency Surgery. By Walter T. Dannreut M.D., Surgeon to St. Elizabeth's Hospital and to St. Bartholom Clinic, New York. Cloth. Price, $1.25 net. Pp. 226, with 32 il trations. Philadelphia: W. B. Saunders Co., 1911.

Die Registrierung des Herzchalles. Graphische Studien Dr. Heinrich Gerhartz, Assistent der Kgl. Universitäts-Poliklinik innere Kranke zu Berlin. Paper. Price, 8 marks. Pp. 158, w 195 illustrations. Berlin: Julius Springer, 1911.

Forty-Third Annual Report of the Secretary of State the Registration of Births and Deaths, Marriages and Divor in Michigan for the Year 1909. Frederick C. Martindale, Se tary of State. Cloth. Pp. 169. 1911.

A Manual of Fevers. By Claude Buchanan Ker, M.D., F.R.C Medical Superintendent, City Hospital, Edinburgh. Cloth. Pr $2.50. Pp. 314, with illustrations. New York: Oxford Univer Press, 1911.

Transactions of the Medical Association of the State Alabama (the State Board of Health). Organized 1874—Meet of 1911. Montgomery, April 18-21. Cloth. Pp. 630.

Report of the Christian Hospital and Training School Nurses. Paper. Pp. 20, with illustrations. 106 East Jeffe Street, Valparaiso, Ind.

La Fayette Home Hospital and Training School for Nur Biennial Statement, 1908-1909. Paper. Pp. 24, with illustrati La Fayette, Ind., 1911.

Biennial Report of the Superintendent of the Florida H pital for the Insane. For the Years 1909-1910. Paper. Pp. Tallahassee, Fla.

Report of the Board of Charities of the District of Col bia, 1910. Paper. Pp. 392. Washington: Government Prin Office, 1911.

Report of Missouri Baptist Sanitarium, 1911-1912. Paper. 45, with illustrations. 919 North Taylor Avenue, St. Louis.

Annual Report of St. Mary's General Hospital, Lewist Me., 1910. Paper. Pp. 75.

Annual Report of the Brockton Hospital Company. For Year 1910. Paper. Pp. 80.

Annual Report of Mercy Hospital, Cadillac, Mich. Pa Pp. 49. 1911.

Report of Reid Memorial Hospital, Richmond, Ind. Pa Pp. 31.

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NEWER METHODS FOR FURTHER INCREASING THE SAFETY OF SURGICAL OPERATIONS *

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For purposes of this paper, I shall divide surgical perations into two general classes: first, operations erformed on patients in fair general health; second, njury or disease. Belonging to the first class are: aparotomies for benign tumors of the uterus and ovaies, simple gastro-enterostomies, appendectomies, unperations on patients whose vitality is impaired by omplicated operations on the gall-bladder, the kidneys nd the urinary bladder, uncomplicated herniotomies, xcision of cancer of the breast, excision of benign umors of the thyroid and simple goiters; in these the perative mortality has all but disappeared. Among 0,723 surgical operations performed by me, 4,127 beonged to this class; among these there was one death in 75 operations. There is but little advantage, therefore, n any discussion of this group of cases so far as the mmediate risk is concerned; but while the immediate isk is slight. these operations still bear a certain stigma, iz., a temporary nervous impairment following the peration. Indeed, it is an unpleasant surprise to realize o what extent the public has come to expect that it will equire a number of months for complete nervous recovery from the effects of even a simple operation. This, however, does not apply to all types of patients, for there is a vast difference between the woman accustomed to hardships, who, for example, returns to the factory several weeks after delivery, and the woman weakened by protection, whose nervous reactions have been heightened by training and education, and who may require a year or more for her recovery from an operation or a confinement.

Bluntly, and too frequently, has surgery said in effect to these women: "I have successfully performed your operation; if you have allowed yourself to think it an ordeal and your nerves have become shaken, it is because you are a neurasthenic and I leave you to make the best of it."

I shall, I hope, later show that there is a physical basis for such disability, that the surgeon is responsible for it, and that these evil consequences may be almost wholly avoided. While the sturdy patient will get on quite well under present methods, she, too, will appreciate a mitigation of the harshness of surgery.

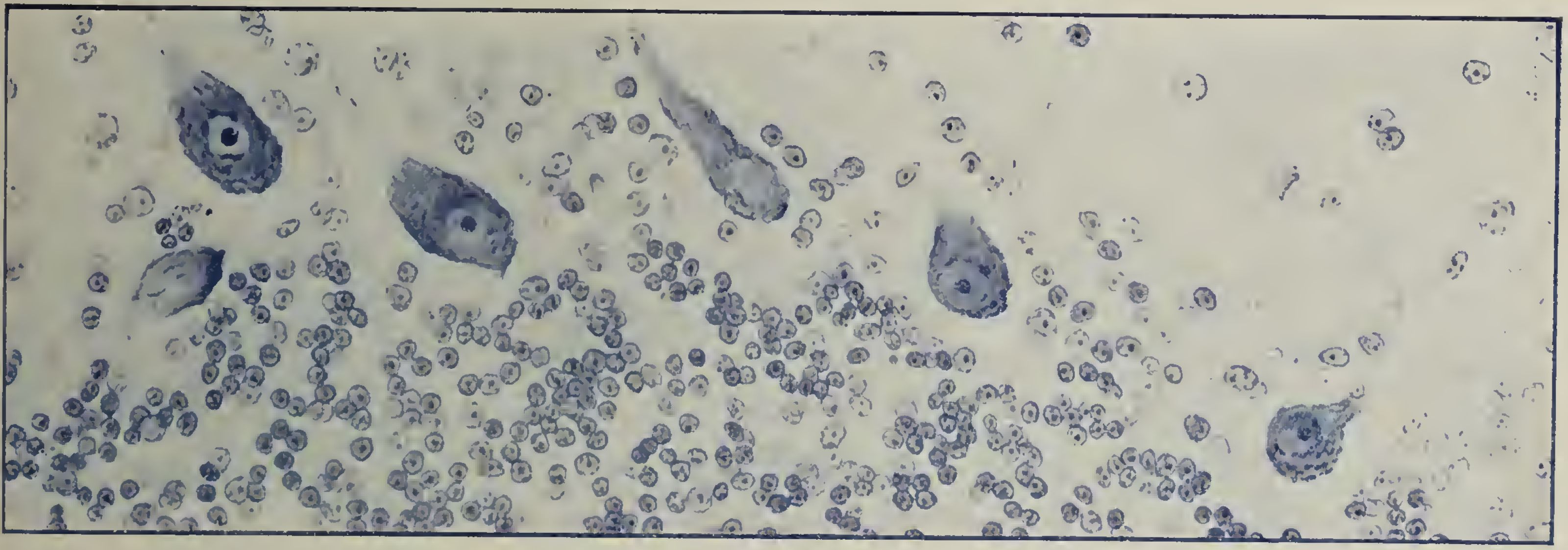

Fig. 1.—Area from cerebellum. Fracture of the skull. The differential Purkinje cell-count showed: active cells, 53 per cent.; fatigued cells, 40 per cent.; exhausted cells, 7 per cent. The patient, a young man, died three hours and twenty-five minutes after receiving his injury. Compare the physical condition of the brain cells in this case of comparatively sudden death in a normal subject with the brain cells of the case of exophthalmic goiter, acute septicemia and that of extensive cancer. From an area like the one portrayed it would be thought the cerebellum was in good condition, but this is disproved by the actual findings in 100 cells.

We turn now to the handicapped patient—the patient whose surgical chances are impaired by acute infections or by hemorrhages, by fractures of the skull and by penetrating gunshot wounds, by acute intestinal obstructions, by stab wounds, by the numerous industrial accidents, by perforative peritonitis—and we turn to the long list of the dangerously ill or dying that are daily brought to the hospital, for it is from these that the lists of mortality in the general hospitals in the city are mainly recruited. These impaired surgical risks resemble each other in one important particular: that is, they all exhibit an impairment of their vitality. Has this impairment a

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* Chairman's address before the Section on Surgery of the merican Medical Association, at the Sixty-Second Annual Session, eld at Los Angeles, June, 1911.

physical basis? We believe that there is as truly a physical basis as there is a physical basis for nephritis or for a fracture. Now the source of the vital force is the cells of the central nervous system, and it is here that we must search for physical changes which are responsible for the decrease in the vital force. Space will permit only of a summary of an extensive research by my former associate, Dr. D. H. Dolly, my present associates, Drs. H. G. Sloan, J. B. Austin, M. L. Menten, and myself, and the clinical researches by my associate, Dr. W. E. Lower. We investigated the alterations in the brain-cells in fatigue, in anemia from hemorrhage, in physical injury, in pyogenic infection, in certain drug poisons, in the primitive emotions and in exophthalmic goiter. As this work has been in part published and an extended publication of the remainder is now under way, I will introduce some typical pictures from a mass of material which will illustrate the changes in the nerve cells in the foregoing types of impairment of the vital force, and hence an impairment of the surgical risk. The alteration in the distribution and the quantity of the Nissl substance, the change in the size relation of the nucleus and the cell body, the rupture of the membrane covering the cell and the nucleus, and the change in the gross size of the cell, all point to physical changes as the cause of the functional impairment. It matters not whether the substance within the cell that produces nervous energy is used up by excessive activity, or whether there is failure to replace the amount used up on account of hemorrhage or starvation, whether the nerve power generating substance is destroyed by a toxin or a poison, the physical changes in the cell are always seen and are apparently proportional to the extent of the loss of vital force. In a painstaking study of the cells of a large number of normal controls, no similar changes were found.

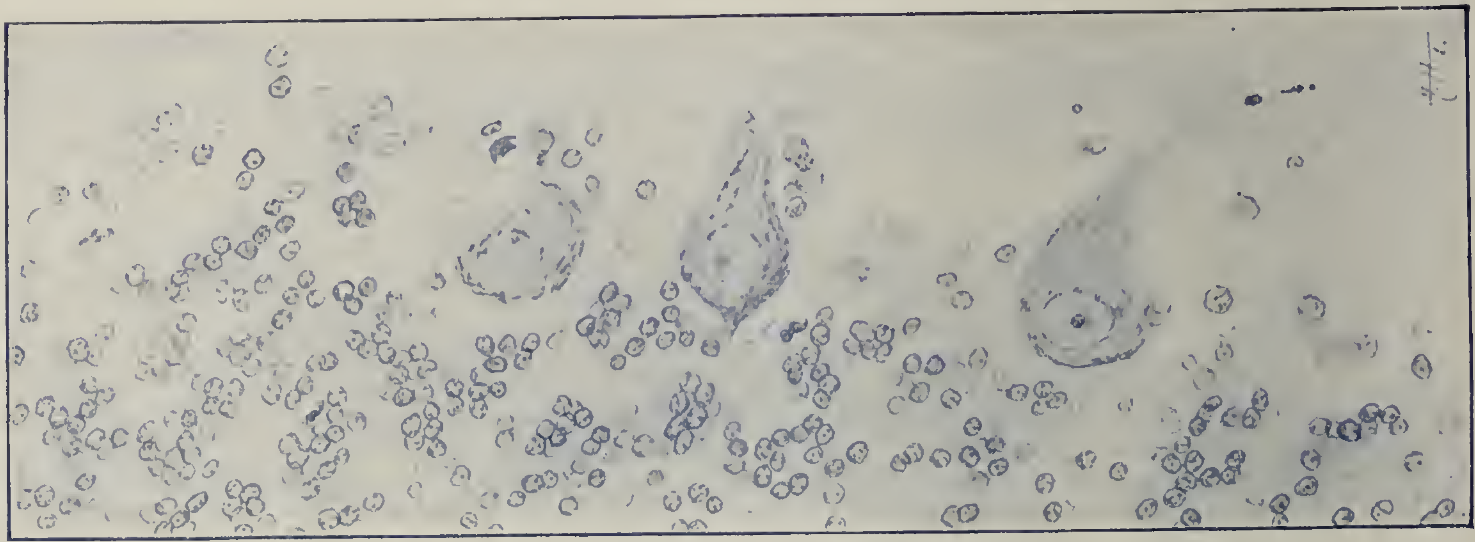

Fig. 2.—Area from cerebellum. Exophthalmic goiter. The average differential Purkinje cell-count from five cases (of which this was one) was: active cells, 34.2 per cent.; fatigued cells, 37.6 per cent.; exhausted cells, 28.2 per cent. The figures represent the typical appearance of the Purkinje cells in all of these cases.

Now, no one more than the operating surgeon is aware of the fact that severe infections, hemorrhages, exhaustion from physical exertion, exophthalmic goiter, surgical shock, and overwhelming emotions, are the common predisposing causes of surgical deaths. In every one of these states there is impairment of the vitality of the patient. An operation that would present virtually no risk in the uncomplicated case may readily prove fatal in any one of these handicapped cases; for example, the amputation of a leg mangled by a crushing accident as compared with the amputation of a leg for tumor; operation in diffuse peritonitis as compared with interval appendix; operation in the presence of overwhelming fear and worry as compared with tranquillity; laparotomy in a patient exsanguinated as compared with a similar operation with normal blood-volume; an explosive half-dying case of exophthalmic goiter as compared with a quiet colloid goiter. What then are the factors in the technic of a surgical operation that may further impair the brain cells and thus be the last straw? The leading factors are fear, traumatic impulses set up in the course of the operation, and the impairment of the immunity of the patient by *ether* anesthesia. In a close risk in cases of acute infection, the impairment in the immunity by *ether* without any operative procedure might easily dispatch the patient. Common experience has taught all of us, and our researches have shown that fear alone may cause grave physical injury, even death. In practical surgery our problem is this: Can we exclude fear? Is there an innocuous substitute for ether anesthesia, and can we prevent the nerve impulses set up by the cutting and handling of tissue from reaching the brain? And finally, when the nerve impulses cannot be blocked, can we prevent the stimulated brain cells from using up their highly dischargeable substance?

First.—The ravages of fear can be avoided by a combination of special consideration on the part of the nursing and the operating staffs, and by the preliminary administration in suitable cases of small doses of morphin and scopolamin. Fear is stronger than the will, hence it must be controlled by the assistance of influences outside of the body. Requiring a patient unprotected to stare death in the face at the time of the operation is like inspecting a photographic film in the sunlight and expecting to find it useful afterward; under morphin and scopolamin one is neither brave nor cowardly, but in a neutral state because these drugs depress the associational power of the brain.

Second.—In external operations, the damaging nerve impulses may be blocked and the brain protected by the local or intraneural infiltration of novocain.

Third.—The damaging reduction of the immunity in the acute infections may be avoided by the substitution of the *innocuous* nitrous oxid for *nocuous* ether.

Fourth.—In the operations, such as abdominal, in which the damaging nerve impulses in the deeper parts cannot be blocked by local anesthesia, nitrous oxid anesthesia, as compared with ether anesthesia, confers a high degree of immunity to shock. Under nitrous oxid a patient will endure approximately four times the amount of operative trauma as under ether, and in addition the patient will go to sleep pleasantly instead of under tress; there will be little or no postoperative nausea uch as follows the use of ether; there will be an immedi-te complete awakening from anesthesia instead of ether ntoxication. In what manner does nitrous oxid protect he brain cells more than ether? It must be remembered hat nitrous oxid produces anesthesia by the prevention f the use of oxygen by the brain cells—an anoxemia f the brain cells. Now, the chemical response of the rain cells is, of course, only possible in the presence of xygen; therefore, in nitrous oxid anesthesia there being large reduction in the amount of oxygen available he highly dischargeable substance of the brain cells s prevented from being so rapidly used up for want of xygen. It is like turning on the fire extinguisher before he torch is applied. Nitrous oxid has several limitations: t is difficult to administer well; it requires a specially rained anesthetist; it is more expensive than ether; it oes not give so complete a relaxation in abdominal perations as ether; there is more venous congestion in he operative field. All these shortcomings may be either vercome or circumvented. The surgeon can readily dapt himself to its use in operating, as I have found y using it in over 2,400 operations; it compels gentle-ess and precision, surely not surgical faults. In over .400 administrations in general surgery in my own xperience, and in 17,762 in the experience of Dr. Teter or dental and surgical work, making over 20,000 in all, there was no anesthetic fatality. All these were administered by the Teter apparatus. We have thus far considered the conservation of energy in the course of operation; is there any means of restoring, in part, lost vitality sufficiently to reclaim certain otherwise hopeless risks?

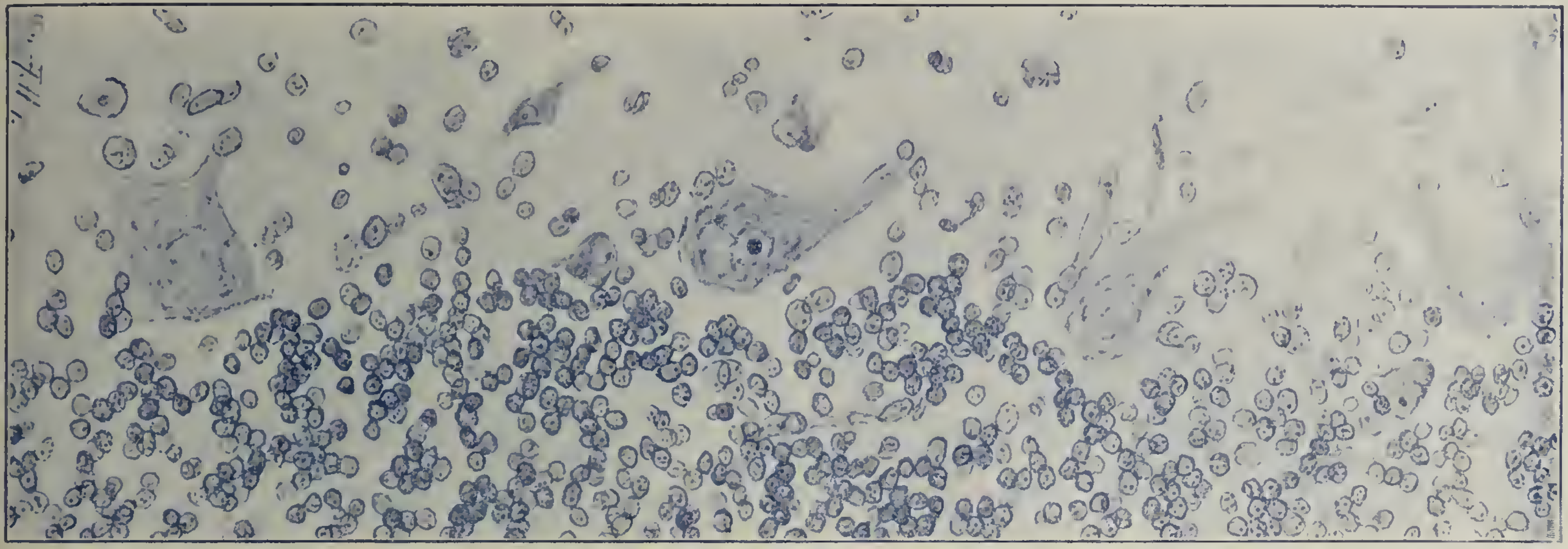

Fig. 3.—Area from cerebellum. Septicemia from streptococcus. The differential Purkinje cell-count showed: active cells, 11 per cent.; fatigued cells, 59 per cent.; exhausted cells, 30 per cent. The patient, a man 48 years of age, died forty-eight hours after receiving a scratch on his hand. The percentage of exhausted cells is very high. Compare this case with that of Fig. 1, a comparatively normal case. Similar changes were seen throughout the cortex as well.

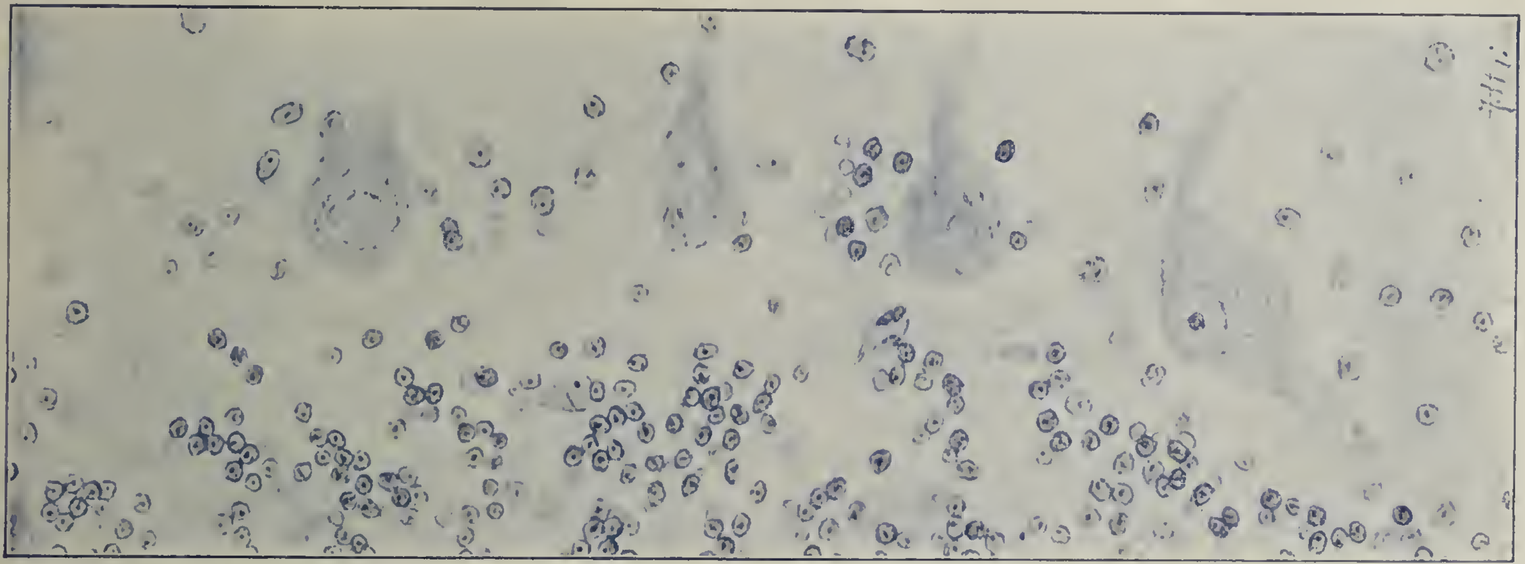

Fig. 4.—Epithelioma of tongue and lymphatic glands. The differential Purkinje cell-count showed: active cells, 4 per cent.; fatigued cells, 39 per cent.; exhausted cells, 57 per cent. Of the 57 per cent. of exhausted cells one-half were almost completely disintegrated. Note the general loss of chromatin in the Purkinje cells, the total loss of nucleolus in three cells and the indefinite cell outline. Compare the brain cells of this exhausted, cachectic patient with Fig. 1, a comparatively normal brain picture.

Turning now to the patients handicapped by starvation or by hemorrhage—such, for example, as neglected pyloric obstructions, whether malignant or benign, hemorrhages from gastric ulcers, extra-uterine hemorrhages, various types of pathologic hemorrhages; these conditions handicap the patient by reducing the nourishment of the brain cells, hence diminishing their functional power. Further experience has amply confirmed observations heretofore reported, viz., that by either a preliminary or a simultaneous transfusion of human blood, these desperate risks may at will be converted into safe ones. Even in cases of patients with chronic starvation from cancer brought to the hospital in the ambulance, I have succeeded by a two-stage operation; first, by a gastro-enterostomy with the assistance of transfusion; then, when the patient recovered a sufficient vitality from the combined effect of the transfusion and subsequent taking of food, by a resection of the stomach. In certain forms of pathologic hemorrhage, the transfusion of normal blood may at once control the bleeding, and also replace the blood that has been lost.

In that great horde of industrial accidents—especially in crushings of limbs, when the patient is admitted in the condition of grave shock—a transfusion usually rescues the patient. Transfusion should be done either just preceding or during the operation. Should there be a postoperative hemorrhage in any case, transfusion renews the surgical opportunity and may convert defeat into victory.

There has now been a number of strikingly successful cases, any one of which, in my opinion, compensates a thousand fold for the experimental labors and the use of animals in the development of the principles and the technic of transfusion. Applying the two great principles, that of the conservation of the energy by special technic during operations, and that of transferring energizing blood from the normal to the patient, we have in our hands new powers in both attack and defense. It enables one to operate in an explosive case of exophthalmic goiter in such a manner that the patient at the end of the operation is approximately the same as when in bed the day before, and every case may by this method have at least the minimum operation performed. We may reclaim the starved and bleeding abdominal cases; we may amputate the diabetic leg with confidence; besides great control of the vital processes allows the needed time, even in the handicapped case, for a more precise and complete technic. In more than 90 per cent. of my patients, in the routine operations, there are no unpleasant memories of the operating room, the postoperative discomforts are greatly minimized, and the mortality rate, in my own experience, is certainly reduced, as indicated by a rate of 1.9 per cent. in the 2,410 operations performed under the foregoing principle in a general surgical service. In a number of these, the operation was done with a complete exclusion of fear, under nitrous oxid anesthesia, and local anesthesia as well, thus completely protecting the brain from all harmful associations—a state best designated by a new word, viz., *anoci-association*. In this state the brain is completely isolated from operative influences and is not more affected than if the operation were performed on the clothing. This is the ideal surgical state.

Against the development and the use of these methods of greater safety and efficiency in operative surgery, there may be urged the objections that these methods involve a higher training and increased labor on the part of the nursing and the operating staff, that certain new apparatus is required, and that the hospital must meet an increased cost. These easily surmountable objections must be balanced against the disappearance for good of the ether drunken patient, the freedom from postoperative nervous impairment, and the preservation of life itself.

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Clinical and Laboratory Diagnosis.—Under present conditions of private practice crude, rough-and-ready methods of diagnosis are in many cases the best that can be utilized. A refined method poorly executed is worth far less than a rough method carefully and intelligently used by an experienced, keen-sighted, thoughtful man. But the public has a right to demand the more refined methods. Within a generation we have seen most of major surgery transferred from the home to the hospital. There the surgeons can depend not only on the nursing staff to provide better hygienic treatment than is possible in the home but he can also in a well-manned hospital depend on the interns to utilize many of the more refined and time-consuming methods of diagnosis. To these factors surgery owes no small part of its success.—C. R. Bardeen in *Science*.

THE PATHOGENESIS OF THE BALANTIDIU COLI *

FRED B. BOWMAN, M.B. (Tor.)

BALTIMORE

During the past decade the *Balantidium coli* has bee attracting much attention in respect both to its pathogenicity and to its life history.

In Manila the material for study, both clinical an pathologic, has been comparatively abundant. The literature on the subject has been thoroughly reviewed b previous writers and will not be discussed here. Onl those points bearing directly on the pathogenicity of th organism will be considered. During the past thre years I have examined many specimens containing th organism, but have been unable to follow many of th cases because the patients complained of no symptom and could not be detained in the hospital; in all I hav been able to study clinically ten cases, three of whic came to autopsy and have been reported elsewhere.[1]

At present, four cases are under observation, three o which have balantidia in the feces intermittently, th other one, although complaining of little diarrhea, ha them constantly present.

ZOOLOGY

Balantidium coli belongs to the *infusoria* class; subclass, *Ciliata;* order, *Heterotrichida;* family, *Bursarida*

It has an oval body from 0.07 to 0.1 mm. in lengt by 0.05 to 0.07 in width, is pointed anteriorly when th periostome is extended and covered with parallel rows o cilia giving it a striated appearance. It has a bean shaped macronucleus and a globular micronucleus. I apparently has three methods of reproduction: budding conjugation and division, though in my studies I hav only been able to see definitely the latter, and this i probably the most common. The organism may chang its shape in passing through some obstruction, narrowing until the projected portion appears almost like pseudopod. Sections cut through tissue very often show these processes and they might be mistaken for buddin forms.

In the fresh feces, organisms are found in pairs an even larger groups and this has probably often been construed as conjugation, but this grouping seems to be characteristic of all ciliata and flagellata and is probabl in most instances purely physical in character. Both i stained feces and in stained sections of intestinal ulcer these groups were seen, but no cytoplastic changes wer found in the nuclei.

The rapid circular motion of the periostome cili seems to exert an attraction which brings the organism in contact. I have observed many times in fresh feces two of them moving along rapidly in the fecal material suddenly, on approaching each other, dart together an remain in this position for a considerable period of time though no interchange of material could be seen takin place between them and no evidence of reproductio changes.

The hog has been thought to be the most common hos of the organism, but the method of transmission to th human host is indefinite. In studying the organism i the human, I have never seen any evidences of encystment, though if man is infected from the hog, it is probably by resistant encysted forms.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, hel at Los Angeles, June, 1911.

* From the Biological Laboratory of the Bureau of Scienc Manila, P. I.

[1] Philippine Jour. Sc., December, 1909, iv, No. 6; April, 1911 vi, No. 2.

Geographically the disease is generally distributed, cases having been reported from Russia, Sweden, Finland, Italy, Germany, Africa, China, North America and the Philippines and thus, it is in no sense distinctly tropical.

CLINICAL SYMPTOMS

These somewhat resemble those seen in amebic infections. First of all, mild intermittent diarrhea, each succeeding attack becoming more severe than the preceding one, and the simple diarrheic stool gradually becoming dysenteric in character. The patient complains of loss of appetite, indigestion, flatulence and pain in the lower abdomen. He may have palpitation. As the diarrhea becomes more severe there is some tenesmus, and bloody flakes and mucus are noticed in the feces. These symptoms may suddenly disappear without any treatment, only to return in perhaps a week or even a month, suddenly and with more severity. These attacks become more numerous and the patient becomes weak and emaciated. The stool finally consists of only necrotic material, clots of blood and mucus and the patient may die of exhaustion or as the result of perforation.

During the attack of diarrhea in the first stages of the disease, balantidia are found in the feces and are usually absent during the periods between the attacks. As the diarrhea becomes less intermittent, the organisms may be found at any time in numbers depending more or less on the character of the stool. They are sometimes found practically swarming in the mucous portions.

There may, or may not, be leukocytosis, my cases showing practically no increase in the number of leukocytes. A marked eosinophilia has been noted by many observers and I have also noted this fact, but the presence of intestinal worms in most natives in the tropics probably influences the blood picture to a great extent.

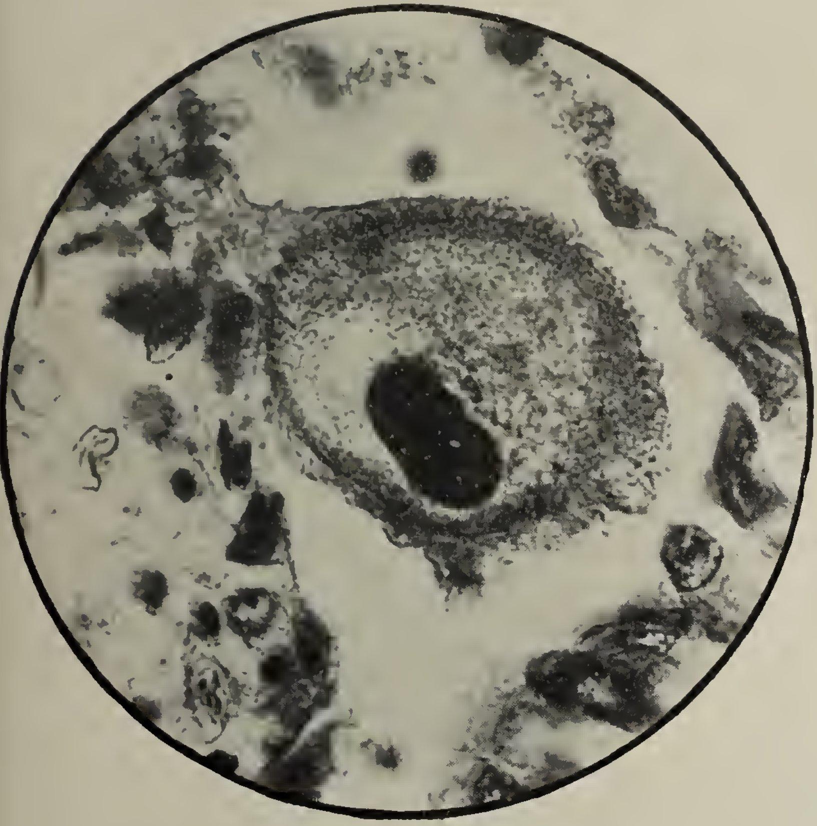

Fig. 1.—*Balantidium coli* in lymphatic gland.

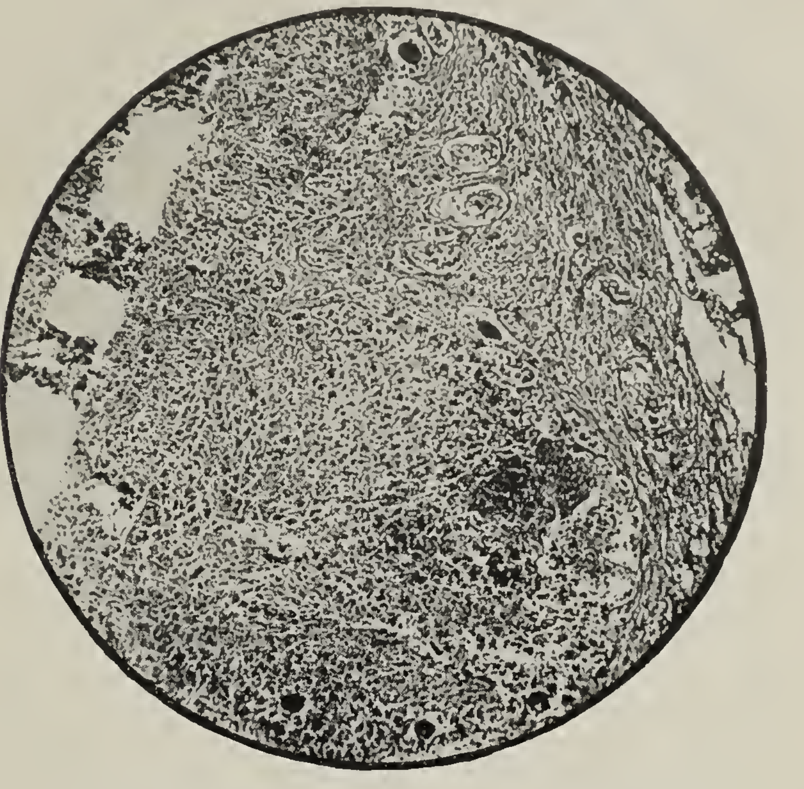

Fig. 3.—Numerous balantidia in lymphatic gland.

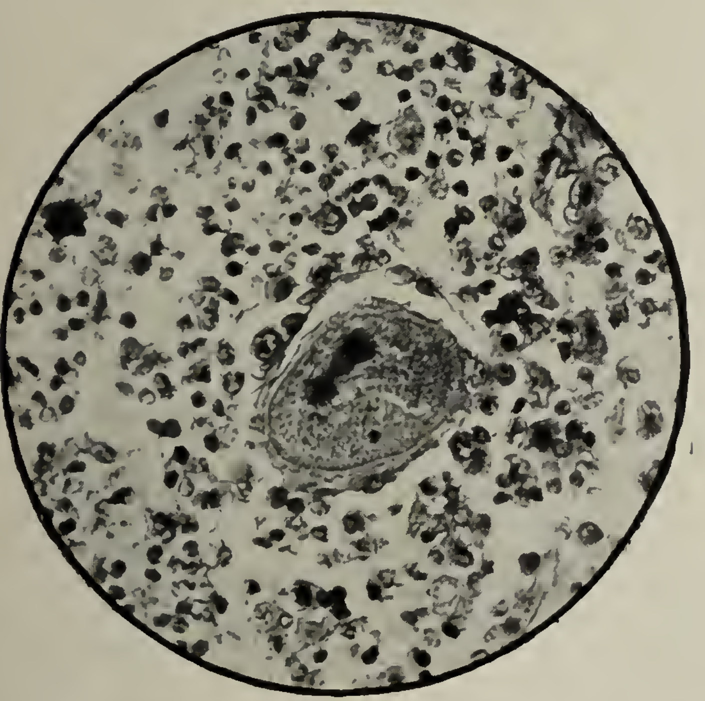

Fig. 2.—*Balantidium coli* in lymphatic gland, showing beginning nuclear division.

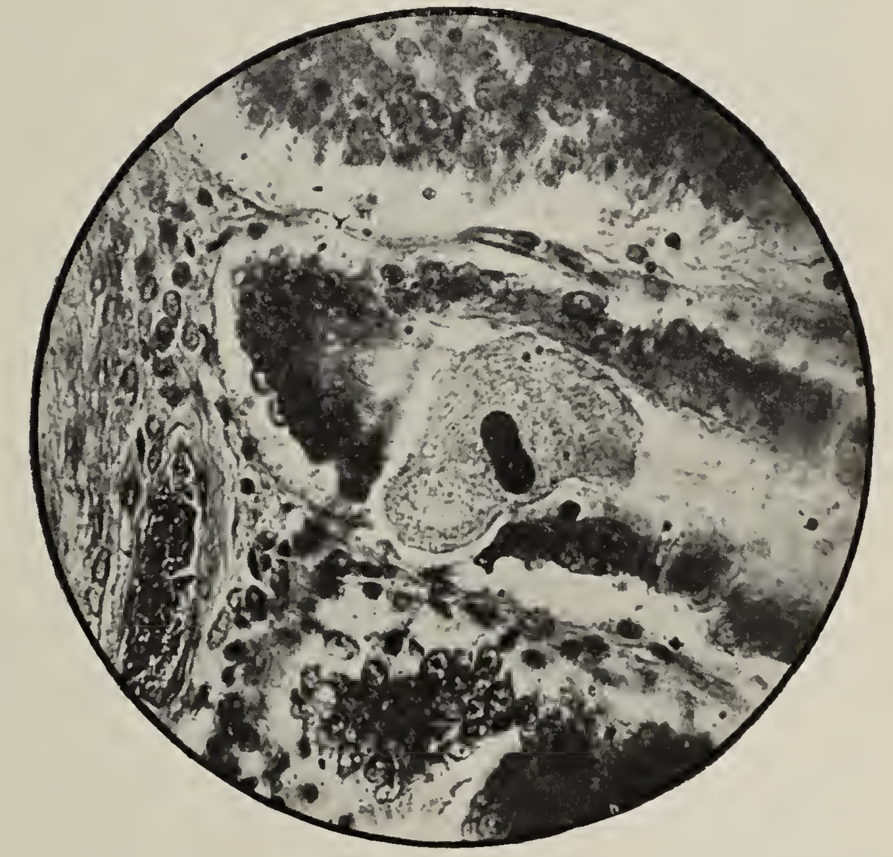

Fig. 4.—*Balantidium coli* passing through basement membrane of a gland of Lieberkühn. This might be mistaken for a budding form. (Illustration from Strong's article, Pub. Philippine Isl. Bur. Sc. Biol. Lab., 1904, No. 24, p. 1.)

DIAGNOSIS AND PROGNOSIS

The diagnosis is made entirely on the finding of the organism in the feces and the absence of other intestinal protozoa.

Prognosis is not good even in the very early stages of the disease. As the infection progresses, it becomes rapidly worse and in the later stages, when the stool is distinctly dysenteric in character, the prognosis may be pronounced in most cases hopeless.

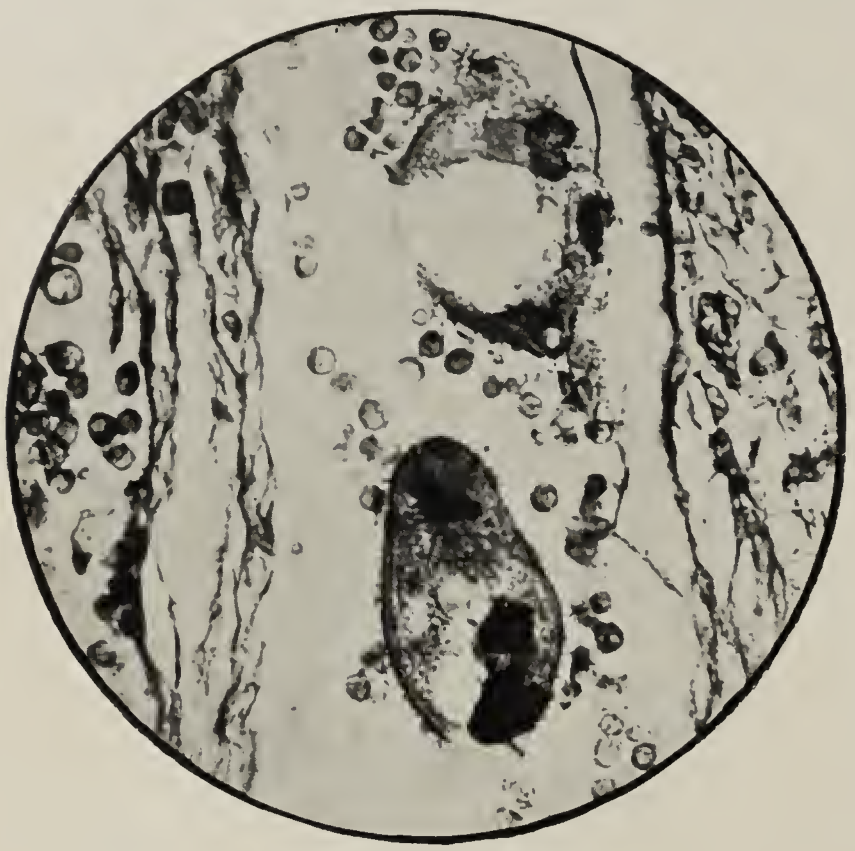

Fig. 5.—Balantidia in a blood vessel.

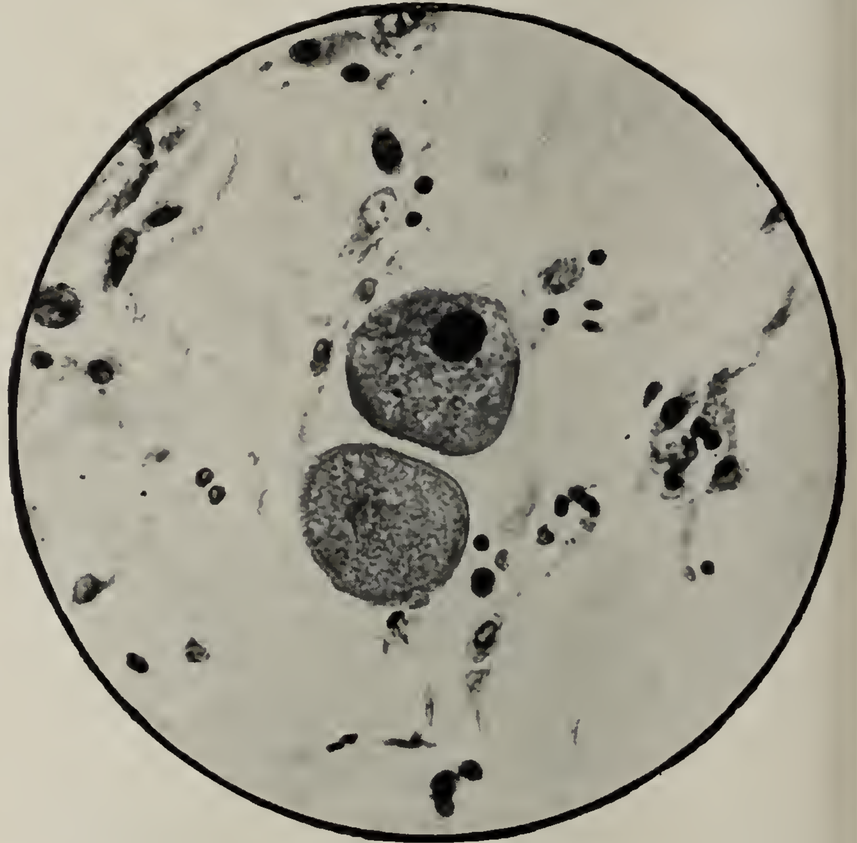

Fig. 6.—Two organisms in submucosa causing practically no cell reaction.

GROSS PATHOLOGY

In my cases the ulceration caused by this parasite has been limited almost entirely to the colon and rectum. In one case only, a few shallow ulcers were found a few centimeters above the cecum and in most, if not all, of the cases in the literature, the small intestine has been unaffected. The cecum may be greatly thickened where the most severe and chronic ulceration is present. In two of my cases, in some places it was as much as 3 cm. in thickness, and the rectum and part of the colon was a mass of ulcerating necrotic tissue.

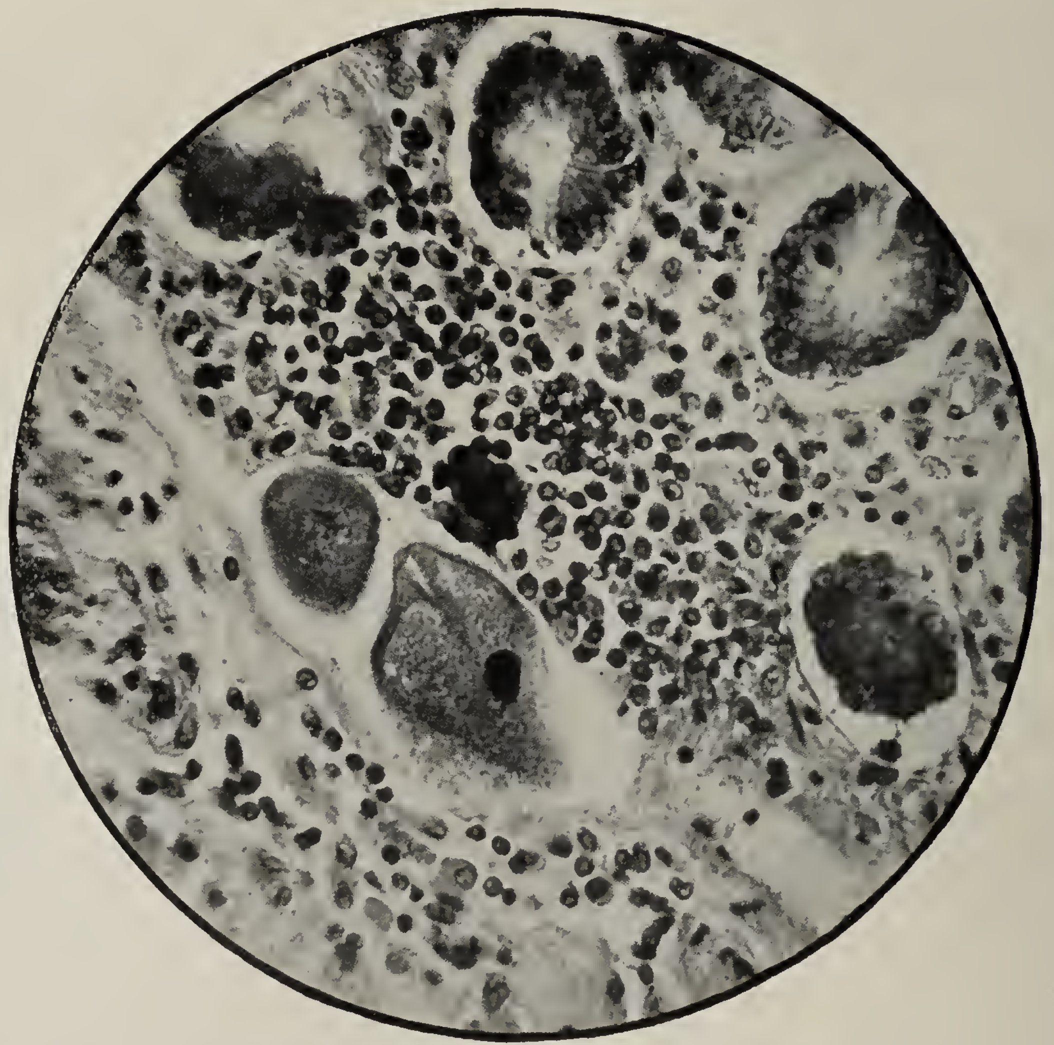

Fig. 7.—Two balantidia lying just beneath the mucosa. Numerous round cells may be seen, with evidence of beginning ulceration.

The ulcers vary in size from 0.5 cm. to 3 or 4 cm. in diameter. They bear no distinct relation to the mesenteric attachment. The early ones are shallow, not injected at the edges and are not undermined. From the larger and older ulcers hang tags of black necrotic tissue and the edges are undermined, indurated and injected. The base may be thin, only the serosa intervening between the bowel lumen and the peritoneal cavity. In one of my cases, perforation had taken place in one of the ulcers of the cecum.

There is nothing to distinguish the late ulcerations caused by amebas from those caused by the *Balantidium coli,* though the early amebic ulcers appear to be sometimes more punctate in character.

The mesenteric lymph-glands may be enlarged and necrotic.

HISTOLOGIC EXAMINATIONS

The parasites are found in all the layers: mucous, submucous and muscular. They seem to be much more numerous in the submucosa than elsewhere, and in the blood-vessels. "nests" of them with twenty or thirty organisms massed together may be found. Some of them are found in the glands of Lieberkühn, and Strong has demonstrated a parasite rupturing the basement membrane and passing through the gland-wall. Where many of them are gathered together in the subglandular tissue, a surrounding zone consisting of plasma-cells and lymphocytes is found, with an abnormal number of eosinophils, but with very few polymorphonuclear leukocytes present. On the other hand, the cellular constituents of the necrotic material covering the ulcer consist largely of polymorphonuclear leukocytes. This fact would seem to indicate that the parasite, on first entering the tissue, causes a low-grade inflammation independent of any bacteria which it may have carried with it. The intestinal bacteria are the terminal invaders and cause necrosis of the tissue already undermined and weakened by the balantidia. Undoubtedly, many of the primary ulcers are caused by organisms entering the glandular layer, but, having once entered, ulceration may be the result of another process. On studying sections quite remote from any ulceration and through apparently uninjured mucosa, the organism may be found invading the submucosa and muscular strata, while in the mucous layer none are found. Where they are found singly, there may be no evidence of inflammatory reaction, but, in other areas where several of them are gathered together, there may be many round cells forming a surrounding zone, and in still other situations marked evidence of inflammatory reaction. In a study of many sections, all stages in this inflammatory process may be seen. From the single balantidium which seemingly has pushed itself mechanically through the tissue with little cell reaction, to groups of the parasites with surrounding zones of lymphocytes and plasma-cells which have infiltrated the mucosa itself, demonstrating a reaction which, with the invasion of intestinal bacteria, will terminate in ulceration.

The organisms may enter the mesenteric lymph-glands and cause necrosis. In one of my cases, they were found very numerous in one of the sectioned glands and there was some increase in the polymorphonuclear elements present, but no bacteria could be demonstrated and there was no evidence of tuberculosis. If the organism can invade the mesenteric lymph-glands, invasion of the lungs and liver would seem much more probable.

In two of my cases, the marked adhesive pleuritis and pericarditis was very striking and, in view of the fact that there was no evidence of tuberculosis, the *Balantidium coli* may have been the primary invader causing these conditions, though sections from the diseased pleura and pericardium failed to show any organisms present.

ANIMAL EXPERIMENTS

In view of the fact that an epidemic of dysentery due to *Balantidium coli* in orang-outangs had been reported by Brooks,[2] and Noc[3] had reported a natural infection in a monkey (*Macacus cynomolgus*), it was decided to attempt to infect monkeys.

Feces containing many organisms from a case of balantidium infections were injected into the rectum of a monkey (*Macacus cynomolgus*) on several occasions, but the stool always remained negative and no symptoms of dysentery developed. This was done many times with different monkeys, always with negative results.

A colotomy was performed on another monkey and 20 c.c. of infected feces injected on two occasions, but the stool examinations always remained negative.

A section of a colonic ulcer from one of my cases was securely sutured in the wall of the colon of a monkey, in the hope that resting or encysted forms might be present which would be more resistant to manipulation incidental to the changing of the host. No infection of the animal occurred. As to cultivation, in this laboratory we have been unsuccessful. I have observed the organism alive for twenty-four hours on Musgrave and Clegg's media, and Walker (in this laboratory) has noted life for six days, but with no reproduction, those alive being some of the individuals originally inoculated on the media.

SUMMARY AND CONCLUSIONS

Whether a break or abrasion in the mucosa of the intestine is necessary for the entrance of the *Balantidium coli*, whether it can force its way through the lining membrane by purely mechanical means or whether a cytolytic ferment is liberated, we do not know. Once it has entered, its progress is limited only by the length of the colon.

The *Balantidium coli* is a parasite which, though not so wide-spread as the ameba, in individual cases is equally serious in its effects. It does not live in the intestine in a state of harmless commensalism, but causes a dysentery which in its late stages is not amenable to medication and usually results in death.

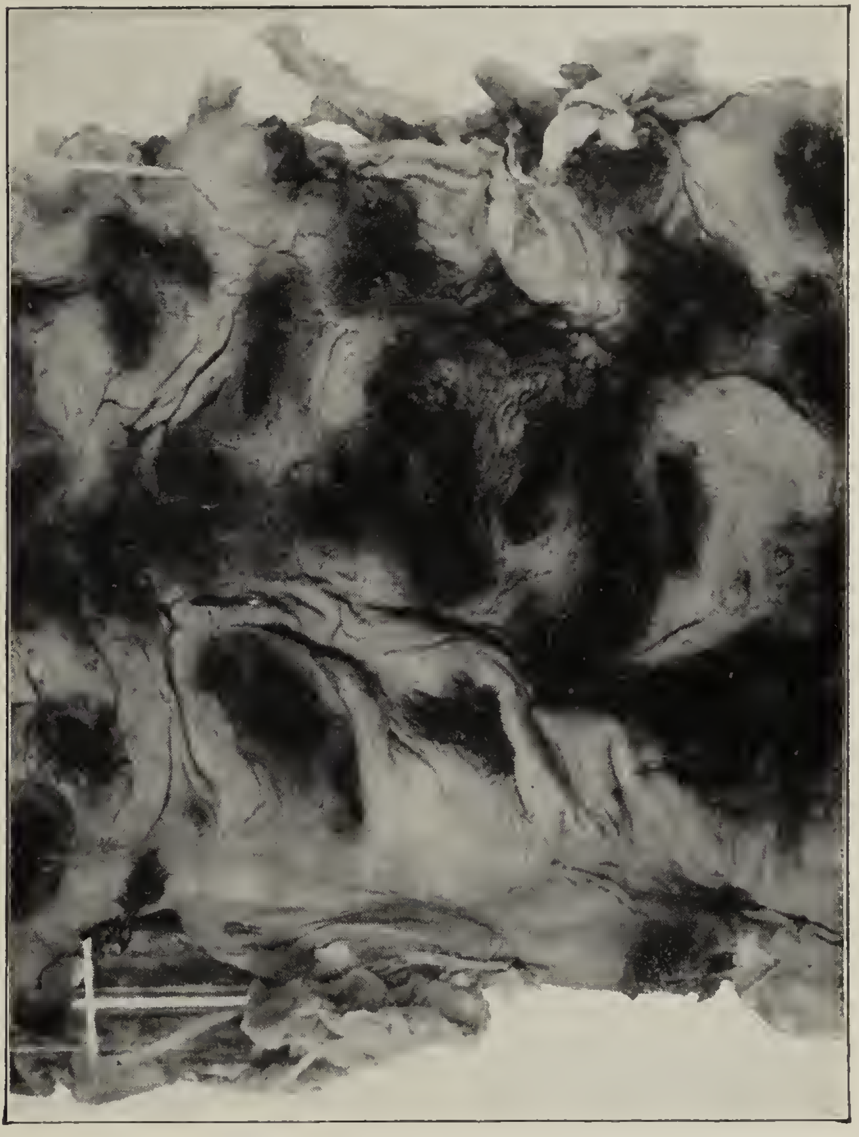

Fig. 8.—Ulceration of colon caused by *Balantidium coli*.

807 St. Paul Street.

Sanatorium Treatment of Tuberculosis.—Two points are frequently referred to by C. D. Parfitt in his discussion (*Dominion Medical Monthly*) of the sanatorium treatment of tuberculosis, namely: the crowding of sanatoriums with patients who, because of severe illness, properly belong to a hospital, and the need of efficient organization for consistent supervision of all details of life of the patients. Also, he points out that an organization reasonably efficient for the needs of an institution which treats only a recoverable class of patients, may be quite inadequate to attend properly to either class of patients when the classes are mixed to the degree that obtains at present.

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[2] Brooks: New York University Bull. Med. Sc., 1902.
[3] Noc: Compt. rend. Soc. de biol., 1910, lxiv, 878.

MEDICAL TREATMENT OF THE PATIENT BEFORE OR AFTER THE CATARACT OPERATION *

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It can be said with much truth, that the surgical treatment of the cataract patient has so absorbed the attention of the profession that the medical treatment has been a secondary consideration. Generally, little attention has been given to the patient's physical condition for the most delicate operation of surgery. My purpose is to emphasize the importance of medical treatment for certain types of these patients.

It should begin a week or more before the operation so that the general health shall be at its best, and the eye itself and its adnexa shall be in such a condition that purulent infection from dacryocystitis or from different forms of conjunctivitis may be avoided.

It is a great mistake to underestimate the importance of thorough preparation of the patient for such an operation.

A patient with senile cataract is not likely to be in a good state of health, because as a rule, he is advanced in years, leads a sedentary life, and the ravages of disease and the attributes of age have made him a wreck of his former self. While age, *per se*, cannot be regarded as a cause of cataract, certain nutritive tissue changes often associated with arteriosclerosis and fibrosis to which Metchnikoff[1] attributes the oncoming of age, are characteristic of this time of life, and these conditions probably predispose to cataract.

The average age of cataract patients in India according to Hirschberg is 42 years; in America the average age is 62½ years, and fat, gouty and rheumatic patients are often encountered in America and are the *bête noire* of ophthalmologists.

A cataract patient should be free from bowel and bladder trouble, cough, dyspnea, dacryocystitis, chronic nasal disease, blepharitis, chalazia and styes. The patient should be in a hospital from twenty-four to forty-eight hours before the operation, or long enough to allow the attendant to make an estimate of the physical condition, to unload the bowels, also to examine the urine, and the intra-ocular pressure with the tonometer, to note the blood-pressure and the condition of the arteries, and if blood-pressure is high, e. g., above 220 mm., to reduce it if possible below 190. Personal experience has proved the value of information furnished by these examinations. The individual should have been on a light diet for several days, and should have had a good night's rest before the operation. If nervous, he should have from 30 to 40 grains of sodium bromid, and 10 to 15 grains of sulphonethylmethane (trional) or veronal early in the evening, or, if his condition demands it, he may be given morphin and scopolamin, and in extreme cases an anesthetic at the time of the operation: but usually comforting assurance that all will be well is all that is needed.

This is not a large subject, so far as conditions before operations are concerned, because most of these patients have been under the care of the family physician or have consulted the specialist, who has already given them the necessary preliminary treatment. Most of these conditions need only to be referred to: their treatment is self-evident.

But there remains a class of cataract patients in whom non-purulent infections cannot be traced to any of the conditions or diseases which I have named, and therefore, are not of exogenous origin, but originate within the body of the patient. These are cases so often associated with the so-called rheumatic and gouty diathesis, of which we know so little and which we incriminate so much, and while they are of importance before the operation, they are thought to assume their most important rôles as postoperative expressions of the state or condition generally associated in the mind of the profession with faulty metabolism and auto-intoxication.

Of the agricultural people of the Punjab, who make up about four-fifths of the cataract patients at Smith's clinic, the men are tall, muscular and do not carry any superfluous fat. They live chiefly on a rice-milk diet with a few vegetables and very little meat, and consume very little alcohol. As a rule they work long hours and have insufficient food, and they perspire freely under the rays of the tropical sun. Limited diet and active elimination by the skin are not favorable to the development of faulty metabolism and acid auto-intoxication.

Just what influence this may have in preventing postoperative complications we may not know definitely, but the comparative absence of complication following cataract operations among Indians is more than suggestive. On the other hand, among obese and sedentary American patients the conditions which seem favorable for auto-intoxication are more often found, and it is my observation that this latter class furnishes the chief contingent of non-suppurative postoperative troubles.

Axenfeld,[2] speaking of metastatic ophthalmia, a somewhat kindred subject, has said:

> Although purulent inflammations only differ from non-purulent in degree, and although we know that the causal agents of the former under special conditions can cause non-purulent, serous, or plastic inflammations, yet the purulent hematogenous inflammations arising in the eye can be put into a special class, for we know with certainty that in every case pyogenic organisms have settled down in the affected part of the eye. We cannot infer in an endogenous purulent inflammation, that the toxins, which were circulating in the blood, have settled down at one spot; the hypothesis that such a microbe-free metastatic ophthalmia exists is quite without proof.

At the Boston meeting of this Section in 1906, de Schweinitz[3] presented a paper entitled "Auto-Intoxication in Relation to the Eye."

At the Chicago Session in 1908, de Schweinitz and Fife[4] presented another paper, entitled "A Further Contribution to the Possible Relation of Auto-Intoxication to Certain Diseases of the Cornea and Uveal Tracts." These papers can be read to great advantage in connection with the subject, as they undoubtedly show an association, if not a relation between auto-intoxication and certain postoperative complications.

I am convinced, from personal experience, that the comparative infrequence of postoperative complications in Smith's clinic in India is due, first, to the thoroughness of his operation which excludes capsular remains and cortical débris and an after-cataract (prolific sources of after-troubles in the regular cataract operations), and second — perhaps of more importance from a medical standpoint — to the diet, age and physical condition already referred to.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Metchnikoff: The Nature of Man.

[2] Bacteriology of the Eye, p. 364.

[3] The Journal A. M. A., Feb. 9, 1907, p. 502.

[4] The Journal A. M. A., June 20, 1908, p. 2040.

Why postoperative complications occur, or in what they consist, or why one person should escape them and another not, under apparently similar conditions, *we do not know*, however much we may suspect auto-poisoning. But the fact remains that these complications exist, and that short, red-faced, thick-necked, heavy-set, fat persons, whose weight is out of proportion to their height, who eat and drink excessively and lead sedentary lives, and who are of the so-called bilious, gouty or rheumatic type are prone to have postoperative reactions and, therefore, are not good subjects for cataract or any other operation. This condition is not unlike that of the alcoholic patient who is likely to do badly when disease or surgical operations tax his lowered vitality. He does not respond readily to treatment, or throw off complications which may arise.

It is not my intention to intimate that I believe that a large or even a moderate percentage of our cataract patients are liable to suffer from some form of uveitis as the result of endogenous infections; on the contrary, experience and observation show that the percentage of cases is not large *from all causes,* and that by proper eliminative treatment, it can be kept very small. It is to the treatment of this small percentage that I desire more particularly to call attention.

Experience has shown that early, prompt and energetic treatment, long-continued, if necessary, will often save useful vision in cases in which, otherwise, it would probably be lost.[5] There is no room here for therapeutic nihilism. We must have the faith of our fathers in the virtue of drugs, and administer them heroically, if necessary, to get results.

In an eye, opened for the first time between the second and fourth days, the lids should be free from redness and swelling, the section should be *firmly closed;* if not healed, there should not be prolapse, incarceration or entanglement of iris, the conjunctival redness and discharge should be slight, the aqueous should not be muddy, the tracery and pattern of the iris should be clear and distinct and the pupillary area unobstructed. Barring later accidents or complications, such an eye will heal kindly with a minimum of reaction.

If, on the contrary, the eye should show any of the following conditions: photophobia, chemosis, excessive redness and discharge, a cloudy cornea, cortical débris, muddy aqueous and discoloration of the iris, with, it may be, a gaping wound or vitreous presenting and iris prolapse and vision equal to hand movements, we know that things are not going well with that eye. In such conditions, we may not be able to recognize any cause for or limitations of these complications, we may not even know whether the infection has come from germs introduced into the eye, *exogenous infection* or whether the condition is an *endogenous inflammation* which by exclusion we can believe is caused by faulty metabolism and auto-intoxication, but the indication to open the flood-gates of the system, the bowels, the kidneys and the skin and eliminate all the poison possible is imperative.

I have had comparatively little experience in irrigating the anterior chamber for removing cortical débris after the regular operation; but I know it is not a safe procedure in the intracapsular delivery. I believe, however, that when such soft lens matter is left, the section should be opened and the débris delivered by scoop and pressure, together with as much capsule as possible. I believe that it is safer to do this even several days after the operation rather than hope for good results by treating the iritis, keratitis and other complications which are likely to follow.

For many years I have used atropin, 4 per cent. solution, after operation, and scopolamin, 1 per cent. solution, if complications arise, or if the former does not break up synechiæ and dilate the pupil, cocain and epinephrin,[6] which seem to be valuable additions to most mydriatic solutions, may be added. In iritis and cyclitis, mydriatics also do good by putting the ciliary muscle at rest. Leeching around the eye or blood-letting from the arm as advised by Fox,[7] may be of use in cases of primary or secondary glaucoma; when miotics do not relieve the tension of the eye-ball, and the blood-pressure continues high, a chamber, sufficient to get a knife through, may be secured, and an iridectomy performed without danger of wounding the lens. In this connection consult Fisher.[8]

In my experience, cases of delayed healing of the section are often associated with high blood-pressure and high intra-ocular tension. Healing can often be stimulated by local applications of medicines to the lips of the section and the administration of drugs to reduce high blood-pressure and high intra-ocular tension; the most important are purgatives. Sodium nitrate, nitroglycerin, potassium iodid, eserin or pilocarpin are indicated, and deep injections behind the eye of cyanid of mercury, salt solution and pilocarpin sweats or Turkish baths, hexamethylenamin (urotropin[9]), potassium iodid, colchicum, sodium salicylate, the latter in immense doses, 1 grain for each pound of body weight in twenty-four hours (Gifford).

Hot applications, leeches, atropin, scopolamin, eserin or dionin subconjunctivally, according to the state of the tension and other conditions of the eye-ball, are of great value. The value of mercurial saturation of the patient by the mouth subconjunctivally, hypodermically, intravenously, or by inunction is as well established as any empirical fact we have in medicine, and is the chief reliance of our English confrères in deep-seated intra-ocular inflammations.

The use of hexamethylenamin as a preventive of infection while the section remains open, or even after it has closed, has not yet been sufficiently studied. Its utility in these eye conditions is deduced from its known antiseptic action through the urinary tract, and it is also known to be eliminated through the aqueous humor, and is thus thought to prevent or modify a beginning inflammation of the uvea.

I have used it in one hundred cases, and although I have had only one purulent infection, I have not been able to reach any definite conclusion regarding its efficacy. Its irritating action on the bladder is an objection to its use, and I have not therefore been able to give the large doses, from 30 to 60 grains, recommended by some writers,[10] who insist that these massive doses are essential to success, but have been content with doses of from 7 to 10 grains three times a day.

We are in possession of many empirically known facts which must serve as a working basis in the treatment of the postoperative complications whether they result from faulty metabolism and auto-intoxication or not, which must guide us until we have a scientific method of treatment. Postoperative delirium is believed by some to be a result of auto-intoxication. This statement I would not question. I think, however, that loss of orientation is more often caused by defective cerebral circulation, due to sclerotic arteries and the use of the occlusive bandage and want of care in using atropin, than to other causes. The relief which usually follows removal of the bandage and care in the use of the mydriatics is evidence of the correctness of this view.

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[5] Symposium on Uveitis, The Journal A. M. A., Sept. 20, 1902, p. 676, and Oct. 4, 1902, p. 820.

[6] For use of this term see The Journal A. M. A., March 25, 1911, p. 910.

[7] Fox, L. W.: Personal communication.

[8] Fisher: Edema, p. 129 et seq.

[9] Gradle, H. S.: Ophth. Rec., xx, 110.

[10] Dinkelspiel: Jour. Ophth. and Oto-Laryngol., November, 1910.

It may be a question whether the part of the paper which relates to the evil effects of auto-poisoning as it concerns the operated eye, will be regarded as of much importance in itself because of our limited knowledge of the subject. But I am convinced that any one who is sufficiently interested will find that the subject is a broad one with enough known truth pervading it to suggest that further study and research will be rewarded by a broadening and accuracy of our knowledge of the harmful effects of self-poisoning, and the means of preventing this condition, which will reward the investigator and benefit mankind.

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ABSTRACT OF DISCUSSION

Dr. D. W. Greene, Dayton, Ohio: In addition to what has already been stated in the paper, I wish to emphasize the importance of medical treatment whenever it seems indicated either before or after operations, and to state my confidence in the efficacy of two remedies, which if used in a definite way and in proper doses, will greatly improve, if not cure, a higher percentage of uveal exudations, with or without plus tension, than any plan of treatment with which I am familiar. In the limited state of our knowledge concerning these drugs, one should not feel justified in depending on their use alone, but should still use in conjunction with them the old stand-by treatment, elimination, large doses of sodium salicylate, mercurial saturation. The remedies referred to are dionin in 5 per cent. to 10 per cent. solution, subconjunctivally, and citrate of soda in 5.5 per cent. solution used in the same way, whenever plus tension becomes an element in the case. This latter drug will reduce the tension of an enucleated animal eye which has laid in a weak solution of hydrochloric acid until it becomes very hard. T = plus 3 or 4, to the normal or even subnormal tension in a short time. This is the statement made by Fischer in his book entitled "Edema." Any one can satisfy himself of the truthfulness of this statement who will put it to a test. The only question is whether the living human eye can be influenced in the same manner and to the same degree that is observed with such regularity in the eyes of dead animals. My experience with this use of 5.5 per cent. of citrate of soda in glaucoma is limited to one case of the chronic simple form in which the tension was reduced in each eye from about plus 2 to normal. There was no restoration of vision that had been lost but the improved appearance of the eye was quite noticeable in clearing of the cornea and better definition of the tracery and pattern of the iris. This drug is only on trial, but if Fischer's theory that glaucoma is only a local edema should be accepted as the true explanation of its occurrence, his plan of treatment promises great possibilities.

Since the paper was written, it has been my lot to see two postoperative complications such as I have attempted to describe in the paper. One was evidently precipitated by excessive use of the eyes in reading three weeks after a Smith operation; the other followed an iridotomy made with a Ziegler knife, which proved not to be sharp. In each case vision fell to recognition of hand movement at one foot.

Under the general plan of treatment outlined in the paper vision improved in each case to 20/15 within thirty days. When several drugs are used for the same purpose it is not always possible to assign to each its proper curative influence, but the influence of deep subconjunctival injections 15 minims over the internal rectus and the same amount over the external rectus of a 10 per cent. solution of dionin in quickly improving the eye conditions was so manifest that it has seemed reasonable to me to attribute the successful outcome of these cases in a large measure to the use of dionin injected as just described.

Dr. William F. Mittendorf, New York: I hardly think that any experiments with the enucleated eye by putting it into acid and afterward into a solution of soda would have any effect on the eye to harden it. Acids will harden the sclerotic coats of the eye, but will not change the intraocular tension. Now, if you put it into a solution of soda, which counteracts the acid, you would naturally get a softening effect. But as to the lens in the living eye, that is different. The hardening is caused by the intra-ocular tension, and I do not see how acid and soda hardening of the enucleated eye can be of much importance in this respect.

Dr. F. T. Rogers, Providence: My experience with dionin has been that there is frequently an unpleasant reaction. It seems to me if 30 minims of dionin are injected subconjunctivally the reaction must have been unpleasant. Is not this the case?

Dr. G. C. Savage, Nashville: I wonder if Dr. Greene's paper does not contain an error, the use of a 4 per cent. solution of atropin. If he had seen people get as crazy as I have seen them on a much weaker solution, and had sat up all night with them and held them in bed, I do not think he would use it in that strength. Two drops of a 1 per cent. solution has made several of my patients entirely crazy for a considerable length of time. It may be a tendency in our part of the country; I do not know. I endorse the use of dionin when the eye is inflamed after cataract. I have never given it subconjunctivally. I would not hesitate to give it, statistics or no statistics. I do not believe that the reaction means other than good to the inside structures of the eye. Whenever there is a suspicion of infection of the corneal incision I do not believe we have anything better to help to destroy that infection at once than a fairly strong solution of acetic acid. Use 1 drop of acetic acid No. 8 in 5 drops of water; apply a weak solution of cocain and in two minutes take a pledget of cotton on a toothpick and dip it in the solution and carry it along the incision. Acetic acid is undoubtedly germicidal. In its after-effects it is soothing, and it is promotive of epithelial growth.

Dr. H. W. Woodruff, Joliet, Ill.: I have had some experience in the use of citrate of soda in increased tension, and inasmuch as this subject has not been investigated except by a few, this may be of some use to you. I have used 5 per cent. citrate of soda injections in a case of rise in tension following iridocyclitis with very happy results. The tension was lowered in five minutes and did not become elevated again for two days. At the end of that time the tension began to rise again and a second injection was made with the same results, and the tension remained down from that time on. That is the only case in which I have used the drug. I have felt that it could not be of any service in the chronic forms of glaucoma, except perhaps temporarily, but in these acute cases I think it is exceedingly valuable. I would like to say something also about the treatment of the infection which we sometimes have following cataract extraction, and that is regarding the use of injections of cyanid of mercury, which, by the way, sometimes also increases the tension. Dr. Savage has spoken of the treatment of the wound by acetic acid, which is, of course, proper. One objection I have always had to the after-treatment as advocated by Dr. Greene in the Smith operation is not examining the eye for several days. I always want to look at my extractions at least the day afterward, because I am absolutely certain that I have saved eyes which would certainly have been lost if I had delayed the examination of the eye. Very often cases of infection do not manifest any pain; the patient does not complain, but you take off the bandage and the cornea has sloughed. I will relate one case to illustrate it. I performed a cataract operation on a patient who had a dacryocystitis. I had thought perhaps I had eliminated the infection. I had not removed the sac, but there appeared to be no sign of pus and no organisms in the conjunctival sac. Of course, I did not feel at all satisfied about it. The next morning when I removed the bandage there was a hypopyon, a cloudy pupillar area; in fact, there was no question that there was an infected eye. I immediately made an injection of mercuric cyanid solution in the strength of 1 to 1,000, injecting 8 minims with 4 minims of a 4 per cent. solution of cocain. I examined the eye again in the afternoon, perhaps about four or six hours later, and there was no increase in the hypopyon and apparently some clearing of the anterior chamber. I made a second injection of the same strength and the next morning there was no pus in the anterior chamber; the media were clear. No further injections were necessary and the patient made a recovery with an average degree of vision. I have had a number of cases of which this one is a fair sample. Very often it has not been possible for me to see the eye so soon as a day after operation, and I have always felt that almost every case of simple infection if seen within twenty-four hours and this injection made, could be saved.

Dr. F. P. Calhoun, Atlanta, Ga.: The case I wish to report is apropos of the medicinal treatment before cataract operation. It was a case of cataract in which there was hookworm disease, one of four reported at the recent meeting of the Georgia State Medical Society. This case was in every way typical of this disease. The patient was anemic, with bloated face and dropsical extremities, offensive breath and a history of ground-itch several years before. The hemoglobin was 20 per cent. The boy was 20 years old, but in intellect was a mere child. He had been blind about a year. The eyes showed typical soft cataract. Three discissions with one week intervals were made with no ripening at all of the lens. The patient had hyperemia of the conjunctivæ. At that time it was decided to give the patient the usual treatment for hookworm, namely, restricted diet, then calomel, salts and thymol. A collection of the stools was made after this treatment and there were 850 parasites found. Under Blaud's pills and a nutritious diet the patient rapidly improved in his general condition and two weeks after this treatment there commenced to be a marked reaction in the lens and great injection of the conjunctivæ. The ultimate results were most satisfactory. The point I wished to make was the mistake in not giving this treatment before the discissions were made. I believe the reaction would have been more marked.

Dr. A. E. Bulson, Jr., Ft. Wayne, Ind.: What are Dr. Greene's reasons for using dionin subconjunctivally? I have used it in that manner and have never seen any advantages over its application to the conjunctival sac. The effect seems to be the same, while subconjunctivally it is painful.

Dr. D. W. Greene, Dayton, Ohio: In answer to Dr. Bulson I use dionin subconjunctivally because it is much more effective. I never give these injections without previous injection of weak cocain or eucain. Usually there is little pain. I deal largely with old soldiers and they stand pain well. In private practice I have had a good deal of complaint. One patient complained a great deal of everything done for her, so there was difficulty in estimating how much pain she had. I had a man at the Soldiers' Home to whom we gave no anesthetic whatever and he did not complain. Another man complained bitterly who did not have the anesthetic beforehand. Dr. Rogers asked concerning excessive reaction. That is what does the good. One does not get the reaction from applications outside; the same with the citrate of soda. One can drop it into the sac and let it remain fifteen minutes, but one gets no effect. One must get it deep in behind the eye or along the course of the muscle. Of course, one does not want to get the dionin into the capsule of Tenon; one wants to get it in the course of the muscles without going into the capsule. If one puts it there a very severe reaction and much more pain will be the result. That I have tried to avoid.

In reply to Dr. Savage's question in regard to 4 per cent. solution of atropin I do not know why I have used it except that I have not been able to get the reaction I wanted from 1 per cent. solution. I have never seen untoward results from this. I do not think Dr. Savage will if he will use it right. In the paper I stated that the patient's head must be turned to one side and the atropin milked out carefully and washed out so that it will not get into the punctum. I have never seen a case of poisoning from this solution and it has seemed to be a much more effective strength than the 1 per cent.

In regard to acetic acid, I had a case of delayed healing in a private case in which I attempted to use nitrate of silver in an open wound. I did not wipe my applicator and that nitrate of silver in 10 per cent. solution left a white line on Descemet's membrane, and that has made me fearful of applications of any strength. Dr. Woodruff's experience with the citrate of soda has been like mine.

In regard to examination the second day, certainly no other wounds are opened and meddled with and handled the second day; they are given time to heal. Injections of mercuric cyanid I have used in only a few cases. They are painful and I have avoided them. I once saw Major Smith flush the conjunctival sac to remove blood and he, as you know, uses a great deal of force; the reservoir is up 5 feet. He not only washed out the blood-clot, but a 1 to 2 per cent. bichlorid solution went into the anterior chamber, and Descemet's membrane became white and remained so for four weeks, while the patient was in the hospital, and I suppose it is white yet.

THE CHOICE OF THE ANESTHETIC

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Nitrous oxid was introduced as an anesthetic by Wells in 1844, ether by Morton in 1846 and chloroform by Simpson in 1847. Although a large number of other agents have been tried since, these three introduced within the short period from 1844 to 1847 still remain the most valuable means of producing general anesthesia.

In 1868, Edmund Andrews of Chicago demonstrated the value of the mixture of nitrous oxid and oxygen as an agent for continued anesthesia. In 1884, Kohler discovered the value of cocain as a local anesthetic. In 1899, Bier produced, by the injection of cocain into the subarachnoid space of the spinal cord, anesthesia of the lower extremities and the lower part of the trunk. In 1869, Claude Bernard observed in experiments on dogs that morphin, given before the administration of chloroform, facilitated its action and reduced the amount required. This suggestion was soon put into practical use and morphin, morphin and atropin, and morphin and scopolamin or hyoscin have since been more or less widely employed before the administration of a general anesthetic.

To-day the surgeon has at his disposal the following methods of producing anesthesia:

1. General anesthesia.
    - *a*. Chloroform.
    - *b*. Ether.
    - *c*. Nitrous oxid (alone, with air, with oxygen).
2. Spinal cord anesthesia.
    Cocain and similar agents.
3. Local anesthesia.
    Cocain and similar agents.
4. Morphin and scopolamin (hyoscin), either alone or as part of a sequence.

These four methods have been combined in all possible ways as mixtures and sequences, as the A.C.E. mixture, as the nitrous oxid and ether sequence or mixture, and as the morphin-scopolamin-ether sequence, etc.

During the last eight years, in our surgical service at the Presbyterian Hospital and Rush College, we have attempted to make a study of the subject of anesthesia and this paper is in the nature of a report of the conclusions arrived at from our own work and from a study of the literature undertaken with the purpose of aiding us in the selection of the anesthetic. The work which has been done on our service is represented by five reports[1] which, briefly summarized, gave us the following facts:

The study of Favill and myself showed clearly the late poisonous and fatal effects of chloroform, associated with acute fatty degeneration of the liver. This has been confirmed by a study of the previous literature and by the great accumulation of clinical evidence and laboratory experimentation since that time; the paper on nitrous oxid was simply intended to show its wide possibilities in major operations. The work of Hamburger and Ewing was both a clinical and experimental research, and I regard their work of special value. Their conclusions are as follows:

In analysis of blood-changes incident to nitrous oxid anesthesia we find:

A. The hemoglobin is not permanently reduced nor is anemia produced.

B. Hemolysis is not increased.

C. The changes in the readings of the hemoglobin (there is an apparent increase in hemoglobin after nitrous oxid anesthesia) and of the red cells are transient and of no surgical significance, and are explained on the basis of capillary stasis. The production of reduced hemoglobin is not a result of the anesthetic itself, but is due to the accompanying asphyxia.

D. The changes in coagulation time are not constant, but in general there is an increase in the time required for clotting, most marked about the third day.

In an analysis of blood-changes incident to ether anesthesia we find:

A. The hemoglobin is slightly reduced; therefore a slight anemia is produced.

B. Hemolysis is not materially increased.

C. The changes in hemoglobin and red cells are not to be explained on the basis of blood inspissation.

D. Ether causes a marked decrease in the coagulation time most marked from the seventh to the tenth day. The average fell from seven minutes before anesthesia to four minutes on the seventh day. This may have an important relationship to the clinical occurrence of infarcts and thrombus a week or ten days after anesthesia. This action of ether might be beneficial in certain hemorrhagic conditions such as hemophilia and jaundice.

In chloroform anesthesia we find:

A. The hemoglobin is reduced and an anemia is produced.

B. Hemolysis is increased.

C. It causes a slight decrease in the coagulation time, most marked from seven to ten days.

In a comparison of the three anesthetics from the standpoint of blood-changes we conclude that nitrous oxid causes no permanent effects of any significance; that ether causes more harmful effects (slight anemia and marked decrease in coagulation time); that chloroform causes the most harmful results (hemolysis and production of a distinct anemia).

The work of Evarts Graham was undertaken as a part of a general problem on the occurrence of various postoperative lung complications, in which we have been specially interested, and was directed to the study of the influence of ether on certain processes of immunity. His conclusions contained in his complete paper[2] are in part as follows:

1. In his experiments the phenomena of bacteriolysis and agglutination were unaffected by ether.
2. Ether, as given for anesthetic purposes, reduces the property in human and rabbit blood of promoting phagocytosis of streptococcus, pneumococcus, staphylococcus, colon and typhoid bacilli. This effect is easily studied *in vitro*.
3. The period of depression of phagocytosis after ether anesthesia is variable depending on many factors.
4. This reduction is apparently due to a direct action of the ether on the serum and leukocytes.
5. The explanation of this action of ether is not clear, but the experiments suggest the possibility of its being due to the fat solvent power of ether.
6. Lecithin in small amounts *in vitro* and also when given subcutaneously counteracts the inhibitory effects of ether.
7. Olive oil *in vitro* and *in vivo* when given per rectum seems to exert the same effect as lecithin in counteracting the inhibition of phagocytosis produced by ether, but to a less degree.

The recent paper of Dr. Isabella Herb[1] is a practical one on the administration of general anesthetics and is on the whole a plea for simple uncomplicated methods of anesthesia, and for placing this important part of surgical work in specially trained hands, a position to which I am thoroughly converted.

From these special studies and from a review of the literature, we shall attempt to draw conclusions which will assist in the selection of anesthetics.

In regard to the immediate safety and deaths on the table, we find in Hewitt's work on anesthetics, in over one million anesthesias, the following:

	Cases	Deaths	Death-rate
Chloroform	676,767	214	1 to 3,162
Ether	407,553	25	1 to 16,302

In 80,255 anesthesias at St. Bartholomews in London, from 1875 to 1890, there were:

	Cases	Deaths	Death-rate
Chloroform	42,978	33	1 to 1,300
Ether	37,277	4	1 to 9,319

Hewitt believes from his studies that ether is about six times as safe as chloroform. From the standpoint of immediate danger, therefore, the evidence is conclusive that no surgeon or anesthetist has the moral right to use chloroform in preference to ether unless in the special case there are special and peculiar conditions which make the use of chloroform in that particular case safer for the patient. The greater immediate danger of chloroform has been for a long time recognized and admitted even by its advocates. Until comparatively recently, especially within the last five or six years, the champions of chloroform asserted that this greater immediate danger of chloroform was more than offset by the fact that chloroform produced no bad aftereffects and that, whereas chloroform killed some on the table, ether killed more in the week or ten days following anesthesia from ether nephritis and ether pneumonia. Let us analyze this claim.

The facts in the present state of our knowledge seem to be that both chloroform and ether can produce injurious effects on the kidneys, and the evidence seems to show that chloroform is just about as injurious to kidney tissue as is ether.

A more careful study of the so-called anesthetic pneumonias, which we have made on our service, has led to the conclusion that many of them are independent of the general anesthetic employed and should be called not anesthetic pneumonia, but postoperative pneumonias. For instance, Mikulicz found that in one hundred operations on the stomach done under local anesthesia, with cocain, there were as many or more resulting pneumonias than occurred in another series of one hundred done under a general anesthetic. I think one can now say that for the most part postoperative lung complications are autogenous infections; that, as Dürk has shown, the patient carried the specific germ cause about with him before and at the time of operation, and that traumatism or chilling and lowering of the vitality and the resistance, as Graham has shown in the fall of the opsonic index, is the factor responsible for the development of the pneumonia. In the hands of an expert anesthetist and with proper precautions against chilling, etc., there is, in my opinion, little if any more risk of pneumonia after a properly conducted ether anesthesia than after a chloroform anesthesia. On the other hand, it has now been shown that the late serious poisonous effects of chloroform on the liver are common, at least by no means rare, and that they are often fatal.

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[1] Favill and Bevan: Acid Intoxication and Late Poisonous Effects of Anesthetics, The Journal A. M. A., Sept. 2, 1905, p. 691.
Bevan: Nitrous Oxid as an Anesthetic in Major Surgery, The Journal A. M. A., July 20, 1907, p. 197.
Hamburger, Walter, and Ewing, Fred: Blood-Changes Incident to Surgical Anesthesia, The Journal A. M. A., Nov. 7, 1908, p. 1586.
Graham, Evarts: The Effect of Ether on Certain Processes of Immunity, The Journal A. M. A., March 26, 1910, p. 1043.
Herb, Isabella C.: The Administration of General Anesthetics with Special Reference to Ether and Chloroform, The Journal A. M. A., May 6, 1911, p. 1312.

[2] Graham, Evarts: Jour. Infect. Dis., March, 1911.

Our studies of such postoperative complications as femoral thrombosis, lung infarcts and pulmonary embolism seem to show that these complications are the result of trauma and low-grade infections, and independent of the anesthetic employed. Rosenow, on Dr. Billings' service, found in three cases of postoperative thrombus and embolism a pneumococcus of low virulence, with which he succeeded in producing similar thrombi in animals. In this connection the very interesting fact demonstrated by Hamburger and Ewing must be further investigated, i. e., that ether produces a more rapid coagulation of the blood, from seven to four minutes, most marked from the seventh to the tenth day.

Looking at this subject of the late injurious effects of general anesthetics as a whole, including postoperative lung and kidney complications, and fatty degeneration of the liver from chloroform, I think we must conclude that the secondary late bad effects are quite as numerous and more serious after chloroform than after ether. If these facts are true, chloroform has no longer any claim to recognition except in special cases.

Nitrous oxid, until comparatively recently, has been in the hands of the dentists for short anesthesia, although, as already referred to, Edmund Andrews showed as early as 1868 that it could, in a mixture with oxygen, be used for long anesthesia. In the last five years, nitrous oxid has been used more and more in this country. It has had great vogue and has become a fad in the hands of some men who have advocated it as the routine anesthetic in surgical work. Let us attempt to weigh the evidence and assign to nitrous oxid its proper place.

Nitrous oxid for short anesthesia is the safest anesthetic agent known. It has a very considerable field of usefulness and I think that it can very properly be said that a surgical clinic which does not find frequent use for nitrous oxid is, from the standpoint of anesthesia, a badly conducted surgical clinic. In the setting of fractures, in reducing dislocations, in opening abscesses, in breaking up adhesions, in many minor operations of short duration, it is clearly the anesthetic of choice. In longer operations which must be done on patients with impaired kidneys, in whom the possible irritation of the kidneys by chloroform or ether must be avoided, nitrous oxid with air or oxygen offers us the safest anesthetic. In patients who are extremely bad surgical risks as in typhoid perforation, grave general peritonitis, intestinal obstruction, etc., it frequently is the safest anesthetic and is to be selected.

On the other hand, I am of the opinion that patients with bad heart lesions, with broken compensation, are not good subjects of nitrous oxid, as I have heard of a number of deaths in this class of cases and I believe that in such cases ether, if properly given, is preferable.

The effort to make nitrous oxid and oxygen the standard anesthetic in a surgical clinic is, to my mind, ill-advised. Nitrous oxid is far from being an ideal anesthetic. It does not produce in many cases sufficient relaxation, it is uneven in its action, and in some cases the anesthesia is not complete and the surgeon is required to work at a disadvantage. In the ordinary case in which the patient is a good surgical risk, a properly given ether anesthesia is quite as safe for the patient and much more satisfactory for the surgeon than nitrous oxid.

In this connection, I wish to protest against the complicated expensive apparatus for nitrous oxid, oxygen, ether and chloroform sequences and mixtures, which are now being foisted on the market by instrument makers. They are too complicated and cumbersome. It would be necessary only to add to some of these a carbureter and a magneto, and you would have as complicated an apparatus as a 1911 model automobile. The simple cheap stands for gas-tanks and face-mask are much to be preferred.

Local anesthesia has a considerable field of usefulness. In minor operations on the extremities, where the blood-supply can be controlled with a rubber bandage; in circumcision, especially in the adult; in some special operations like ligating arteries in exophthalmic goiter; in tracheotomy, for carcinoma of the larynx and occasionally in hernia operations, especially strangulated hernia with the patient in bad condition, it may become for special reasons the anesthetic of choice. In doing any considerable operation under local anesthesia it is well to give the patient from 1/6 to 1/4 gr. of morphin and 1/150 to 1/100 gr. of scopolamin (hyoscin) a half hour before the operation, and the solution which I have found very safe and satisfactory for the infiltration is 1-1,000 cocain in normal salt with 1 minim of 1-1,000 epinephrin to each 100 minims of the solution. In the majority of these operations less than 100 minims, which represents less than 0.1 grain of cocain, is sufficient, and this amount of cocain is perfectly safe.

Spinal anesthesia, to my mind, has little or no field of usefulness. It is dangerous; it is often incomplete: it often necessitates the use of ether or some other general anesthetic to finish the operation. The after-effects, such as vomiting, headache and the symptoms of the so-called aseptic meningitis, are often severe and distressing. The statistics show that nine deaths occurred in the first 1,000 cases. From what I know of the evidence on spinal anesthesia, and from what I know of the anatomy of the spinal cord, I would under no circumstances, which I can now conceive of, choose spinal anesthesia for my own case if I required a surgical operation. The fiasco of Jonnesco in this country a short time ago was a strong argument against spinal anesthesia. After Jonnesco's spectacular demonstration at the Cook County Hospital in Chicago, some of the attending surgeons tried the method in a few cases. The fifth patient, who had a simple fracture of the patella, died from a moderate dose injected in the mid-lumbar region. It is an interesting physiologic and pharmocologic fact that anesthesia can be produced by spinal injection of cocain, stovain, etc. It is too dangerous and too unsatisfactory a method ever to supplant our present methods of anesthesia. It should be limited to an exceedingly small field. I am quite in accord, too, with Keen's statement:

> The ideal anesthetic will not be one which will abolish pain without abolishing consciousness. To have the patient aware of surgical emergencies which test even a veteran operator's skill and resources to the utmost would frequently invite death by the terror which it might occasion. The ideal anesthetic will abolish pain by the abolishment of consciousness, but without danger to life.

What of scopolamin and morphin? In the early work with this combination several years ago, where complete anesthesia was sought from these agents alone, the mortality was so great that the method was soon abandoned and the method remains now with us simply as the first part of some sequence, such as the morphin-scopolamin-ether, or the morphin-scopolamin-nitrous-oxid-ether sequence.

My anesthetist, Dr. Herb, after an experience in 15,000 cases, protests against the routine giving of drugs before ether or chloroform anesthesia. She says: "In selected cases it may be of value, but the use of morphin with atropin or hyoscin (scopolamin) is absolutely detrimental in many instances." It is a well-known therapeutic fact that one drug may augment the action of another and this is especially so in the morphin-scopolamin-ether or chloroform combination. Consequently, an overdose is more easily administered. In case of any untoward accident there is not only the volatile and quickly removable drug, but also the non-volatile and comparatively permanent one to be eliminated.

Not the least of the objectionable features of drugging before general anesthesia is the masking of the most valuable of all guides in anesthesia, namely, the pupillary reaction. Morphin allays the reflex excitability of the air-passages, retards coughing, favors the retention of aspirated blood or vomitus in the trachea which predisposes to pneumonia. Many people are not able to take morphin without distress and vomiting and in such individuals the disagreeable after-effects of ether would be aggravated.

The giving of the anesthetic in a surgical operation is a very important function and it should be in competent trained hands. A thoroughly qualified professional anesthetist is an indispensable member of a modern surgical team. In this country we have too long left this important function in the hands of the junior intern. The difference between the safety of the patient and the comfort of the operator in a clinic in which the anesthetic is in the hands of a trained professional anesthetist, as compared to a clinic in which the anesthetic is in the hands of a junior intern, whose term of office is but a few months, is so enormous that one who has had the services of a skilled anesthetist would never voluntarily return to the unskilled intern anesthetist.

Every hospital should have trained professional anesthetists. The interns should be instructed by a professional anesthetist and they should give many anesthetics under supervision so that they can learn how it should be given; in a teaching hospital, senior medical students should be given practical instruction in the use of anesthetics, but the trained anesthetist should be present and be responsible for the anesthesia.

Women, I think, make the best anesthetists just as they make the most reliable and conscientious operating-room nurses. In these days of modern surgery, the responsibilities and the functions of the skilled anesthetist and the head surgical nurse are little less important than those of the operator himself.

In answer to the question, how we are to secure the safest and most satisfactory anesthesia, I would from this study submit the following conclusions:

1. The anesthesia must be placed in trained professional hands.

2. The methods of giving the anesthetic and the apparatus employed should be as simple and uncomplicated as possible.

3. The anesthetic mixture and sequences, like the old shot-gun prescriptions of the past, should be avoided, and the patient's life not jeopardized by the administration of two or more powerful poisonous agents at the same time one of which might intensify the action of the other, or mask the ordinary danger signals.

4. For routine work, ether, by the open or drop method, is the safest and most satisfactory anesthetic and in the usual run of cases in a hospital service the anesthetic of choice, in from 75 to 80 per cent. of the cases.

5. Chloroform must be discarded as a routine anesthetic. It produces too many immediate and late deaths to warrant its general employment. It is only in the exceptional case, as possibly in a laryngectomy in which one might feel that the direct introduction of chloroform vapor into the trachea might produce sufficiently less irritation to the tracheal mucosa with less risk of pneumonia than ether, that we would be warranted in employing it.

6. Nitrous oxid is the anesthetic of choice for short operations, manipulations and examination. It is also the anesthetic of choice in operations on patients with seriously impaired kidneys and often in cases in extremely bad condition as typhoid perforations, general peritonitis, etc. It should not be employed in patients with bad hearts. It is not so satisfactory an anesthetic as ether and it should not be employed in preference to ether in patients who are good surgical risks.

7. Local anesthesia with cocain and similar agents has a limited field of usefulness. The amount of cocain employed by infiltration should always be short of a toxic dose, from 1/10 to 1/4 of a grain. It should be employed in normal salt solution with small amounts of epinephrin. Where the amount does not exceed 1/10 of a grain it may safely be preceded by a small dose of morphin and scopolamin.

8. Spinal cord anesthesia has to-day no place in surgery.

9. The use of morphin and scopolamin (hyoscin) before a general anesthetic brings with it dangers which are not compensated for by any advantages, and the method should be abandoned or limited to specially selected cases.

10. Finally, I believe that the time has come when we must here in America make a place for the trained professional anesthetist on our surgical team.

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Non-Secrecy of Medical Methods.—At a day when it was usual to keep as a secret any medical or surgical discovery, Paré thus affirms: "For my part, I have shared freely with all persons the gifts which God has conferred on me. And for that I have not the less; just as the luminosity of the candle is no whit diminished, although many come to light their torches."

HE CARE OF PATIENTS WITH ADVANCED TUBERCULOSIS

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There are certain peculiar features about advanced ases of tuberculosis which are often lost sight of in our iscussions of their care from a theoretical standpoint. hese features are, it seems to me, essential to consider efore practical application of our present schemes can e adopted.

These features may be tabulated as follows:

1. Advanced consumptives are sick and provision for heir care must include an equipment for their con- nuous stay in bed and adequate nursing under such onditions.

2. They are wanted nowhere: Our ordinary institu- ons for the care of the sick refuse them; sanatoriums or the tuberculous refuse them; private practitioners ant to get rid of them; boarding-houses and homes ischarge them without compunction.

3. Few of these patients can ever be so built up that ney can return to their former occupation, for while nany recover sufficiently to do light tasks and live an verage lifetime, their working hours are much reduced nd their ability to do heavy work or sell eight or nine ours of their time to an employer, day in and day out, s gone forever.

4. Many of them, under the supervision of strict nedical care, and especially of sanatorium regime, live or many years quite unable to work. These patients o not remain long in sanatoriums after recovery has rogressed this far.

5. These advanced subjects are sources of infection f they are the least bit careless, and, submitted to the crutiny and remarks of acquaintances, they are very pt to become careless.

6. Subjects of advanced tuberculosis in this country, nd in most other countries, have the rights of citizen- hip, and can and do refuse daily to accept the oppor- unity open to them of institutional care even for a few eeks or months. This fact makes the provision of arge institutions far from centers of population much ess valuable than it might otherwise be.

7. Those patients who are so far recovered as to be apable of varying amounts of daily work of a certain haracter owe this work to the community for their care. ll work done in excess of the amount necessary for heir care should be paid for. I cannot but feel that rovision for such work should be made for the good oth of the patient and of the community. The diffi- ulty, of course, arises mainly in determining the char- cter of the work to be offered to such patients. As yman has pointed out, it is difficult to get returns by ransplanting men who have been trained to one class f work to labor of another kind. Still, I think this roblem can be worked out so as to bring results. I am ure of one thing, however: that in the majority of nstances the returns will never come out of gardening r farming.

With regard to the necessity for the care of patients vith advanced tuberculosis, much can be adduced to how that a marked reduction in mortality from tuber- ulosis can be attained without such provision, or at east where no such provision has existed. On the other and, the burden of proof is to indicate that the efficient nd practical care of advanced cases is one of the impor- ant elements, if not the most important element, in our endeavor to control this disease. I think so from the fact that we preach it; that we adduce statistics to prove it; that we quote the opinions of men of authority to urge it and that we are practically all agreed on its necessity.

If this be not so from the standpoint of control, I would ask no greater argument for the efficient provision for the care of such cases than the dire necessity which is evidenced by the pitiable condition under which this excommunicated portion of our populace exists. They are shunned by every port of human habitation. They have no place to lay their heads. Even those places built for the care of the sick, which should most welcome them, refuse them admittance. Take, for example, the modern sanatorium; every one of these refuses yearly more cases than it accepts because these cases are too far advanced for admission, and if, by chance, they admit such a patient who is careless, he is summarily discharged to spread the infection broadcast. Such arguments have forced me to conclude, without any other argument, that the care of patients with advanced tuberculosis is the most essential demand of modern tuberculosis work.

Before entering on what I would consider a model armament for the care of advanced cases, I think it would be wise to attempt some classification of the cases as they exist from the standpoint of taking practical care of them. In the majority of minds the thought of segregation and institutional care is the sole remedy, and yet this is as impossible as it is unpractical. It is made unpractical by the varied nature of the cases to be dealt with. One advanced case, in the ordinary acceptance of the term and under like conditions, is as infectious as another. No one would claim, however, that an advanced consumptive in arrested and fibroid state, with an earning power equal to much more than the demands of himself and his family—an earning power based on brain power which can be exercised without endangering or shortening his life—should be segregated in an institution; yet I know such patients who daily, in office, home and club, spread infection by expectoration in the most dangerous way. Such patients have been told a hundred times of the danger they spread, but with a carelessness and a maliciousness born of power they scatter their germs in the nostrils of a helpless public. Such persons are just as dangerous as the poor foreigner whom the law in some states can claim and incarcerate for a similar offence.

Without further example or detail the cases submitted for care are as follows:

1. The dying patients whose early doom is written on their hectic, hollow cheeks.

2. The patients whose span of life is yet six months to three years of bedridden invalidism.

3. The patients who still have five to fifteen years of intermittent, much-reduced earning power.

4. The patients with fibroid tuberculosis, whose lives will in no wise be shortened by their tuberculosis and whose earning power is but little reduced.

5. The patients with advanced disease, whose wealth admits of their being under private care where they wish, in home, hotel or sanatorium. Such patients may be dying, chronic or intermittent in type.

6. The malicious patients, wealthy or poor, with advanced tuberculosis.

On this classification it may be remarked:

A. All subjects carry danger with them to be spread when their habits are careless, and no provision can be perfect which neglects any single class.

B. No single type of institution will handle all cases.

C. No voluntary power can handle more than a small percentage of any class. The law must eventually be the means by which this infection is controlled.

Adopting this classification I cannot but feel that the first move to secure desired results in this work must be the return of the care of these, under proper provision, to the general hospital. The reasons which make this provision necessary and of the first importance in securing efficiency are:

1. Only in this way is it possible to educate the members of our profession, our medical students and our nurses from whom tuberculosis work has been so much dissociated during the past ten years; and, after all, it is only through these groups that we can attain proper care and supervision. As the matter stands to-day, in the vast majority of instances the patients who come to the dispensaries and hospitals come voluntarily because they themselves, or their friends, have suspected their malady when it has reached an advanced stage. This is essentially wrong, as is, in fact, the whole attitude of our profession toward this disease. The constant advice from doctors to nurses and others who are called on to work in this field is one of the main deterrents to efficient work. By no group of men is this disease and the institutions dealing with it viewed with such prejudice as by the medical profession, and it is impossible to obtain results until this is eradicated. For this reason, if for no other, I consider it essential for the general hospital to establish wards or pavilions for the proper care of these patients and for the instruction of those who have primarily and persistently to deal with the tuberculous sick.

2. These institutions regularly admit tuberculous patients who are suffering from other intercurrent maladies to their wards for operations, for confinement, etc., and make no provision for their supervision and the prevention of infection. I have repeatedly seen within the year, in the service of our best surgeons, subjects of advanced tuberculosis, undiagnosed, in beds in hot, dry wards, who expectorated in handkerchiefs, stuffed these handkerchiefs under their pillows where the sputum readily dried, and I have seen these pillows turned and smoothed by nurses without the least fear or care. Could anything easily be worse in an institution for the care of the public's health? Worse than this, most of the general hospitals will admit patients with consumption to private wards provided these patients are wealthy enough to pay for private rooms and nurses, and I seldom see adequate provision for proper care and prevention of infection. Under these conditions I feel, therefore, that general hospitals should make proper provision for such cases and give careful printed instruction and adequate education for the care of the tuberculous to all whom they seek to educate. Many patients would willingly go to such institutions without the fear which our crusade has engendered in the minds of profession and laity alike, and could be educated and instructed here as well as elsewhere.

There need be no fear of infection spreading from these cases when properly cared for. Less danger by far could come from these patients under proper instruction than under conditions as they exist to-day, or from many of the cases now cared for in medical wards.

3. In such institutions there is already the nursing force, the medical care, the administrative equipment and the situation in the centers of population which are so necessary for the care of advanced cases of tuberculosis and which are so great a part of the expense o such care.

Let me here interpose again the feature of training our doctors and nurses. On the fingers of one hand can be counted to-day those schools in which adequate education is given to medical students. The Universities of Pittsburgh, Pennsylvania and Johns Hopkins are among the most efficient of these schools, and, so far as I know, the Tuberculosis League of Pittsburgh is the only organization giving a broad education to nurses in all departments of municipal tuberculosis work. How can such a problem be handled when we so shamefully neglect the very people who are to handle it?

Next to this provision for a certain number of advanced cases in general hospitals and the great value accruing from it, I would urge proper provision in all county, state, municipal and charitable institutions such as asylums, jails, poorhouses, prisons, orphanages, homes, etc. Such provision would take proper care of another large number of advanced consumptives who are still in large part neglected and, as I know from personal experience, do much to spread infection under existing conditions. I am aware that something has been done in this regard; but the completion of the work I would consider one of the first duties of the state and municipal departments of health. Such provision for a second large group of cases is enhanced by an equipment of nurses, doctors, administration and location which need not be duplicated.

The third necessity—and I consider this easily third in importance—is the provision of separate institutions for the care of patients with advanced cases. These, to be successful, must have certain requisites:

1. They must be near the centers of population, easily reached by patients and patients' friends.
2. They must be provided with an adequate nursing staff.
3. They must be prepared to keep these patients indefinitely. Short stays are, I consider, of small value and patients should be allowed to stay until death intervenes.
4. They must provide for and demand some sort of work from those who are able to do some work but unable to sell their time as required by regular employers.
5. They must accept pay for care from those who are able to pay for support. This is necessary for the tone of the place as well as for the morals of the patients.
6. These institutions must be of varied sorts, some provided by states and county in conjunction, some by municipalities; some by charitable organizations, some by private corporations. This is necessary because no one institution can care for all social and racial classes, and no provision is adequate that neglects any one class of cases.

The fourth provision for the care of advanced tuberculosis is that necessary for the patients who are to remain in their homes. By far the largest number of patients with advanced tuberculosis will always be cared for in this way and it is here undoubtedly that the greatest good can be done.

To accomplish results in this field we have already the means in our corps of tuberculosis nurses.

The great weakness in this branch of work to-day is the multiplicity of agents at work and the lack of organization among them. In Pennsylvania the most serious difficulty in the way of progress of organization lies in the pettiness and jealousies existing between the local state, municipal and charity organizations, and until such are removed efficiency cannot be attained. There is so much for all to do which no one agency can ever do alone that it is a great pity that this condition exists.

The first necessity, I think, is for division of labor and proper apportionment of territory. This was provided for in Pittsburgh by the formation of a commission on which all factors, state, municipality and charity, were represented and a stocktaking of the city was accomplished; but when the division of work was proposed, both state and municipality withdrew and the accomplishment of this desirable end is still in the future.

To the charities I think it would be wise to delegate small territories which could be worked intensively in such a way that the results would guide future movement and progress by larger agencies.

The state (by virtue of its legal status) must have supervision over the whole field, but should, I think, guide, direct and demand local efficiency and autonomy rather than paternally provide the whole ammunition.

The municipality should carry out its labor in accordance with the state law and under its guidance. All reports of cases and work done by all agencies should be centralized in the state department of health, and from here, based on these figures, should emanate from year to year the plan for the state.

To sum up, then, my views on the care of advanced cases are as follows:

1. Provision must be made for all social and racial classes.

2. Provision must be made in general hospitals for a group of cases, mainly for its educational value on doctors, nurses and the public.

3. Provision must be made for a second large group of cases in state, municipal and charitable institutions.

4. Provision must be made in special institutions provided by state, municipality, charity and private means for a third group.

5. Provision must be made for a final group by instruction and care in the homes by doctors and nurses.

6. Small institutional units are of more value than large institutions.

7. All cases must be registered in the health department of the state. The state must supervise and control the whole movement. It must do this through its local agencies and subdivisions (I mean municipalities and counties) and make certain demands from charities and other similar agencies for uniformity of plan and apportionment of work.

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THE BLOOD-PRESSURE IN PNEUMONIA*

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The treatment of pneumonia is still so empiric that any observations which may tend to assist in the treatment of this disease are worth reporting. A few observations on the blood-pressure in some forty-eight cases of pneumonia in adults are, for this reason, offered for consideration. The reports on the blood-pressure in pneumonia vary so greatly that there must have been heretofore great divergence in instruments used or an insufficient number of observations to enable any one to gather together into a connected whole the observations that have been made. Some observers class pneumonia as a disease with normal pressure, others as one of hypertension, and still others as one with abnormally low pressure. Giglioli reports some fifty cases measured with the Riva-Rocci instrument, and states that in favorable cases the changes in pressure were slight. In severe cases the fall at the height of the disease on the fourth or fifth day was down to 80 or 90 mm. of pressure. In fatal cases rapid fall of pressure with dilatation of the heart is recorded. Others have found that a slight hypertension occurred during the first day or so, that in serious cases there was the rapid fall, the practically normal run of pressure in favorable cases, and that in favorable cases the pressure slowly returned to normal in convalescence. A drop down to 90 mm. of mercury has been considered of serious import. Gibson of Edinburgh, in studying the relation of blood-pressure to pulse and respiration, has endeavored to make some rule that would be of assistance in the treatment of pneumonia, or at least could be used as a warning of a beginning lack of equilibrium in the cardiovascular circulation, or even heralding a collapse. He has concluded that as a general rule, the pressure in pneumonia is a little below normal with considerable variations throughout the course of the disease. The sudden fall of blood-pressure at the crisis has not occurred in Gibson's experience; hence, though reported by other observers, it cannot be very common. A pressure that is appreciably below normal is invariably of evil omen, and any considerable fall bodes disaster — and he sums up his experience in the following well-expressed observation:

> When the arterial pressure expressed in millimeters of mercury does not fall below the pulse-rate expressed in beats per minute, the fact may be taken as of excellent augury, while the converse is equally true. That is, when the pulse-rate per minute is higher than the pressure of the millimeters of mercury, the equilibrium of the circulation is seriously disturbed.

C. A. Gordon has confirmed the practical value of Gibson's rule.

The following observations in forty-eight cases of pneumonia have been taken with a Janeway apparatus in Bellevue Hospital, and there has been an endeavor to take a daily measuring of the systolic blood-pressure of each patient. This has not always been possible, but in the cases which are reported a sufficient number of observations have been taken to give a fair judgment of the condition of the pressure in the course of the disease. These cases include both bronchopneumonia and lobar pneumonia, there being eight cases of bronchopneumonia and forty of lobar pneumonia. The ages have ranged from 13 to 78 years. They have been taken as they came to the hospital, of all ages, both sexes, and all conditions of life such as are found in an active general hospital service. They include the mild and moderately severe as well as the fatal cases — those of patients who were total abstainers from the use of alcohol, who used it in moderation, and who used it to excess. Of the eleven fatal cases which occurred, ten were among those who used alcohol, the other patient being a total abstainer. In such a small number of cases as here reported one hesitates to generalize, and one's observations must be recorded as facts and occurrences which may or may not be further corroborated. In the mild cases, in which there did not seem to be much toxemia, the disease did not seem to change the blood-pressure from the average normal in young adults, 120 to 130; it remained normal throughout their attack. In some young adults whose pulse remained below 120 and the blood-pressure remained above 105 during the disease, while there was no change at the crisis in the pressure, it fell below 100 after convalescence had set in, the pressure really being lower in convalescence than during the disease. These patients all recovered. In others the pulse remained below 120 and the blood-pressure below 105, and as soon as the crisis occurred and convalescence set in the pressure quickly and steadily rose to 120 to 130 mm. In no case did we see a sudden fall of pressure at the crisis. In some of the severe cases the blood-pressure has been low, the pulse, temperature and respiration very high, and this ratio has remained persistently throughout the disease. These are the cases in which Gibson's rule is the most noticeable and the patients are very ill and recover or die as the case may be. In those patients who recovered the pulse usually diminished in frequency before the blood-pressure rose. In some few instances the reverse occurred. In other patients neither the temperature nor the pulse ran very high, and the blood-pressure was very low, below 100; still the ratio of Gibson's rule did not point to a bad prognosis, that is, the pulse-rate remained below the millimeter pressure of mercury. These patients recovered and the pressure persisted very low in their slow convalescence. In some patients suffering from chronic nephritis, the blood-pressure remained above 150 mm. but was distinctly lowered by the pneumonia. Some of these patients recovered and some died. In those who recovered the blood-pressure rose after the crisis. In other patients with nephritis, the blood-pressure has remained high (200 to 180) and yet the patients have died. In the cases of elderly patients with arteriosclerosis and in some cases of chronic nephritis, Gibson's rule did not hold good, and yet many of these patients died. The readings of the blood-pressure gave no hint of the cardiac failure. Taking the forty-eight patients, it is interesting to note that twenty of the forty-eight showed Gibson's rule, and of these six die. Of the twenty-eight that did not show Gibson's rule, five died. As expressed in percentages, this shows that of those who showed Gibson's rule, 42.8 per cent. died, but of those who did not show it, 17.8 per cent. died. It is interesting to note among those who showed Gibson's rule that not quite half were alcoholics, and among those who did not show it not quite three-fourths were addicted to alcohol; but then among those who did not show it are included the arteriosclerotics and the nephritics, which further disturbs the ratio of blood-pressure and pulse-rate.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

In summing up the subject Janeway remarks:

> When one pictures the possible causes for variation in lobar pneumonia, the difference in individual reaction to the toxemia and in extent of lung tissue involved, the motor restlessness of some patients, the urgent dyspnea of others, and the great likelihood of an asphyxial rise of pressure where cyanosis is extreme, there is little wonder at these somewhat discordant results.

Looking at the figures alone in print without the patients, the results do seem extremely variable and discordant, but from impressions formed at the bed-side of watching the individual patient, of judging carefully the wisdom of this or that order for medication, and using the knowledge obtained from the blood-pressure as well as from the pulse, temperature, and respiration and general appearance of the patient, the impressions left are not so discordant as the mere grouping of types would seem. In the patients who were non-alcoholic, even among those who had passed the resistant stage of youth, Gibson's rule seems to hold particularly true. With an undisturbed blood-pressure, and with a pulse-rate well below the millimeters of mercury, one may feel easy in mind concerning the outlook, but where the pulse-rate runs higher than the millimeters of mercury of blood-pressure, there is a very distinct warning and danger-sign that cannot be disregarded. After convalescence has set in, the pulse-rate, however low the blood-pressure may be, usually remains well below the millimeters of mercury in number. Patients who have arteriosclerosis, and who have chronic nephritis, are not apt to show Gibson's rule, but the danger of cardiac failure is none the less very great. In the eleven fatal cases here recorded, five showed Gibson's rule and six did not. One cannot, therefore, attribute the break-down of the cardiovascular equilibrium to one cause only, as many are apt to do. We hear much of vasomotor paralysis in pneumonia and infectious disease, and the figures here presented undoubtedly show that it is common enough in pneumonia, but it is not the only cause of fatal termination. The pressure may remain up, and there may be no vasomotor paralysis until a few moments before death, and the cause of death be due to a failure of the intrinsic muscles of the heart. I have often been struck, at the necropsy of patients who had died from what seemed to me a disproportionately small amount of infection in pneumonia, with the frequency in such cases of the brown friable heart muscle which seems to be summed up pathologically as brown atrophy. The great proportion of degenerated heart muscles in alcoholics has as much influence in the increased fatality of pneumonia in these patients as vasomotor paralysis. Of the eleven fatal cases here reported, one-half showed vasomotor paralysis, and half did not. The measurement of blood-pressure, therefore, will decide often the question of whether we should look to the heart or the blood-vessels to reestablish the equilibrium of the circulation. One hears recently a great deal about the use of epinephrin in cardiac failure in pneumonia, but unless one knows whether it is a vasomotor paralysis with a low-tension pulse, or a cardiac failure with a high-tension pulse, one certainly cannot use it intelligently, for while it is wise to give it with a low tension and it undoubtedly has done good in many cases in which this has been the factor against which the epinephrin was working, it is unquestionably poor judgment to use it with a patient whose blood-pressure is already high, and whose heart is struggling without sufficient reserve force against too great a strain. On the other hand, one sees a mixture of strychnin, camphor and alcohol given to raise a falling blood-pressure. One cannot acquiesce in the wisdom of this, for therapeutically it is a neutral mixture. The alcohol will dilate the vessels and reduce the blood-pressure vastly more than the strychnin and camphor can raise it. I have heard it reported that such a mixture had been given all day to raise the blood-pressure, and the situation saved by epinephrin. One always wonders if the epinephrin would have been necessary if the alcohol had been left out. It is also a grave question whether alcohol is advisable in pneumonia until we know whether the blood-pressure is high or low, for if it is lower than normal, we certainly should not desire to further reduce it by such an effective means of lowering the blood-pressure and dilating the vessels as is alcohol. There certainly are patients with whom we are required to use all the means in our power, as camphor, strychnin, digitalis and epinephrin, to prevent a vasomotor collapse, and there are other patients with whom we must equally endeavor with vasomotor dilators to reduce the tension in the pulse to the amount against which an overstrained heart can best work and carry on its share in the equilibrium of the circulation. The blood-pressure instruments to-day are of such convenience that they offer the easy opportunity to ascertain at a visit these facts. A nowledge of the blood-pressure in pneumonia will often e of assistance in judging of prognosis and of treatment. These are the two vital points to the patient.

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ABSTRACT OF DISCUSSION

Dr. Wilder Tileston, New Haven, Conn.: With regard to he blood-pressure in cases of pneumonia, I do not think it has uch value in prognosis. At a recent meeting of the Amer-can Society for the Advancement of Clinical Investigation r. Sailer reported the results of a study of the blood-pressure pneumonia, and he found that most cases of patients who ied did not follow Gibson's rule. I do not think that sufficient data have been accumulated to lay down definite rules egarding the importance of the blood-pressure in determining he prognosis in pneumonia.

THE TREATMENT OF CHRONIC HYPERTENSION *

L. G. VISSCHER, M.D.
LOS ANGELES

It is with the treatment of chronic hypertension as ith that of glycosuria or fever, or even pain; it hould not, *per se*, be treated away, not artificially kept own, but watched as a valuable sign of most complex isturbances, of which we may or may not alter or radicate the causes. Verily, to reduce hypertension is ot its treatment; to maintain it will often be our task, s in cerebral arteriosclerosis and initial interstitial ephritis, in which increased blood-pressure is indisensable, and in which efforts to reduce tension would nly aggravate the condition. In fact, there is in all athologic hypertension a limit of irreducible tension hich is above normal, but below which interference ould disturb the cardiovascular equilibrium. To be uided by our *nil nocere* is a matter not only of academic ignity but of the most practical value. Too often are isery and discomfort added to existing derangement nd disease, through half knowledge and vain efforts; nis is done in direct ratio to the number and potency of ır agencies of treatment. Luckily we have not at our ommand powerful or lasting means or remedies to duce blood-pressure, the application of which would ot bring about such discomfort as to warn the patient at too much of a good thing is received.

"Hypertension" and "hyperpiesis" are new words, but the conditions thus baptized can be dated back to the me of the Prophets with only slight increase in actual eans of treatment, we may go back to the storehouses time-honored customs and proverbial advices. Next importance to an equanimity of living, a moderation working, a cheerful indulgence in minor transgresons (within bounds of righteousness) appears the mplex task of regulating diet and breathing; considerion should be given to the toxic aspect of deranged gestion and faulty metabolism, the dynamic side of sturbed intra-abdominal pressure, in relation to diaıragmatic position and excursion and the loosening or htening of the splanchnic vessels during digestion.

For actual treatment, only people past 40 ask our unsel; to the younger generation it is our duty to read the warning word. We warn the young men ainst excessive smoking, chronic overindulgence in at, the strenuosity of motoring, insufficiency in water-drinking, the revolting habit of food-bolting, the late hours without compensation by sleep, and the irregular periods of physical strain in work or play without constant and gradual training. The young women we warn against late hours, endless social gatherings with coffee and tea, insufficiency in water-drinking, faulty attention to many inner necessities at the expense of outside appearance. The gratitude with which young men and young women, especially young mothers, have accepted and applied good advice in these matters belongs to our most cherished rewards. The young mothers, though often charmingly lacking in good example themselves, make a most commendable effort at teaching wholesome living to their children.

Chronic hypertension is more prevalent among the city population than in the country, and decidedly more among the middle class and the well-to-do; it is especially the result of continuous brain work without let-up or country air, and perhaps overstimulation by coffee, nicotin, alcohol and manifold overindulgences.

Among the toxins which cause hypertension, the purin bodies stand high. They will flood the tissues, whenever proteid metabolism is disturbed, or after direct introduction of food-stuffs, containing abundant nucleins; that is, much meat, kidneys, liver, sweetbreads, brains, caviar, cured meat, sausage, gravies, old cheese, broth, mushrooms, peas, veal, and the like. It is necessary to alter the diet list in this line of restriction; in senile arteriosclerosis, such a radical change in alimentation will soon be followed by weakness without noticeable impression on the pulse. In fact, hand in hand with the manometric examination should go the determination of urea, indican, and the acid-titer of urine in order to determine the proteid-tolerance of our hyperpietics. Among the end-products of proteid metabolism are uric, sulphuric and phosphoric acids, insufficiently neutralized by the mineral bases introduced with the food, if ample vegetables and fruits are not provided. This free acid will tend to disturb the normal neutrality of the blood and the organism will use its most powerful base, ammonia, withholding it from urea formation, and draw on its bicarbonates, monophosphates and diphosphates. The carbonic acid, being the weaker acid, becomes insufficiently transported to the lungs. Carbonic acid has high pressor qualities and enters, as such, distinctly in the hypertension of toxemia of pregnancy and of diabetes. What influence carbonic acid has on the production of hypertension and on the maintenance of normal pressure may be learned from the recent investigations of surgical shock in laparotomy by Henderson; it is demonstrated that the peritoneal serosa gives off free carbonic acid, especially into the moist, warm atmosphere of the so-called protective hot towels. In other words, it is the amount of reserve base which will determine in part the higher or lower tension of the circulation. To reduce this acidosis and to provide alkali freely by vegetable foods and soda in various ways is our task. One routine way is the administration of alkaline laxatives, since it has been demonstrated that alkalinity of the intestinal contents increases putrefaction, and since the products of this process have high pressor qualities, it is better to give non-alkaline laxatives, when indican is abundant in the urine. I have found it of distinct benefit, in cases in which the introduction by mouth of alkali increases the flatulency, to administer it by rectum once or even twice a day.

There is another side to this no-meat question: What is the patient's digestive power of meat, both in stomach and by pancreas? In achylia or subacid gastritis, hydrochloric acid will be of advantage, and the presence of striated meat fiber in the stool will point in the same direction. A frequent coeffect of laxative medication is the hurrying of albumoses into the realm of the colon bacillus, which thrives on albumoses and does not subsist on peptones; therefore, it is our task to give laxatives either early before breakfast or well after the height of digestion. *Qui bene purgat, bene sanat.* Those with the stigma of high tension on them, who suffer from dull headache, nervousness, vertigo, slight oppression in the chest unless their bowels moved that day, often at the age of hygienic introspection abandon their laxatives and take up some method of a most laborious and even ludicrous nature, e. g., a sudden change to coarse vegetable diet, the harder and tougher the better, uncooked in preference to anything, or the use of large amounts of olive oil or butter, or the keeping of regular hours for protracted morning visits to the toilet spent in prolonged straining efforts at the stool, with a rise of abdominal pressure as a consequence. These people should go more carefully in their conversion and not throw their pills away.

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* Read in the Section on Pharmacology and Therapeutics of the nerican Medical Association, at the Sixty-Second Annual Session, ld at Los Angeles, June, 1911

So widely spread is the knowledge of what the lactic acid bacillus will do, that I shall merely pass the subject with endorsement and commendation.

It is necessary that the intra-abdominal pressure shall be slightly positive, through the activity of the abdominal muscles and diaphragm under control of the respiration center. Whenever the intra-abdominal pressure rises to excess, three things will happen: first, a high stand of the diaphragm, this very valve of life, so wonderfully assisting the rising of blood in the mighty vena cava, with reduced downward inspiratory excursion, which means lessened aspiration on the cava; second, the resistance to the venous inflow from the extremities into the common iliac; third, a rise of blood-pressure in the splanchnic arteries caused by compression of the venous splanchnic area. All this takes place provided the heart is powerful. Clinically, this condition is manifest through slight dyspnea, moderate hypertension, aching limbs, torpid liver and catarrhal gastritis. When, in later stages, the heart has lost in tone, the peripheral pressure will not climb through reduced systolic ventricular output. Now, this contrast in influence on blood-pressure, dependent on whether the heart is in tone or weakened, is seen in many instances; even the same agent being a pressor or depressor in the same individual according to its quantity and duration. A hot bath will raise the pressure for the first ten minutes, and if prolonged the pressure will fall. Muscular overexertion in the racer will raise the pressure from five to ten points, and will let it sag down ten to twenty points through heart exhaustion. Tobacco to slight excess will raise the pressure, in toxic doses it will depress. Alcohol in relatively smaller doses in youth will raise pressure through heart stimulation, while in age it will through equalizing relaxation lower pressure—provided the glass be filled and emptied with wisdom, which age provides. By this relative contract in end-results of similar causes, depending on the tonicity of the heart, we must explain why the very advice we give our hyperpietic past the age of 40, with still vigorous heart, may have to be reversed later in life. The wise man at 40 saves, the wise man at 60 spends.

Even without the use of the fluoroscopic screen we can often demonstrate the high stand of the diaphragm by a fine atelectatic crepitus at the right base posteriorly.

Ample indication for treatment of this condition is given in the following causes of high intra-abdominal pressure:

1. Abundant food intake.
2. Gorged liver.
3. Chronic loading of a distended colon.
4. Gas in stomach and colon.
5. Omental fat.

The regulation of diet means a restriction in amount of sufficient caloric value, well above Chittenden's penurious level; a diet adapted both to the secretory and motor functions of the individual stomach, with especial caution against the unyielding coarse food fad and the surplus amount of liquid taken by people who are washing their system; regulating the bowels with or without laxatives, moving them in the forenoon and relieving the colon of gas in the evening by a warm enema; further attention to flatulence with the habitual use of carminatives, including the sharper spices, where kidney and bladder do not forbid their use; massage of the abdomen, circumduction of the thigh, possibly the application of the sinusoidal current, for which a very beneficial effect on intestinal atony is claimed.

In dealing with general obesity or more localized embonpoint, a good deal of caution is needed; not so much at the disappearance of the fat do we aim as at the timely prevention of its formation. When the abdominal parietes have been first comfortably filled for years, and thereafter uncomfortably stretched for some more years, the intra-abdominal circulation adapting itself more or less to it in the meanwhile, what will happen by energetic underdieting and massaging? Though the diaphragm will be greatly freed in its excursions, the flabby abdominal wall will give insufficient support and a tendency to a low intra-abdominal pressure will be manifest with a hindrance to expiratory excursion. This low intra-abdominal tension, accompanied by a feeling of exhaustion and early fatigue in our advanced and overtreated hyperpietics, is a far more difficult matter to deal with. The inferior cava output is retarded and the venous splanchnic area remains gorged, with flatulence and indigestion as a result, only compensated by a rise of pressure in the splanchnic arteries, thereby throwing back the work on the already overburdened heart. So, in a measure, we should endeavor, in spite of hypertension, to overfeed our lean patients, not forgetting that many thin people, when hyperpietic, are often big eaters and mysteriously powerful alcohol absorbers.

As hypertension is due to a narrowing of the total cross-section of the blood-channels, any change in one of the large areas of circulation will have its decided influence, especially in the areas of the skin, the musculature, and the abdominal viscera.

Within bounds of reason an ample amount of outdoor exercise is beneficial to hypertension; I emphasize a one- or two-mile constitutional before retiring, depending on the heart's tonicity and reserve force.

Warm bathing is very beneficial, both morning and evening, with cold sponge or shower thereafter; and with care, we can make use of the depressor influence of the warm carbonic acid and brine bath, which increases the pulse volume and, through opening the skin-circulation, reduces hypertension. Unless the favorite cold morning bath be followed by reaction, it distinctly harms by tightening the skin-circulation.

Most important of all, however, is that enormous territory under control of the splanchnic nerves; so manifold here are the various evidences of disturbance

d of consequent adaptation, that only minute individ-
l observation will enable us to foretell safely the
tailed influence of the most common happenings of
ily life. To gauge the pressor or depressor influence
a meal, depending on quantity, quality and company;
a cigar or more cigars, of wine and more wine, taxes
r individualizing acumen heavily in daily practice.
hile restriction or complete withdrawal of coffee, tea,
cohol and tobacco seems the safer plan, I am deeply
nvinced that ever since hypertension became the
gan, much wholly unnecessary privation has been
rced on our patients. We cannot point out emphatic-
ly enough that arteriosclerosis and hypertension are
t congruent; that hypertension particularly in inter-
itial nephritis and cerebral arteriosclerosis is compen-
tory and should be very carefully dealt with, and that
e involutionary arteriosclerosis of the aged, as well as
me forms of toxic (syphilitic) arteriosclerosis, is often
accompanied by hypertension.

Extremely important, but almost common place, is
e necessity for liver regulation. If I were to be left
ith only one drug to treat our disturbance under con-
deration, I should choose calomel.

There are influences productive of chronic hyperten-
on which are to be mastered only by the intelligent
nduct of our patients. It seems beyond doubt that
ental overactivity stimulates both pituitary gland and
lrenals which throw pressor substances into the cir-
lation. What lack of sleep will do, and the absence of
laxation to the brain (which is the characteristic of
orry), what influence on hypertension must be attri-
ted to the well-known, though ill-admitted fact, that
bido sexualis, especially in man, is kept overstimulated
city life, can only be presumed. All considerations
mbined, it seems that hypertension has to be met and
eated more during the hours the patient is away from
ork than when he is at it. It is well-nigh impossible
divert the mighty current of business life, as long as
nbition is met by limitless opportunity and the mul-
farious enjoyment of so-called excitement can be
ught only by overstraining the earning power.

As to the hours of sleep, it should be better understood
at carbonic acid is of high pressor power, that sleep in
-ventilated rooms will interfere with metabolism dur-
g one-third of our life-time, a time additionally spent
the digesting and assimilation of the heaviest meal
the day. Invariably, for reasons already given, people
ith hypertension would do better to eat light evening
eals with ease thereafter for a few hours, then take a
oderate amount of physical exercise, a warm bath,
rhaps a warm enema, and sleep in a warm bed with
e windows wide open.

A few remarks on drugs follow: Do iodids act
rough reduction of viscosity of the blood (Romberg)
through thyroid stimulation? Or does the thyroid
t through its iodin in organic compound? I cannot
y. We know that they do reduce headache and pre-
rdial pain; they do not lower the blood-pressure in
lvanced hypertonic arteriosclerosis; they do everything
syphilitic arterial disease. They should be given with
eat caution, since Krehl's warning, in cases which
ow thyroid enlargement, as it has happened too often
at a daily amount of 15 gr. of the potassium salt
iring two weeks caused very rebellious thyroidism. As
dids have to be continued for long periods, an alter-
ation, as Elsner advises, from the sodium through the
rontium and rubidium to the potassium salts will be
mmendable. Sajodin has been well tried; I do not
re for it.

Of decided benefit is theobromin, a dimethylxanthin, a congener to caffein, a trimethylxanthin. Xanthins are pressors, still through direct stimulation of the renal tubar epithelium (if this be not diseased) in large amounts they cause a fall in blood-pressure. Diuretin acts somewhat similarly. Ever since Huchard introduced the theobromin, we have found it potent in angina and anginoid states up to 7½ gr., well distributed during the day.

Though nitrites relieve anginoid suffering they do not always do so by a general lowering of blood-pressure. After using sodium nitrite, I have repeatedly heard good reports from my patients. These reports were accompanied by higher manometric readings. MacKenzie's observation is instructive. During an attack of angina with a pulse-pressure of 190, amyl nitrite gave instant and complete relief, the pulse-pressure rising to 200. This change evidently denotes the comparative prevalent action on the coronary arteries. Still we must be aware of an angina with low tension due to dilatation of myocarditis or even aortitis. Their excessive dilatation of the cerebral vessels limits their use in hyperpietic nosebleeds. Erythrol tetranitrate I have given zealously, but had to reduce the doses greatly to prevent the violent headaches so often caused by it. An advantage of the nitrites is in their combination with the tonic cardiacs, if needed. Aconite is of noted help in the excessive hypertension and pounding heart in toxemia of pregnancy. Moreover, double drop doses during the day have given great relief without perceptible harm to the heart.

Chloral, veronal and medinal are reliable agents to procure sleep when attacks of vertigo, dyspnea and pounding heart make the night a time of horror, and chloral may be given in effective doses; perhaps too often our patients fail to receive relief, which is withheld from them by our fear of doing harm. From year to year a new hypnotic comes on the market, which surpasses all its predecessors in effectiveness and absence of depressing effects on the heart. But it is just this depressor effect of the chloral group, which aids in combating the dyspneic unrest, which robs the patient of his sleep. Small doses of chloral during the day are very helpful by their depressor effect.

In this respect I would add that in the senile heart, both with and without hypertension, digitalis is an ideal drug and should not be withheld on account of its pressor power. A good deal of this hypertension, already compensatory, is due to venous stasis, with rest, massage, and partial depletion; the use of digitalis for a few days, guarded by some iodid or nitrite, will tone the myocardium and bring decided improvement. The use of bromids for three or four days at a time will help. With thiosinamin, fibrolysin and sulphocyanite of sodium I have only a bowing acquaintance. And very recently, on Rumpf's recommendation, I have begun the application of high tension oscillating currents which can easily be given as a house remedy.

As in the degenerative changes accompanying secondary arteriosclerosis, the deposit of calcium salts adds to the rigidity of the artery, it has been deemed well to reduce the lime intake, which means the exclusion of hard water, the theoretical limitation of eggs, cheese, rice, asparagus, carrots and milk. On these grounds, strontium or sodium lactate is given. One of the latest drugs, sulphocyanite of sodium, derives its supposed effect from its calcium dissolving potency.

A practical question is: How does altitude influence hypertension? It is as yet hard to answer, though, in rough outline, there is an apparent parallelism between atmospheric pressure and blood-pressure.

In our part of the country, we acquire the necessary information by sending our people on trial trips to any altitude desired; again it all depends on the heart's tonicity.

When the crest of this wave of hypertension, which has struck our profession, will have passed leaving in its wake many a shattered notion, a flotsam and jetsam of sphygmomanometers, broken cuffs and pressure records, the level of our useful knowledge will have come up to a more adequate management of this pathologic condition. May we learn and teach not to grow old before our time, for growing old before one's time is what hypertension means. To depress hypertension in the aged is to take the wind out of his sails, which carry his life-boat into the haven of rest; to reduce the hypertension in the man of 45 is to save him from shipwreck on the banks and cliffs of the very Golden Gate of mature life.

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ABSTRACT OF DISCUSSION

DR. L. DUNCAN BULKLEY, New York City: I see a great deal of high blood-pressure in connection with a variety of diseases of the skin; of course there is a far larger number of skin patients who are anemic and with low arterial tension. I see many patients, for instance, with ordinary eczema, from over-eating and drinking, with full, bounding pulse, so that I am constantly having to combat high blood-pressure. I want to bring one therapeutic measure before you which I find to be of the greatest practical value, and have only to say that if you do *not* find blood-pressure lowered by the treatment recommended I should be extremely grateful to be notified. This consists in a very radical change of diet, which is often quite a surprise to many patients. I appreciate all the features, for I myself have been through it a number of times. Some five years ago I conceived the plan when called to treat a very acute bullous eruption, becoming hemorrhagic, in a plethoric man, with a throbbing pulse, and since then have employed it in many cases and published a paper concerning it, which some of you may have seen. My desire was to cut off all nitrogenous intake, and so I told the patient to take nothing at all into the stomach for five days but rice boiled in water, and white bread, with much butter on both (no milk or sugar), and only pure water to drink, hot or cold, but not iced. The result was remarkable; the blood-pressure lowered at once, in three days the pulse was soft, and the threatening eruption subsided almost entirely. I have practiced this myself on three occasions and know that one can stand it and feel immeasurably better under it, as I have also observed in dozens of cases. I have the rice eaten with a fork, masticated thoroughly, in order that the saliva may be well mixed through it. Boiled rice has practically no nitrogenous value, white bread little, if any, and butter has none. I had my own urine analyzed before and after subsisting on this diet for five days; I am a uric acid subject and neurotic. I had noted the amount of urea and uric acid before the dietary course; I then took the diet for five days and the urine actually showed more uric acid after my not having any nitrogen for five days than it contained before the diet, showing a relief to the system by the abstraction of effete nitrogenous matter from the tissues. In my own case I had an acute vesico-bullous eruption, mainly on the hands. The second day of this diet the itching was gone and within five days the eruption had disappeared. My treatment consists of four articles—boiled rice, with little salt, white bread, butter on both, and water. Some have kept it up for two or three weeks and thrived well. I wish I could talk a minute more about the value of mercurials in lowering blood-pressure; there is no question that they are of great value in reducing hypertension.

DR. WILLIAM B. SNOW, New York: Dr. Visscher has considered most of the general features and associated conditions; but it seems to me that more stress should be laid on the study of the relation of the alimentary tract as a cause of hypertension. Hypertension is undoubtedly caused by toxins which are the products of intestinal flora. Arterial degeneration is undoubtedly due to protracted hypertension. A definite study of arterial tension requires the sphygmomanometer for two reasons: first, to know accurately the degree of tension, and second, to observe the results of treatment. The kind and quantity of food consumed together with the associated character of mastication and digestion determine the arterial tension in most cases. The victims of hypertension are usually large consumers of animal food. Individuals who lead a simple life, eating small quantities of food, often reach sixty years of age with a normal tension of 120 mm. On the other hand, young adults who are large consumers of food are often found with pressures of 160 to 180 mm. The man who leads a quiet life must eat with moderation. Diet and exercise must balance. I find that hypertension is not as a rule compensatory, but arises from auto-intoxication, and is part of the symptom-complex, which will lead to arteriosclerosis. The following case in a man 55 years of age will illustrate the importance of exercise. His arterial pressure was 210 mm. He was a man about town, living a life of pleasure, having the best of all good things. High frequency autocondensation reduced the blood-pressure to 130 mm. within one month, when I put him on active exercise. The man went through last summer with a pressure that did not exceed 145 mm. He frequently played four games of tennis in succession, and is now in good condition, taking little treatment and no drugs. The d'Arsonval method of treating hypertension is one of the greatest boons to humanity. I have constantly under observation a goodly number of cases who are on the verge of apoplexy in whom a pressure of between 130 and 150 mm. is maintained with occasional treatment, with the high frequency current. This is accomplished without depressing the heart, as has been demonstrated in the treatment of a person in my own house every day, in whom the pressure was 210 mm. and irreducible, owing to general sclerosis. Another patient had been in bed most of the winter suffering from pulmonary edema due to mitral insufficiency with hypertension. He had had three hemorrhages with incessant cough and expectoration of bloody mucus. His pressure when he came to me was 210 mm. Under alternate day autocondensation treatment (no drug) the pressure rapidly fell to 130 mm. He is now well, without cough or dyspnea and his pressure is now maintained below 140 mm. with one autocondensation treatment weekly, with no other treatment.

DR. L. G. VISSCHER, Los Angeles: I am grateful for Dr. Bulkley's suggestions to lower blood-pressure by his exclusive diet, and to Dr. Snow for his information about the d'Arsonval treatment. I cannot agree with this speaker when he doubts the compensatory nature of hypertension. Depressing drugs or measures, especially in older subjects, have, in my experience, caused weakness, very hard to overcome; it is necessary to get up a certain balance of welfare. Dr. King thinks well of calomel; so do I, as I rather boldly stated. Physical rest I do not consider so useful as moderate and well regulated exercise. As to the cold shower, of short duration, after a warm bath, I maintain that it assures the reaction without which this measure were harmful. Cold baths I consider harmful.

Desiccation as a Means of Disinfection.—The Indian, who instead of embalming and burying his dead friend, hangs the body under a tree exposed to the air, makes use of the property of desiccation, which, as is well known, is very efficient in arresting decay and is the basis of a modern patent for keeping yeast. Earth is a very powerful deodorant and wil also act as an antiseptic; the gases given off by decaying bodies are absorbed and thus the burying of a body under proper conditions may be regarded as an efficient means of disinfection. The use of fire for cremating bodies undergoing decay or likely to cause a nuisance is, of course, an illustration of the employment of heat for the destruction of microorganisms.—W. Dreyfus in *Jour. Am. Pub. Health Assn.*

XPERIMENTAL MEASLES IN THE MONKEY WITH SPECIAL REFERENCE TO THE LEUKOCYTES *

LUDVIG HEKTOEN, M.D., AND H. E. EGGERS, M.D.
CHICAGO

In a series of recent articles Anderson and Gold-erger[1] report the results obtained on inoculation of ionkeys with measles by means of blood from early ases of human measles and in other ways. The reac-ions described by them as appearing after an incubation eriod of six days and longer, consist essentially in a hort fever with or without distinct macular rash.

During the course of the experiments the results of hich are given briefly in this article, special study was iade of the leukocytes of monkeys (*Macacus rhesus*) fter the injection of measles blood.

MONKEY 5 (CHART 1, TABLE 1).—The blood was obtained rom M. Z., aged 23, thirty hours after a typical measles rash egan to make its appearance. Three c.c. of blood were with-rawn from the elbow and mixed with 5 c.c. citrate-salt solu-on (1 per cent. sodium citrate in physiologic salt solution); ne-half of this mixture was injected into the heart and the other half into the peritoneal cavity of the small rhesus monkey about two hours after withdrawal of the blood.

Chart 1 shows that on the eleventh day there developed a rise in temperature (rectal) which lasted about three days. At this time the animal seemed sick, but there was no recognizable rash, no coryza, no conjunctivitis. There was, however, a distinct fall in the total number of leukocytes during these days, and the relative participation of the different forms of leukocytes in this fall is shown in Table 1, which gives the differential counts. The number of red corpuscles and the hemoglobin appeared to remain normal.

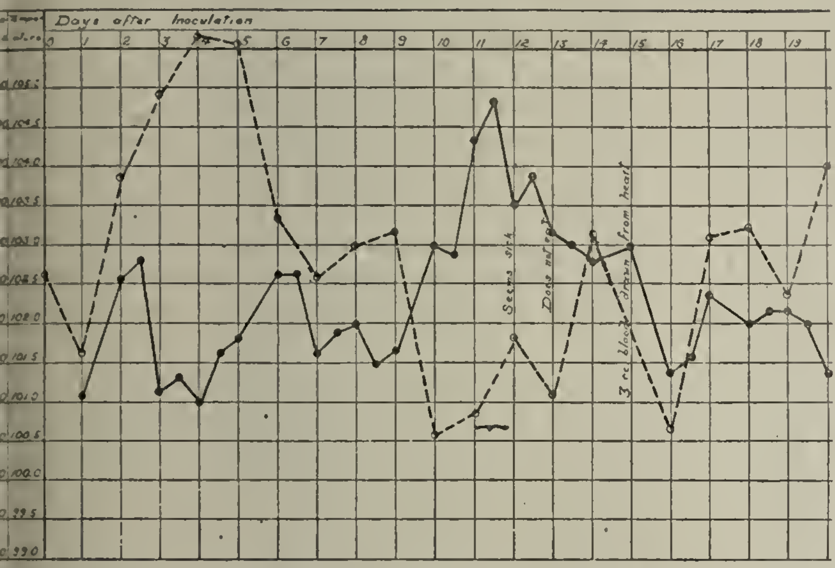

Chart 1.—Temperature and leukocyte curves of Monkey 5. Solid ne = temperature. Broken line = leukocytes.

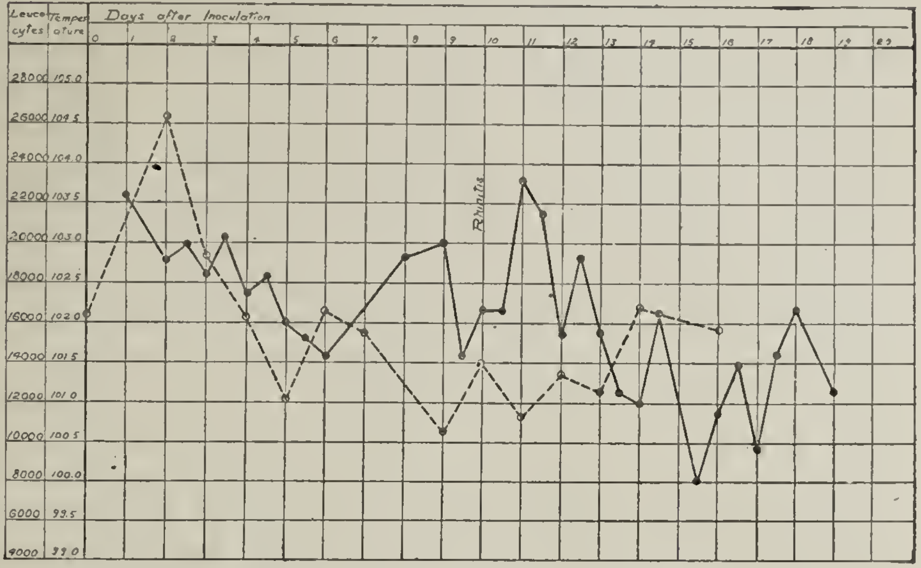

Chart 2.—Temperature and leukocyte curves of Monkey 2. Solid line = temperature. Broken line = leukocytes.

As regards the differential counts in the monkey, it may be well to state at this point that even in the apparently normal animal they show great fluctuations without apparent assignable cause, and hence it is difficult to draw accurate deductions from them. The blood of all of the monkeys showed relatively high proportions of lymphocytes as compared with human blood and this, in spite of the fact that the cells of the so-called "large lymphocyte" type—cells with a sharply defined nucleus and abundant basic-staining cytoplasm—were enumerated among the large mononuclear cells, inasmuch as differentiation between them and typical large mononuclear cells is extremely difficult.

As it was not wished to risk the life of the animal too soon, the withdrawal of blood from it was postponed until the fourteenth day when 3 c.c. were taken by puncture of the heart, mixed with 5 c.c. citrated salt solution and injected intracardially and intraperitoneally in Monkey 2.

TABLE 1.—LEUKOCYTES IN MONKEY 5

		Differential Count.						
			Lymphocytes and Mononuclears.					
No. Days After Inoculation.	Total No. of Leukocytes.	Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
	18,700	50.7	30.2	17.0	47.2	1.2	0.8	Inoc. with 3 c.c. measles blood.
1	14,600	58.4	27.3	10.7	38.0	2.9	0.7	
2	23,400	49.0	33.4	15.9	49.3	1.5	0.2	
3	27,900	41.0	35.3	22.4	57.7	1.0	0.3	
4	32,100	24.6	70.6	4.5	75.1	0.3	0.0	
5	30,400	32.3	45.8	20.6	66.4	1.0	0.3	
6	21,200	60.1	23.5	16.4	39.9	0.0	0.0	
7	18,300	55.4	32.7	11.8	44.5	0.2	0.0	
8	20,000	44.0	35.7	19.0	54.7	1.0	0.3	
9	20,800	51.2	34.1	13.4	47.5	1.0	0.3	
10	10,400	25.0	57.4	14.1	71.5	2.5	1.0	
11	11,800	38.6	54.6	5.8	60.4	1.0	0.0	Looks ill.
12	15,200	39.0	45.3	13.9	59.2	1.0	0.8	Temp. 104.4 F.
13	12,300	24.6	60.2	12.9	73.1	2.0	0.4	
14	20,400	57.6	33.7	6.7	40.4	1.0	1.0	3 c.c. blood drawn from heart.
16	10,500	28.0	53.2	12.6	65.8	4.3	1.9	
17	20,100	41.0	43.5	11.6	55.1	3.4	0.5	
18	20,800	40.3	50.7	7.8	58.5	1.0	0.3	
19	17,600	37.7	50.4	10.7	61.1	0.8	0.4	
20	24,000	49.8	36.8	12.2	49.0	1.2	0.0	

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* From the Memorial Institute for Infectious Diseases, Chicago.

[1] Pub. Health Rep., 1911, 26, pp. 847, 887; THE JOURNAL . M. A., July 8, 1811, p. 113, and Sept. 16, 1911, p. 971.

On the twenty-sixth day after inoculation Monkey 5 was reinjected (intraperitoneally) with 3 c.c. of measles blood from G. W., aged 7, obtained thirty-six hours after the outbreak of the rash. This injection did not cause any distinct reaction.

On account of the distinct rise in temperature on the eleventh day, associated with a fall in the number of leukocytes, it would seem as if this monkey reacted to the virus of measles. This view is supported by the fact that inoculation with its blood gave rise to suggestive reactions in Monkey 2.

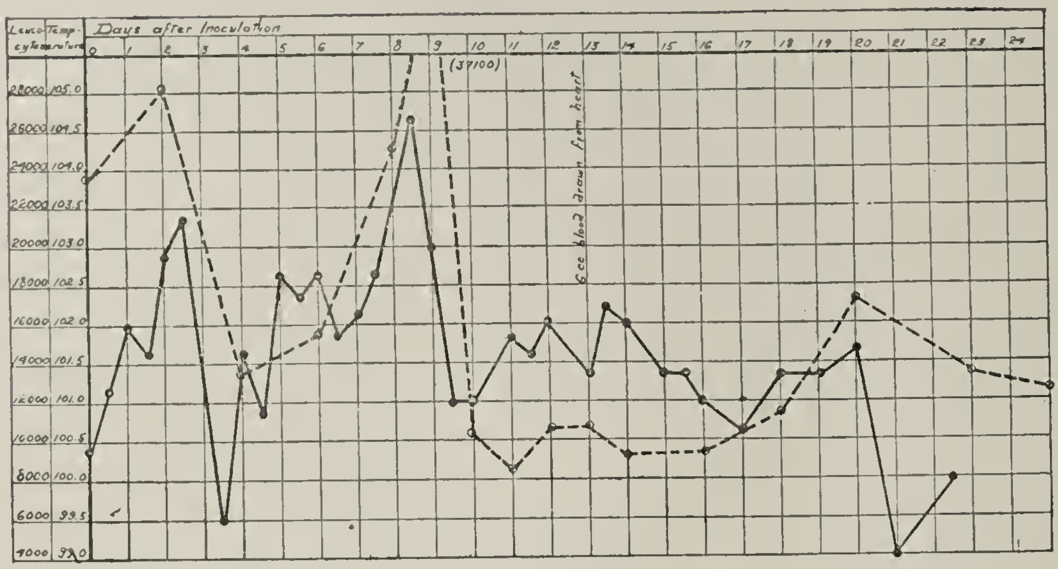

Chart 3.—Temperature and leukocyte curves of Monkey 1. Solid line = temperature. Broken line = leukocytes.

MONKEY 2 (CHART 2, TABLE 2).—This animal received 3 c.c. of blood from Monkey 5. The blood was drawn on the fourteenth day after Monkey 5 was inoculated, and injected within one hour into the heart and the peritoneum. The chart shows a slight elevation of the temperature on the eleventh day after the inoculation. There was a slight rhinitis on the ninth and tenth days and a fall in the number of leukocytes.

MONKEY 1 (CHART 3, TABLE 3).—This animal was injected in the heart with 3 c.c. of blood from G. W., the same patient who furnished the blood for the second inoculation of Monkey 5. It should be noted that this blood was drawn thirty-six hours after the appearance of the rash. On the eighth day there was a transient rise of temperature with a neutrophil leukocytosis. For some days, beginning on the tenth, there was a distinct fall in the total number of leukocytes. On the twelfth day 6 c.c. of blood were drawn and Monkeys 3 and 4 each injected with 3 c.c. in the peritoneal cavity, but without any effect.

MONKEY 10 (CHART 4, TABLE 4).—This monkey was injected in the heart with 3 c.c. of measles blood obtained from C. B., aged 6, six hours after the first appearance of the rash. Th blood was mixed with an equal amount of citrate-salt solutio and injected about forty-five minutes after its withdrawa As shown by the chart there occurred a fall in the leukocyti count on the sixth day which lasted for about seven days On the eleventh, twelfth and thirteenth days, the evenin temperature was a little higher than in the morning, th reverse of what seemed otherwise to be the case but there was in this case, no distinct fever. O the twelfth day the animal seemed sick, i crouched drowsily in one corner of its cage an did not keep itself as clean as usual; this condition lasted three or four days. On the fifteent day, reddish maculopapular spots were presen at the outer angles of the eyes and there wer slightly reddish macules on the forehead; th inner canthus of the eyes was congested. Ther were no Koplik's spots. On the following da there was a faint, pink, macular rash on the ski of both groins which disappeared in twenty-fou hours. By this time the rash on the forehea vanished also, while that at the outer angle o the eyes disappeared more gradually. The spot were iregular in shape, not distinctly circumscribed, and approximately 2 to 3 mm. in diameter; no distinct desquamation could be made out. In this ca it seems to us altogether reasonable to regard the fall in th number of leukocytes, the slight illness on the twelfth to th fifteenth day, and the rash as manifestations of an actu infection with measles.

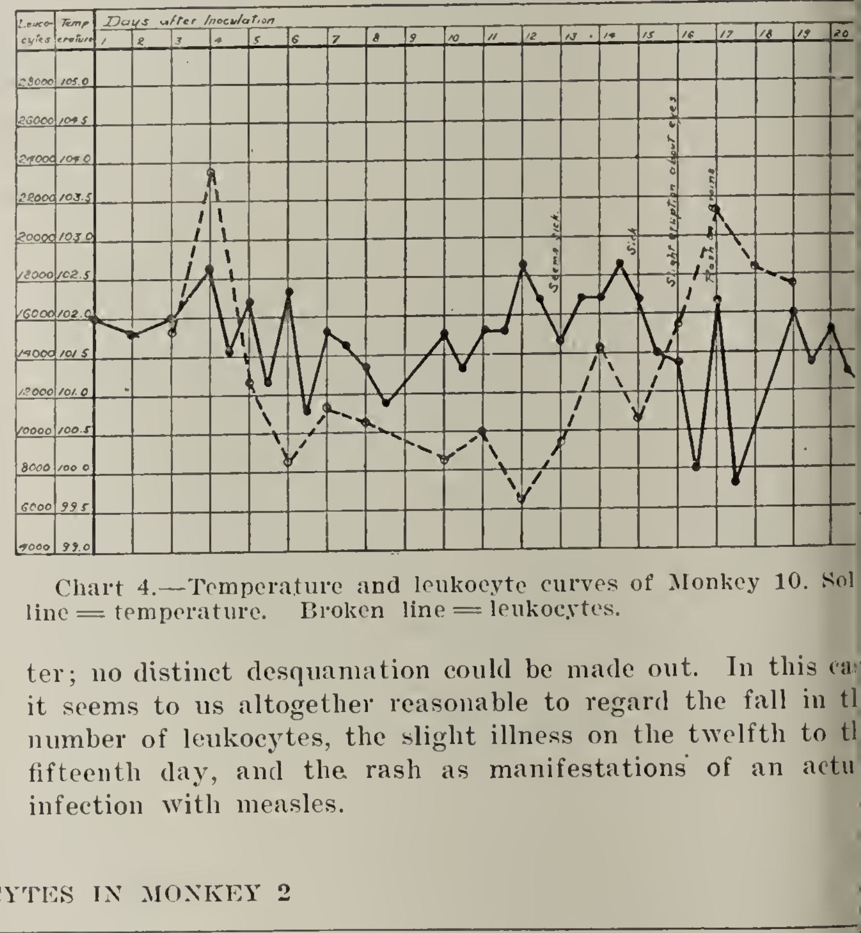

Chart 4.—Temperature and leukocyte curves of Monkey 10. Sol line = temperature. Broken line = leukocytes.

TABLE 2.—LEUKOCYTES IN MONKEY 2

		Differential Count.						
			Lymphocytes and Mononuclears.					
No. Days After Inoculation.	Total No. of Leukocytes.	Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
	16,200	39.3	44.8	7.7	52.5	7.7	0.5	Inoc. with 3 c.c. blood from Monkey 5.
2	26,200	47.1	36.6	13.8	50.4	2.0	0.5	
3	19,400	39.8	39.5	10.7	50.2	9.5	0.5	....
4	16,300	34.9	50.2	8.3	59.1	6.1	0.5	....
5	12,100	43.2	42.2	9.5	51.7	4.5	0.5	....
6	16,600	39.7	51.0	6.2	57.2	3.2	0.0	....
7	15,600	38.8	46.2	10.8	57.0	4.0	0.2	....
9	10,400	43.0	46.5	8.5	55.0	2.0	0.0	....
10	14,000	53.5	40.5	6.0	46.5	..	..	Slight rhinitis.
11	11,300	44.8	48.3	6.1	54.4	0.8	0.0	....
12	13,300	52.2	44.0	3.8	47.8	0.0	0.0	....
13	12,500	63.5	27.7	7.1	34.1	1.5	0.2	....
14	16,900	52.1	36.5	8.9	45.4	1.5	1.0	....
16	15,700	44.3	38.5	10.5	49.0	5.7	1.0	....

The general results of our experiments agree very well with those of Anderson and Goldberger. The combined results indicate that *Macacus rhesus* is susceptible to a mild kind of measles if injected with the virus of human measles present in the blood soon after the rash has appeared.

Our observations show that in measles of the monkey, the leukocytes appear to behave very much as they do in human measles; that is to say, that preceded by a more or less distinct leukocytosis there occurs a leukopenia of variable degree in what would correspond in a general way to the latter part of the preeruptive and the early part of the eruptive periods. In our animals this leucopenia involved principally the neutrophils, the lymphocytes being relatively somewhat increased. Inasmuch as these monkeys, at the same time as they received the measles virus, also received a large amount of foreign protein in the form of human blood, it is of course questionable whether the changes in the leukocytes should be attributed to the action of the measles virus only. It might be said that the leukopenia is one of the results of the introduction of human blood and connected with the resulting processes of antibody formation and sensitization. While further observations are necessary in order to settle this point, it may be said that in monkeys injected with human blood for other purposes and in larger quantities than those used in these experiments, we have noted either no leukopenia at all or only slight and transitory diminutions in the counts. Hence it may be concluded that the leukopenia observed in Monkeys 5 and 10, and to a less degree in Monkey 2, most likely represents a reaction to the measles virus.

1746 West Harrison Street.

TABLE 3.—LEUKOCYTES IN MONKEY 1

		Differential Count.						
			Lymphocytes and Mononuclears.					
No. Days After Inoculation.	Total No. of Leukocytes.	Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
	23,900	64.9	21.6	12.0	33.6	1.5	0	Inoc. with 3 c.c. measles blood.
2	28,300	74.0	17.2	7.7	24.9	1.0	0	....
4	13,609	45.9	33.4	11.3	44.7	8.8	0.5	....
6	15,700	51.8	29.4	14.0	43.4	4.0	0.8	....
8	25,100	79.2	13.4	6.8	20.2	0.2	0.4	....
9	37,100	87.4	8.8	3.6	12.4	..	..	....
10	10,100	...	...	...	...	..	..	....
11	8,300	23.3	65.8	10.5	76.3	0.2	0.2	....
12	10,500	25.8	58.7	11.0	69.7	4.0	0.5	Blood drawn to inoculate Monkeys 3 and 4.
13	10,600	39.5	38.0	10.8	48.8	10.8	0.2	....
14	9,200	...	...	...	...	..	..	....
16	9,300	38.0	54.0	6.2	60.2	1.8	0	....
18	11,500	43.0	44.8	9.0	53.8	0.2	0	....
20	17,200	52.8	36.5	9.2	45.7	1.5	0	....
23	13,500	59.0	35.2	4.5	39.7	1.3	0	....
25	12,400	36.8	52.4	6.0	58.4	4.8	0	....
27	14,500	49.2	43.6	3.6	47.2	3.6	0	....

TABLE 4.—LEUKOCYTES IN MONKEY 10

		Differential Count.						
			Lymphocytes and Mononuclears.					
No. Days After Inoculation.	Total No. of Leukocytes.	Neutrophils.	Lymphocytes.	Mononuclears.	Lymphocytes and Mononuclears.	Eosinophils.	Basophils.	Remarks.
3	15,500	24.0	52.0	20.5	72.5	3.5	0	....
4	23,800	23.0	30.7	43.0	73.7	1.2	0.7	....
5	12,600	55.0	13.7	27.3	41.0	3.7	0.3	....
6	8,600	54.5	15.3	28.9	44.2	1.3	0.	....
8	11,500	51.6	21.6	22.0	43.6	4.8	0	....
9	10,400	56.0	21.6	19.2	40.8	3.2	0	....
10	8,600	36.8	28.8	31.2	60.0	3.2	0	....
11	10,000	29.6	51.2	16.8	68.0	2.4	0	....
12	6,600	39.6	40.4	18.4	58.8	1.6	0	Seems sick.
13	9,700	57.4	19.8	18.0	37.8	4.5	0.3	....
14	14,200	51.1	23.4	22.3	45.7	2.0	1.2	Sick—eruption in face, macular eruption in groin.
15	10,400	29.6	40.6	22.0	62.6	6.3	1.6	....
16	15,600	43.0	25.3	27.3	52.6	1.7	2.0	....
17	21,300	43.0	28.0	20.3	48.3	5.0	3.3	....
18	18,300	23.5	46.4	26.1	72.5	1.0	2.9	....
19	17,900	30.0	43.2	16.4	59.6	6.0	4.4	....

Scientific Thought and Progress.—Lord Playfair, at Aberdeen in 1885, said that "human progress is so identified with scientific thought, in both its conception and realization, that it seems as if they were alternative terms in the history of civilization." This is only an echo through the ages of an utterance of the great Englishman, Roger Bacon, who wrote in 1250 A. D.: "Experimental science has three great prerogatives over all other sciences: it verifies conclusions by direct experiment; it discovers truths which they would never reach; and it investigates the secrets of Nature, and opens to us a knowledge of the past and of the future."—Sir William Ramsay.

THE EOSINOPHILIA OF BRONCHIAL ASTHMA

WITH REPORT OF A CASE SHOWING EXTREME BLOOD CHANGES

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NEW YORK

In 1889, Müller observed the increase of eosinophils in the sputum of bronchial asthma patients. Fink,[1] in 1890, described the eosinophilia of the blood in this disease. Von Noorden,[2] in 1892, in a study of the asthmatic's blood, observed that during paroxysms the eosinophils were much more numerous than in the intervals between attacks and that frequently repeated paroxysms gave the highest percentage of these cells. He reports a case in which, during freedom from symptoms, the eosinophils were 5 per cent., but after daily attacks for thirteen days, excepting a five days' interim, the percentage rose to 33⅓.

Salecker,[3] in 1907, in a study of seven cases, noted a slight lymphocytosis with a slight eosinophilia between attacks. During attacks with continuance of the spasm there was a leukocytosis, the increase being mostly of the eosinophils. As the paroxysm subsided the eosinophils decreased and in the course of several days the blood-picture became normal. In acute asthma the blood changes were less marked than in chronic cases.

Gabritschewsky[4] found 10 per cent. of eosinophils in the blood from a patient suffering from two or three attacks a month; 22 per cent. in another having paroxysms every two or three weeks and lasting three or four days. In a third case of chronic bronchitis with asthmatic attacks the eosinophils were 16 per cent.

Wolff[5] followed a case throughout a year, during six months of which there were no paroxysms, and found the percentage of eosinophils always over 10. Cabot[6] speaks of a subacute case without well-marked paroxysms, or periods of perfect health in which there was always a slight leukocytosis and an eosinophilia of from 11 to 15 per cent.

The highest counts on record are those of Coler[7] and Billings.[8] In the former's case the leukocytes were 52,000, the eosinophils 25 per cent. In Billing's case there were asthmatic paroxysms during six months and a probability of syphilis; the leukocytes were 8,300; the eosinophils, 53.6 per cent.

In routine clinical work the blood-picture of asthma and bronchitis attracts little notice, and the literature gives data too meager to justify a classification of types on this basis. The following case is put on record as a contribution toward such a classification, also as one showing the most pronounced blood changes yet reported.

History.—The patient was a broker, aged 52, having a good family history. The usual children's diseases, including scarlatina, had been experienced, also slight pneumonia at 17, severe typhoid at 20 and an attack of muscular rheumatism following exposure at 42. There had been several attacks of gonorrhea, the last twenty years ago, at which time there was a chancre with a secondary eruption. Luetic treatment was given for one year and there have been no further manifestations of the disease. The present illness began in April, 1910, as a slight cough at night. This increased, disturbing sleep, and profuse expectoration of thick yellow muco-pus began. Later there were asthmatic attacks at night with wheezing and orthopnea. As a result he had lost 18 pounds and was very weak. Absence in the country during five weeks improved matters for a short time, but cough, dyspnea, wheezing and insomnia returned and conditions were as bad as before.

Examination.—Physical examination, Sept. 28, 1910, showed a man poorly nourished and pale with slight dyspnea. The temperature was 98.6, the pulse-rate 84. There were a few sibilant râles on coughing over both lungs. The spleen was palpable at the costal border, the edge being thick, firm and the notches detectable. The liver was not palpable. The urine showed nothing abnormal. The sputum showed no tubercle bacilli, but was not examined further. The hemoglobin was 85 per cent., the leukocytes 41,600. The differential count of 300 cells was: polynuclears, 11 per cent.; small lymphocytes, 12.5 per cent.; large lymphocytes, 2.5 per cent.; eosinophils, 72.5 per cent.; basophils, 0; myelocytes, 1.5 per cent. The red cells appeared normal.

Treatment.—During the following week there was almost constant dyspnea with cough, orthopnea, wheezing and sleeplessness, so that the patient was utterly discouraged and planned to give up his business. Examination at this time (Oct. 5, 1910) showed a moderate emphysema with prolonged expiration and many sibilant râles over both lungs. The spleen was as before. The temperature had been normal during the week. The leukocytes numbered 56,000, the smear showing the same marked eosinophilia. The stools were twice examined for ova and parasites, neither being found. Iodid of potassium, 15 gr. with morphin 1/10 gr., was given every four hours.

Course.—October 13 there was great improvement, only slight dyspnea and cough remaining. Examination revealed a few sibilant râles at both bases and the spleen still palpable. The leukocytes were 57,000, the differential count of 200 cells showing polynuclears, 5 per cent.; small lymphocytes, 12 per cent.; large lymphocytes, 2 per cent.; eosinophils, 77 per cent.; basophils, 1 per cent.; myelocytes, 3 per cent.

October 20, continued improvement was reported. The lungs were clear, the spleen palpable, the weight 133 pounds. The leukocytes were 43,000, the differential count of 200 cells was: polynuclears, 20 per cent.; small lymphocytes, 12 per cent.; large lymphocytes, 5 per cent.; eosinophils, 62 per cent.; basophils, 2 per cent. Ten grains of potassium iodid were given three times daily.

Jan. 10, 1911, the patient reported that after taking iodid of potassium five days he had complete relief. The cough remained for ten days, recurred for two nights and was again relieved by a renewal of the medication. His weight was 144 pounds. The lungs were clear. The spleen was not palpable. The general condition was excellent. The leukocytes were 10,000. The differential count of 200 cells showed polynuclears, 57 per cent.; small lymphocytes, 28 per cent.; large lymphocytes, 2 per cent.; eosinophils, 7 per cent.; basophils, 3 per cent.; transitionals, 3 per cent.

The association of eosinophilia with many conditions presumably anaphylactic has been pointed out by Moschcowitz,[9] Goldschmidt and others, but experimental work on this apparent relation is lacking. It is known that acute anaphylactic shock and the ordinary serum sickness are characterized by a leukopenia with reduction of the polynuclear cells and no change in the eosinophils.[10] In guinea-pigs, during or after anaphylaxis following interval injections of an extract of *Ascaris lumbricoides*, I have found no change in the percentage of eosinophils in the blood. The absence or slight degree of eosinophilia in severe acute cases, and its presence often in excess in the more chronic forms of bronchial asthma, suggests an analogy in trichiniasis, in which the severe cases show the lesser degree of eosinophilia, the most marked increase in these cells being in the milder forms. It may be that in asthma the severe acute anaphylactic effect (if such it be) overwhelms the eosinophil-producing agents, while the slighter, more prolonged effects stimulate them. Experimental work on this problem is in progress.

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[1] Fink: Beiträge zur Kenntnis des Eiters, Dissert. Bonn, 1890.

[2] Von Noorden: Beiträge zur Pathologie des Asthma bronchiale, Ztschr. f. klin. Med., 1892, xx, 98.

[3] Salecker: Blutuntersuchungen bei Asthmatikern, München. med. Wchnschr., 1907, liv, 358.

[4] Gabritschewsky: Klinische hämatologische Notizen, Arch. f. exper. Path. u. Pharmakol., 1891, xxviii, No. 28, p. 83.

[5] Wolff: Die eosinophilen Zellen, ihr Vorkommen und ihre Bedeutung, Beitr. z. path. Anat. u. z. Allg. Path. (Ziegler's), 1900, xxviii, 150.

[6] Cabot: Clinical Examination of the Blood, Ed. 5, p. 377.

[7] Coler: Cited by Cabot: Clinical Examination of the Blood.

[8] Billings: A Case of Asthma and Symmetrical Enlargement of the Arms; Marked Excess of Eosinophils in the Blood, New York Med. Jour., May 22, 1897.

[9] Moschcowitz: Eosinophilia and Anaphylaxis, New York Med. Jour., 1910, xciii, 15.

[10] Bienenfeld: Das Verhalten der Leukozyten bei der Serumkrankheit, Jahrb. f. Kinderheilk., 1907, lxv, 174.

It is questionable if any practical conclusion can be drawn from the blood-picture of bronchial asthma aside from its real value in differential diagnosis. It may be remarked, however, that the type of the disease showing eosinophilia of the blood is that responding most often to potassium iodid. A thorough trial of this drug is therefore indicated in such cases.

50 East Fifty-Third Street.

NEPHROPEXY FOLLOWED BY RELIEF OF HEMATURIA

J. BENTLEY SQUIER, M.D.
NEW YORK

A nun, aged 38, consulted me March 9, 1911.

In November, 1901, she had been operated on for uterine displacement because of painful menstruation. In April, 1905, on account of the continuance of the pain, a second celiotomy was performed. The ovaries were found to be cystic and were removed, and at this operation the appendix was excised. Afterward and following catheterization, cystitis developed. She was under treatment for this for two months before it cleared up. In June, 1906, not having experienced any relief from the previous operations, an abdominal hysterectomy was performed. She required catheterization after operation and again the bladder became infected. Intense burning during urination was present, with frequent desire to micturate. Treatment, consisting of bladder lavage with argyrol, was kept up for four months, with only partial cessation of symptoms.

Three months later, she developed an attack of violent pain in the back and right kidney region. This was accompanied with frequent painful urination and hematuria. The attack lasted for a few days and gradually disappeared, only to recur at three or four months' intervals. Such has been the condition for the past four years until September, 1910. Since that date she has had constant pain over the right kidney, frequent bloody urination and intense agony during micturition.

The patient had lost considerable weight. Examination of the heart and lungs showed normal organs. The right kidney was easily palpated and movable. She was sent to the sanatorium for observation and detailed examination.

The Urine Analysis at the Time of Examination

Reaction, acid.
Sediment, marked.
Nature of sediment, heavy.
Albumin, 2 per mille by weight.
Bile pigment, absent.
Urea, 1.61.
Indican, no excess.
Color, claret.
Specific gravity, 1.020.
Sugar, negative.
Chlorids, 1 per cent.
Phosphates, no excess.

Examination of the Sediment:
Blood, much.
Pus, moderate.
Mucus, moderate.
Casts, none found.
Bacteria, slight bacteriuria, no tubercle bacilli.
Epithelium, some bladder cells.
Crystals, none.

The albumin in this specimen seemed to be accounted for by the pus and blood. With the normal gravity, the absence of casts and a fairly corresponding relative amount of urea, there is no direct evidence to indicate renal origin of the pus and blood.

Cystoscopic examination of the bladder showed a trabeculated bladder-wall, a deeply injected mucous membrane which bled at the slightest touch of the cystoscope. Flakes of pus were everywhere adherent to the mucous membrane and ureteral orifices were swollen and edematous. Catheters were easily passed to the pelvis of either kidney and urine segregated. Examination of the segregated urine was negative, with the exception of a faint trace of albumin present in both specimens. There was no pus or blood.

Radiographic examination of the kidneys and ureters was negative. The radiographs were particularly excellent and showed the outlines of the kidneys plainly.

In view of these findings, a tentative diagnosis of severe hemorrhagic cystitis was made and treatment instituted.

The patient left the sanatorium in the care of her family physician, who was to carry out treatment. This treatment consisted in bladder lavage with boric acid and the various silver salt solutions, the administration of urinary antiseptics internally and general hygiene.

At the end of six weeks she returned in worse condition. She was now passing blood-clots, the pain in urinating was excruciating and the pain over the kidney constant.

Cystoscopy was again performed, and a small ulceration was found just below the left ureteral opening. Repeated search for tubercle bacilli, both in the bladder urine and in that drawn by ureteral catheters from the kidneys, resulted negatively.

Phenolsulphonephthalein determination of the functional ,capacity of the kidneys gave puzzling data. The first time the test was made the right kidney eliminated one-third the amount that the left did. On the second, the two kidneys functionated the same.

Even in the face of these negative kidney findings it was thought justifiable to offer an exploratory operation of the right kidney to the patient.

To sum up the patient's condition at this juncture, we have: a well-nourished woman passing urine loaded with pus and blood, the act of urination causing great pain, urinary frequency every hour or oftener, with constant pain over the right kidney, with no discoverable lesion of the heart or lungs and a faint trace of albumin as the only objective sign of possible kidney disease.

The patient acquiesced in operation, as her condition had become unbearable. The right kidney was exposed through a vertebral lumbar incision, was found to be very freely movable and was brought out of the wound without difficulty. The surface of the kidney appeared normal; there were no adhesions. A pathologic incision of the kidney was made, splitting it open from pole to pole. Macroscopically there was no evidence of disease. The ureters were found to be normal. The kidney was sutured together, replaced and anchored by a few chromic gut sutures. The wound was closed except for a small drain of rubber tissue at its lower angle.

The prospect of relief following the operation seemed poor, since all that had been accomplished was the fixation of a freely movable kidney.

The postoperative period, however, developed the most unexpected results. The patient recovered from the anesthetic without incident, and passed urine at the end of eight hours without pain and with but a small amount of blood in it. At the end of twenty-four hours, the blood had microscopically disappeared from the urine and she was voiding urine at five- and six-hour intervals in quantities of 6 to 10 ounces.

Her convalescence was rapid; the wound healed by primary union and from the end of the first day she has never passed bloody urine or suffered from pain during micturition. The pain over the kidney disappeared as the wound healed.

There had been no local treatment to the bladder for two weeks prior to operation, or any since. The only medication the patient received after operation was some small doses of sodium bromid given by the rectum. This was necessary because before operation she had been taking morphin to relieve the constant pain. The medication was discontinued at the end of the third day.

Analysis of Voided Urine Two Months After Operation

Color, pale yellow.
Sediment, none.
Specific gravity, 1.021.
Urea, 2.3 per cent.

Sugar, negative.
Appearance, clear.
Reaction, acid.
Albumin, faint trace.

Microscopic examination, negative except for an occasional leukocyte and few squamous epithelia. Five months have elapsed since operation, with no recurrence of symptoms.

49 East Forty-Ninth Street.

New and Nonofficial Remedies

The following additional article has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Its acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

CRURIN PURUM.—Quinolin-bismuth sulphocyanate. Crurin Purum is the sulphocyanate of quinolin and bismuth, approximately $(C_9H_7N.HSCN)_3Bi(SCN)_3$.

It is a fine, brick red, crystalline powder, with a slight odor of quinolin, insoluble in alcohol and ether, but soluble in acetone and slightly so in pure gylcerin. It is decomposed by water with formation, it is stated, of soluble quinolin sulphocyanate, free sulphocyanic acid, and insoluble basic bismuth sulphocyanate or bismuth hydroxide. In the absence of moisture the compound may be kept for a long time unchanged.

When crurin purum is decomposed by water, there is formed an insoluble yellow compound and a solution which responds to tests for sulphocyanate in that it yields a deep red color with ferric chloride and a white precipitate with silver nitrate solution, and to tests for quinolin, in that treatment with iodine in potassium iodide solution yields a reddish-brown precipitate insoluble in hydrochloric acid; with picric acid solution it yields a yellow precipitate; with potassium ferrocyanide solution a green precipitate is formed; and with potassium mercuric iodide solution it yields a reddish-yellow precipitate which dissolves on heating. The yellow insoluble compound, when treated with potassium iodide solution, becomes orange colored, and it responds to tests for bismuth.

Crurin purum treated with dilute nitric acid dissolves with formation of a solution from which bismuth can be separated by precipitation with hydrogen sulphide for quantitative estimation and in which the sulphocyanate content can be determined by titration with standardized silver nitrate solution.

Actions and Uses.—Crurin purum is said to be antiseptic and antigonorrheic. It is said to be useful as a local application for gonorrhea. It is also used in the treatment of ulcers of the leg (see below).

Dosage.—It is to be used in 1 to 200 watery glycerin emulsion. This should be carefully prepared so that the bottom layer shall resemble milk of sulphur and shall not present a reddish color nor contain any red particles. The injections may be made twice daily and retained for from three to five minutes.

Manufactured by Kalle & Co., A. G., Biebrich a. Rh., Germany. German patent No. 86,148. Trademarked in Germany. No U. S. patents or trademarks.

Crurin Dusting Powder.—A preparation said to contain equal parts of crurin purum and starch.

Therapeutics

ANESTHESIA AND ANESTHETICS

(Continued from page 1765)

NITROUS OXID

Priestley made the chemical discovery of this gas in 1774, and Sir Humphry Davy, in 1799, described its properties, and even suggested it as an anesthetic. While its power to cause hilarity (hence its name "laughing gas") was not infrequently demonstrated, it seems to have been first used as an anesthetic by Horace Wells, a dentist, of Hartford, Conn., in 1844. Wells died in 1848, and nitrous oxid as an anesthetic was not again heard of until 1862, when a Mrs. Dunham, of New Britain, and a Mr. Smith, of New Haven, Conn., took the matter up with Colton, who, in 1863, urged the use of nitrous oxid in dental surgery. From this time it has never ceased to be used in minor surgery.

When this gas is inhaled mixed with air, in a few seconds a condition similar to alcoholic intoxication is produced, with talkativeness, sometimes incoheren speech, hilarity, and laughter; hence the name "laughing gas." If the inhalation is continued some patients may become wildly delirious, but if the gas is concentrated without much dilution, the stage of anesthesia is immediately produced without any exciting stage. The laughing intoxication, if no more gas is administered may last some minutes; if the gas is pushed, it takes but a few seconds for the anesthesia to be complete, except there is likely to be more or less tone to the muscles of the abdomen and legs. With these exceptions, however, complete relaxation and unconsciousness is almost immediate. The face is suffused, even cyanotic; respiration stertorous; and if the gas is continued the respiration ceases, although the heart continues to beat for some time. If the administration of the gas is stopped before the respiration ceases, complete anesthesia lasts for about a minute, and in a few minutes more complete consciousness is regained, generally without any immediate after-effects. The slate-colored appearance of the face, neck and hands is not pleasant to witness, but generally clears immediately when the gas is removed.

There has been a great deal of discussion as to whether such anesthesia was due to the deprivation of oxygen, and therefore suffocation and really carbon dioxid poisoning, or whether the nitrous oxid gas itself has anesthetic properties. It seems demonstrated that the gas does have such properties. It was for some time claimed that nitrous oxid combined with some elements of the hemoglobin of the blood to the more or less permanent destruction of the red blood-corpuscles. This has been shown to be a mistake. Whatever combination it makes is very loose and quickly recovered from, and the blood-corpuscles are apparently not damaged. Some patients, however, feel dizzy, have irregular vasomotor activities and vasomotor ataxia; some have nausea; and not a few have a prolonged period of circulatory depression. Patients who are anemic are longer in recovering.

While this anesthetic seems to be the safest that can be used, the death-rate being estimated at about 1 in 50,000, still there is a death-rate; hence it is well to study the cause of deaths in these cases. They seem to have occurred when there was myocardial degeneration, where there was arteriosclerosis (as the blood-pressure is raised by this anesthetic), and where there have been obstructions to full, complete respiration. In other words, anything that impairs the respiration contraindicates the use of nitrous oxid; i. e., where there are very large tonsils, very bad adenoids, edema of the throat or larynx, marked asthma, or goiter, this anesthetic should not be used; certainly not used alone without dilution with oxygen. Also, it should not be administered until several hours after a meal on account of the stomach being full; and corsets, and all abdominal and chest constrictions should be removed.

The antidote to the respiratory failure or the inability of the patient to respire properly and recover properly from the anesthetic is artificial respiration, with, perhaps, if the patient is very cyanotic, added oxygen inhalations.

Even the administration of this gas which seems so simple should be left to those who become expert in its use. Although it has been administered perhaps millions of times, even dentists now specialize, and the gas anesthesia and the extraction of teeth is left to a certain few. But few physicians are expert in its use. Very few have the apparatus at hand, and the only physicians who become expert in its use are those in hospitals who use his gas before beginning etherization. It was so administered to hasten the ether anesthesia and prevent ether excitement, for a considerable period, but not now as frequently used, i. e., nitrous oxid without the oxygen combination. Nitrous oxid gas should probably never be used as a preliminary to chloroform anesthesia.

Besides for the extraction of teeth, this gas has been used as such only for operations that required but a minute or less to complete.

NITROUS OXID AND OXYGEN

In 1878 Bert used a mixture of nitrous oxid and oxygen to anesthetize dogs, and with success. The following year he used it on the human subject. Later it was largely used in dentistry. The reason for the trial of such a mixture was that the repeated anesthesia with nitrous oxid, i. e., the inhaler applied, then removed, then applied again, to give a continuous anesthesia even for five minutes or more was found to be dangerous. Therefore it was hoped that a combination with oxygen would give a sufficiently prolonged anesthesia for more elaborate operations, and it has been found that the combination with oxygen is an anesthetic success. The combination with air was not a success.

Dr. F. W. Hewitt, of England, finds that a perfect anesthesia is produced by means of an apparatus that regulates the amount of oxygen and gas which the patient shall receive, allowing the proportions to be varied.

Andrews, of Chicago, in 1868, suggested the possibility of major surgery being done successfully with a combination of nitrous oxid and oxygen, but it is due to Bevan, Crile, Halsted, Kelly and Meyer that this gas combination is a successful and apparently safe anesthetic in all minor operations, and perhaps in many major operations.

Hamburger and Ewing showed in the laboratory the comparative effects of the different anesthetics, and through laboratory investigations the American Medical Association Commission on Anesthesia reported that the combination of nitrous oxid and oxygen, when given by skilled anesthetists, is the best anesthetic yet devised (THE JOURNAL, Nov. 7, 1908, p. 1572).

Bevan (THE JOURNAL, July 20, 1907, p. 198) states that this combination is the anesthetic of choice which he not only used for minor operations, but for exploratory laparotomy, gall-bladder operations, kidney operations, bladder operations, and even in gastro-intestinal and hernial operations. (Also see Bevan's article on page 1821.)

The advantages of this nitrous oxid and oxygen anesthetic are its creation of less fear in the patient when he knows that the gas is what he is to take, therefore one less element of later shock; its rapidity; the speed of recovery; the absence of pneumonic infections, kidney disturbance, or fatty degeneration of the organs as compared with such possibilities under ether or chloroform. Also, the circulatory tone which is kept up by the diminished oxidation is, as so well shown by Henderson, a preventive of shock and collapse.

Quite probably the same contra-indications to the use of this nitrous oxid with oxygen hold as when nitrous oxid is used alone, although the sudden rise of blood-pressure is not as great, hence the danger of a weakened heart muscle, or of weakened blood-vessels is not so great. It is quite-probable that over-fat, flabby and full-blooded patients should not be anesthetized by this method.

A disadvantage may be a cyanosis, or the patient becoming talkative, or having muscle contraction during anesthesia. These may be prevented by a skilled anesthetist regulating the amount of nitrous oxid and oxygen. Also, while surgeons who use this anesthetic may learn to operate with less relaxed muscles, it seems to be a fact that the abdominal muscles and sphincter muscles, as well as possibly the extremities, do not relax as well as under ether or chloroform anesthesia.

It has been suggested that carbon dioxid gas be added to the mixture of nitrous oxid and oxygen in such amount from time to time as may seem advisable; this again on Henderson's theory that carbon dioxid prevents shock and circulatory depression and is stimulant to the respiratory center. Such a combination with a properly regulated apparatus to add or diminish each element as indicated, operated by an anesthetist skilled in the use of these gases, would seem to be an ideal anesthetic.

Crile, of Cleveland (*Surg. Gynec. and Obst.*, August, 1911), says that as the brain cells are prevented by nitrous oxid from expending a large amount of energy, it might be inferred that shock would be diminished by this anesthetic. This would be especially noticeable in neurasthenic patients who greatly feared an ordinary anesthetic, but might not fear the frequently used nitrous oxid gas. It has long been well known that anything that prevents fear and anxiety, which is a thyroid stimulant and promoter of thyroid secretion, will prevent the likelihood, at least, of shock.

Dr. Charles Teeter, a dentist of Cleveland, Ohio, reported (THE JOURNAL, Aug. 7, 1907, p. 448) 13,000 successful administrations of nitrous oxid and oxygen.

WHO SHOULD ADMINISTER THE ANESTHETIC?

It has previously been remarked that the anesthetic should be administered by a physician. Recently several distinguished surgeons in various parts of the country, have made use of a nurse as anesthetist and have advocated the training of nurses for this work. While it is unquestionable that a well-trained nurse may in ordinary cases administer an anesthetic quite as satisfactorily as can an untrained or imperfectly trained physician, and perhaps more satisfactorily, it nevertheless seems a reasonable contention that a function of as great importance as that of administering an anesthetic, and one in which the administrator holds the life of the patient in his hand, should be entrusted only to an educated and trained physician. By a not dissimilar process of reasoning it might be shown that the ordinary uncomplicated cases of obstetrics might be attended by a midwife quite as satisfactorily as by a physician. Doubtless also it might be proved in academic discussion that an experienced nurse might perform ordinary operations in surgery as well as an experienced surgeon, yet the present tendency to make much of general scientific training for persons who expect to minister to the sick in positions of responsibility would seem to render questionable the propriety of withdrawing the administration of anesthetics from the medical profession and entrusting it to the nurse. Although a nurse of experience and training under watchful and skilful surgeons may have an experience of several thousand cases without a death, without even a scare, still, the possibility that a dangerous condition may arise even when least expected would seem to prove that an office of this importance should be trusted to a carefully trained, skilful and watchful physician.

(To be continued)

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CARBOHYDRATE TOLERANCE AND THE HYPOPHYSIS CEREBRI

Noteworthy advances have been made in the last few years in elucidating the problems relating to the physiology and pathology of the hypophysis. Among these may be mentioned the favorable results of the partial removal of this gland in certain cases of acromegaly, and the demonstration by Paulesco and by Cushing[1] and his co-workers that the total extirpation of this gland in animals is rapidly followed by death, whereas the partial extirpation is followed by very characteristic effects on growth and development. The latter results afford conclusive evidence that at least some cases of this disease are due to a hyperfunctioning of the hypophysis, something which has long been suspected, but not previously definitely proved.

One of the most suggestive of the recent contributions to the knowledge of the physiology and pathology of the hypophysis is a paper by Goetsch, Cushing and Jacobson[2] on carbohydrate tolerance and the posterior lobe of the hypophysis. The results recorded in this extensive experimental and clinical study not only are of great theoretical interest, but promise to be of much practical value also.

It has long been known that glycosuria frequently occurs in cases of acromegaly; Borchardt, in 1908, stated that in 176 cases it had been reported as present in sixty-three and that there was a lowered assimilation limit for carbohydrates in eight others. In none of twenty cases of acromegaly or gigantism studied by Goetsch, Cushing and Jacobson, however, was glycosuria found. On the contrary, nearly all of these patients showed an entirely unsuspected condition, namely, a markedly increased tolerance for carbohydrates; that is, they reacted with glycosuria only to amounts of sugar much in excess of those producing glycosuria in normal individuals. Their condition was thus the reverse of that described by Borchardt.

An explanation of these apparently contradictory results is found in these authors' experiments on carbohydrate metabolism in partially hypophysectomized animals; these usually showed immediately after the operation a transient glycosuria, which, however, soon yielded to a markedly increased carbohydrate tolerance. The latter was readily reduced to, or below, the normal by the administration of extracts of the posterior lobe of the hypophysis. In other words, excess of posterior lobe secretion such as results from the administration of the gland or by the mechanical expulsion of its secretion during an operation on the gland leads to glycosuria or lowered carbohydrate tolerance; diminution of secretion, such as results from the removal of the gland, or from disease, leads to greatly increased carbohydrate tolerance.

These observations afford a satisfactory explanation of the varying picture of carbohydrate tolerance seen in acromegaly; in the early stages of this disease there is a hyperfunctioning, not only of the anterior lobe (which leads to the skeletal changes), but of the posterior lobe leading to glycosuria; in the later stages there is a hypofunctioning of the posterior lobe leading to increased carbohydrate tolerance.

Of more interest, because frequently overlooked, are the cases in which there is a primary hypofunctioning of the posterior lobe. According to Goetsch, Cushing and Jacobson, this may result from direct pressure by interpeduncular tumors, by growths originating in the lobe itself, and by the distant effects of a tumor causing an obstructive hydrocephalus and thus damming back the fluid medium carrying the posterior lobe secretion. The same symptoms of hypopituitarism occur in such cases as are seen in later stages of acromegaly. There is a very high tolerance for sugar, marked adiposity, due to a lowered consumption of sugar, and subnormal temperature, perhaps due to deficient oxidation. The administration of posterior lobe lowered the carbohydrate tolerance; by giving sugar in the amounts usually just sufficient to cause glycosuria in comparable normal individuals (about 2 grams of glucose or 1.4 grams of levulose per kilogram) and administering the posterior lobe in increasing doses until glycosuria was produced it was possible to determine the proper therapeutic dose of the gland in such cases.

The relation thus established between the hypophysis (posterior lobe) and carbohydrate metabolism throws light on a number of obscure problems. Thus Cushing and his associates are inclined to believe that the transient glycosurias often seen in cases of fractures at the base of the skull are due to a temporary stimulation of the hypophysis. Some cases diagnosed as diabetes mellitus or, since polyuria is a frequent accompaniment of hypophysis overactivity, as diabetes insipidus, have proved to be due to some factor stimulating the posterior lobe. One of these authors' acromegaly patients had some years earlier failed to pass a life-insurance examination on account of suspected diabetes mellitus; at the time of the second examination not only was there no glycosuria, but there was also an increased carbohydrate tolerance, the earlier hyperactivity of the posterior lobe having given way to a condition of hypo-activity.

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[1] Cushing, H.: The Journal A. M. A., July 17, 1909, p. 249.

[2] Bull. Johns Hopkins Hosp., 1911, 22, p. 165; abstr. in The Journal, July 8, 1911, p. 163.

The determination of carbohydrate tolerance thus promises to be of aid not only in the diagnosis of conditions of dyspituitarism, but also in determining more accurately the character of the derangement. The possible importance of this is evident from the statement of the present authors that they believe diseases of the hypophysis to be as frequent as those of the thyroid.

These studies also serve still further to emphasize the differences between the physiologic activity of the two parts of the hypophysis; the best therapeutic results can be expected only when this fact is taken into consideration.[3]

THE STUDY OF FEVER

It is interesting to watch how the introduction of improved methods of investigation opens up new points of view with respect to disease. At one time it may be the bacterial invader which commands attention when some new technic for the cultivation of micro-organisms is announced; in other cases newly described pathologic lesions become the center of interest; or again the disturbances of metabolism attract notice. This has been conspicuously true in the study of fevers. Although the pathognomonic features of these conditions have long been associated with an upset in the oxidative functions of the body, it can scarcely be said that any clear-cut conceptions of the nature of the disturbances exist. The current teaching assumes that in fevers the decomposition of the foodstuffs and the proteins in particular is different from that which goes on in the healthy organism. The complicating inanition factors in prolonged fever have been emphasized by Coleman[1] and others; but the abnormal conditions created by starvation *per se* have received too little consideration in the past in the study of disease.

The technic of studying the respiratory exchange, which enables one to obtain an insight into the oxidative phenomena of the body, has been highly perfected in the Nutrition Laboratory of the Carnegie Institution of Washington, at Boston. Following in the path of Zuntz and his collaborators, Professor Benedict has rendered more easy and accurate the estimation of the respiratory quotient, i. e., the relation between the consumption of oxygen and the output of carbon dioxid, at the bedside. By means of a modified Benedict apparatus, Rolly[2] has found that the respiratory quotient is not essentially modified during the progress of the febrile state. Furthermore, the relations between various elements in the urine and the tissues show no departure from the normal sufficient to suggest any *qualitative* alterations in the metabolism characteristic of fever. This is a most significant finding inasmuch as it tends, if correct, to indicate that in many pathologic conditions the nutritive derangement, quite contrary to some current conceptions, consists in a *quantitative* exaggeration of normal processes rather than in some unique perversion of the bodily functions as the result of which the processes of oxidation, etc., proceed in entirely new channels.

During the convalescent period, according to Rolly, there may be alterations in the values for oxygen consumption and carbon dioxid production which point to as yet unknown reconstructions in the recuperating organism. The deposition of fat is suggested. A return to normal values may at times not occur until the end of several months. This is quite what might be anticipated. The result of such studies is to make us more careful to distinguish between the direct effects of pathogenic agents and the consequent exaggerations, rather than perversions, of the metabolism to which they may give rise. In other words, physiologic overwork of the organism may be quite as much a characteristic of disease as is an imperfect behavior of the bodily mechanism.

THE PREVENTION OF INDUSTRIAL DISEASE

Industrial diseases are "morbid results of occupational activity traceable to specific causes or labor conditions, and followed by more or less extended incapacity for work." Such diseases come about in two ways: Special industries give rise to their own peculiar ailments; thus result "phossy jaw" among match-makers, lead, arsenic, mercury poisoning, caisson disease and the like. In the second place special industries render the workmen susceptible to certain common types of disease; as when laborers in dust-evolving trades succumb to tuberculosis and pneumonia. Among disease-engendering occupations are glass-blowing; work in cotton factories; the work which young girls must do in the trimming-rooms of packing establishments, at a temperature lower than that generally obtaining in refrigerators; the work of the locomotive fireman, who, when asked how often through his hours of labor he bent his back, answered "just once"; the nystagmus-inducing work of miners; trades inducing specific infections, such as anthrax, and so forth.

Ignorance of the value of measures of safety, and considerations of profit and loss combine in varying proportions to depress the health and take the lives of workers. Whether the employer really saves money, or only thinks he saves it, at the expense of the lives and health of his employees is practically immaterial, except that in the latter case he must be educated, and in the former he must be penalized. The question of the most effective means of dealing with the problem is one which this country as yet has done little to answer.

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[3] Preparations of each of these parts are now available; see New and Nonofficial Remedies, 1911, p. 155.

[1] Coleman: Diet in Typhoid Fever, THE JOURNAL A. M. A., Oct. 9, 1909, p. 1145.

[2] Rolly: Exper. Untersuchungen ü. d. Stoffwechsel im Fieber und in der Rekonvaleszenz, Deutsch. Arch. f. klin. Med., 1911, ciii, 93

In dealing with the problems of industrial disease, this country is behind Germany and some other European countries. It is especially out-distanced by them in the collection of adequate and reliable statistics dealing with disease or mortality as an accompaniment of industry—such statistics as are essential to any progress in the work under discussion. When, for example, Mr. Frederick L. Hoffman sought to estimate the prevalence of occupational diseases in our country, he had to utilize German statistics as a basis of his formulations.

Mr. Paul S. Peirce[1] reminds us that in their memorial to President Taft, the Committee of the National Conference on Industrial Diseases urged three steps on the part of the federal government: (1) the appointment of a national commission of inquiry, to consist of senators, congressmen and experts in preventive medicine, medical practice, sanitary engineering, industrial chemistry and applied statistics, and charged with the comprehensive investigation of the whole subject of occupational diseases; (2) the establishment of a national institute of industrial hygiene, equipped for research into the causes and treatment of factory diseases and designed to carry out proposals of the national commission, publish results, and encourage the pursuit of industrial medicine as a distinct profession; (3) the creation of a national welfare institute, for the improvement of labor conditions, including a museum of safety devices, whereby the calamities (accidents) of industrial life may be lessened, and the ravages of industrial disease be diminished.

In all the states, Mr. Peirce believes, the medical inspector of factories should occupy a conspicuous and a responsible position. He quotes Dr. W. C. Hanson: "Medical men alone are in a position to make the best use of facts obtained concerning the sanitary conditions of the premises where men and women work; to study the possible injurious effects of certain processes on the health of the persons engaged therein; to inspect devices designed to protect employees against injurious and dangerous substances, as well as to detect pathological signs or symptoms of certain poisons, and dusts and fumes incident to some occupations; to inquire as to the health of the employees; to make physical examination of minors, and (whenever possible) of adults engaged in trades deemed injurious to health; and to collect and make proper use of all facts and data, including morbidity and mortality statistics, pertaining to occupational hygiene." The confessedly ambitious program which Mr. Peirce outlines "may have to await the organization of a national health department." Here comment is superfluous.

Thus, by commission, by clinics especially devoted to industrial diseases, by state-appointed medical inspectors, by compulsory periodical examinations of working people, and by the passing of employers' liability and compensation acts, very much may be done. The ascertainment of facts, and their wide publication are most essential measures; for above all else, a humane popula sentiment must be aroused. Then the really civilize portion of the body politic may fall in line with organ zations akin to the National Consumers' League, whic refuses to purchase such products as have been ascer tained to be sweated out of the blood and the lives c their fellow beings.[2]

ANOTHER SOURCE OF DANGER TO X-RAY WORKER

In view of the well-established tendency of x-rays t cause cancerous proliferation of the skin of persons sub jected to their action for a long period of time, it is no surprising to learn that similar effects may be produce on deeper-seated organs. Of all the tissues beneath th skin, one of the most sensitive to x-rays is the lymphati system. This is shown not only by the striking effect produced in leukemic and similar hyperplastic condi tions of the lymph-glands, spleen and bone-marrow, bu also by experimental observations on normal animal exposed to x-rays, in which extensive changes in thes same tissues are found to take place.

It now appears that the protracted influence of x-ray on the normal lymphatic tissues may be quite as seriou as it is on the cutaneous epithelium, for von Jagic[1] ha collected reports of three cases of lymphatic leukemi in x-ray workers, and one in a chemist who was engage for a long time in the preparation of radium. O account of this observation he and his assistants hav made a careful study of the blood of ten persons engage in x-ray work, and find that uniformly there is a relativ lymphocytosis. There is a slight diminution of the tota number of leukocytes, which involves the neutrophi polymorphonuclear leukocytes and the eosinophils, th latter being sometimes entirely absent. The lymphocytes however, were always relatively, and almost always absolutely increased, constituting from 35 to 52 per cent. o the leukocytes. Animal experiments have shown simila effects produced by both x-rays and radium. Apparentl these rays injure the elements formed by the bone-marrow and stimulate the formation of cells by th lymphatic tissue. The cases of lymphatic leukemia i x-ray workers are presumably entirely analogous to th skin cancers which are caused by x-rays, each resulting from a too protracted stimulation of the cells from which the neoplasms eventually develop.

While the danger of leukemia from this source is probably not great, there being so few known cases, yet it is evidently an actual danger which has not hithert been fully realized; its existence merely emphasizes th necessity of the most rigid self-protection by those wh are exposed to these mysterious agencies. As the infectious nature of leukemia and its relation to the true malignant neoplasms are matters under active discussion, the fact that x-rays may cause leukemia is a strong point in favor of the view that leukemia is a form of malignant disease, and also, presumably, against the parasitic origin of the disease.

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[1] Industrial Diseases, North Am. Rev., October, 1911.

[2] The New York State Department of Labor (Bureau of Vital Statistics) requires physicians in that state to report (on blanks printed and issued for the purpose) every case attended by them of poisoning by lead, phosphorus, arsenic or mercury, anthrax, compressed-air illness—if such disease was contracted as a result of the nature of the patient's employment. "Failure to give such notice renders a practitioner liable to a fine."

[1] Von Jagic, Schwarz and Siebenrock: Berl. klin. Wchnschr., 1911, xlviii, 1220; abstr. in The Journal, August 12, p. 595.

Current Comment

SENATOR WORKS AND THE LOS ANGELES COUNTY SOCIETY

Last July Senator Works of California made a seven-hour speech in the United States Senate. Under the guise of opposition to the Owen Bill, this speech was in reality an attack on the American Medical Association and a defense of "Christian Science." In explanation of his adherence to this cult, Senator Works made some statements regarding certain diseases for which he and members of his family had been treated by Los Angeles physicians, without relief, and of which they had been cured through "Christian Science." The Los Angeles County Medical Association, naturally desiring to know the facts, asked Senator Works what these "incurable" diseases were, who were the physicians and what had been the treatment. Senator Works declined to give any of this information. Ex-Senator Chandler of New Hampshire also wrote Senator Works, asking for definite information, and also asking whether or not it is true that Mrs. Harriet W. Works, a "Christian Science" practitioner of Los Angeles, is his wife. Senator Works, in his replies, refused to furnish any detailed facts to support his vague statements in the Senate, so that his case rests practically on his reputation for veracity. All of this correspondence, with editorial comments, appears in the *Bulletin of the Los Angeles County Medical Association*,[1] November 11. The county association is to be congratulated on the way in which it has called its distinguished senator's bluff, and has demanded proof of his assertions. It is singular how indignant adherents of Mrs. Eddy always become when incredulous and hard-headed people ask for facts in place of vague generalizations. Senator Works undoubtedly has a right to champion Eddyism in the United States Senate, if he so desires, whatever one may think of his good taste in discussing his family affairs in public. Since he has done so, however, the public has a right to ask him to produce facts to support his statements and not to attempt to hide behind his senatorial dignity.

PROGRESS

Lawrence County, Pennsylvania, has a live medical society and publishes a periodical, the *Bulletin*, that reflects the progressiveness of its members. The following paragraph taken from the *Bulletin* is of interest because it indicates the change that has taken place in the point of view of the medical profession on the proprietary evil. That the opinions there expressed are also held elsewhere is evident from the fact that the paragraph was reprinted in the *Roster*, the official journal of the Columbia County (Pa.) Medical Society. Here it is:

> "Several of us had a spirited interview with a representative of a well-known drug house recently. He presented his usual assortment of samples of mixtures, and when they were not enthusiastically and thankfully received, he entered on a tirade against the practice of medicine, and the American Medical Association. He said medicine was a farce, and the Council on Pharmacy and Chemistry a fraud. When told that when he slandered the American Medical Association he slandered each of us personally, he tried to modify his statements. Why don't all you fellows pass up such rot as Manola, Sedatole, Uritole, Genaton, Rigamarole and all the rest? The drug people put up this sort of stuff because they can find doctors in plenty who will use it, and don't know any better."

The statement in the last sentence is unfortunately true, but as the number of physicians like those of Lawrence and Columbia counties increases, the sales of proprietary remedies will correspondingly diminish. And the number of such physicians—fortunately for the public and for the honor of the profession—is increasing daily.

CHOLECYSTITIS—COLICYSTITIS—COLEOCYSTITIS—CYSTITIS COLLI

Some years ago we had occasion[1] to deplore the introduction of the word "colicystitis," which invites confusion and misunderstanding through its phonetic resemblance to "cholecystitis." We are now threatened with "cystitis colli," a term made in Germany (or at least much used there), and signifying "inflammation of the neck of the bladder." To these must also be added the term "coleocystitis"—"inflammation of the vagina and bladder"—which has gained admission to at least one dictionary; and the consequent sorrows of the proofreader ought to wring tears from the hardest-hearted lexicographer. The "portmanteau word" undoubtedly is a convenience under proper conditions; but four portmanteaus externally so similar as these, though packed for different occasions, are likely to prove anything but a blessing.

THE SCORE-CARD SYSTEM APPLIED TO FOOD PURVEYORS

Ogden, Utah, like many other cities, has a municipal ordinance relating to the sanitation of butcher-shops, bakeries, groceries, restaurants, etc. In the enforcement of this ordinance the food inspector has adopted a system of scoring these places in a manner similar to the score-card system of rating dairies, which is now largely used. Not only this—but the scores are published in the newspapers, giving the names—a method certainly conducive to reform. The idea is an excellent one, and is capable of development and application in any city where inspections are made. It substitutes system, certainty and publicity for indefinite methods. It could be made a part of every city ordinance regulating the distribution of food products to the people and would be particularly applicable to restaurants, in many of which conditions are not what they should be. The regulation, once understood and fairly carried out, could no more justly be the object of criticism than could similar regulation of dairies. Experience shows that the objections of farmers and dairy-men rapidly subside as the objects, advantages and fairness of the system are understood. Many municipal ordinances on the subject of restaurants are comprehensive enough to secure ideal conditions if rigidly enforced; but they are not effective on account of lack of system in inspections and lack of vigor in enforcing their provisions. Here is a simple means of acquiring system and promoting fair enforcement. The feature of publicity as adopted by the city of Ogden is also a good one and should have a salutary effect. The repeated publication of a low score will stimulate careless restaurant-keepers to improve conditions on penalty, not only of fines for failure to comply with ordinances, but also in the way of loss of trade. We recommend the development of the score-card system of inspection as a part of all municipal regulation of restaurants and all places where food is offered for sale.

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[1] A copy may be obtained by sending a stamped envelope to the secretary, Dr. George H. Kress, 240 Bradbury Bldg., Los Angeles.

[1] The Journal A. M. A., April 25, 1908, p. 1355.

POISONING BY ILLUMINATING GAS

According to Professor Sedgwick, of the Massachusetts Institute of Technology, deaths from gas poisoning in certain parts of this country have recently exceeded those from such serious diseases as scarlet fever, infantile paralysis and typhoid fever. In Massachusetts and Rhode Island it has become a very important cause of death and serious sickness and this is more or less true in other parts, especially in the northern tier of states. In 1909 the death-rate for measles in Massachusetts was 4.76 and that for scarlet fever 7.86, figures exceeded or approached by the statistics for gas poisoning in Rhode Island for the previous year and in Massachusetts in 1907. The number of deaths from this cause has rapidly increased in Massachusetts since the repeal of the law regulating the amount of carbon monoxid in gas, according to Professor Sedgwick in his paper read before the Massachusetts Association of Boards of Health.[1] In the fifty years preceding the repeal of the law there were not half a dozen cases of gas poisoning outside of two or three where the gas was being used in Massachusetts in violation of the law. During the twenty years since, there have been more than 1,200. The remedy, according to Professor Sedgwick, is to go back to the old-fashioned coal-gas and prevent the use of water-gas which is so generally manufactured for illuminating purposes. Coal-gas is still used in many places and is said not to be much, if at all, more costly than the extensively used water-gas, though it is somewhat more troublesome to make. Of course the mortality statistics do not tell the whole of the damage done by gas poisoning; permanent bad effects are often left when the poisoning is not fatal, but according to Sedgwick's figures as regards the fatalities alone, the matter of poisoning by illuminating gas is one well worth attention by legislators.

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[1] Jour. Infect. Dis., November, 1911.

Medical News

CALIFORNIA

Solano Physicians Meet.—At the annual meeting of the Solano County Medical Society held in Vallejo, Dr. Bernard J. Klotz was elected president; Dr. William E. Downing, vice-president; Dr. Alexander V. Doran, San Francisco, secretary, and Dr. James W. Brownlis, treasurer, all of Vallejo.

County Health League Organized.—The Fresno Health League for Fresno city and county was organized, October 20. The object of the organization is the prevention of disease and the promotion of health. Mr. W. W. Phillips was selected as temporary chairman and N. J. Levinson, secretary. The committee appointed to draft a constitution includes Drs. George H. Aiken, George A. Hare and Walter P. Miller.

Campaign Against Tuberculosis.—A state-wide campaign has been launched against tuberculosis by the State Board of Health. At a recent meeting of the Board in Sacramento, an executive committee was named, consisting of Drs. George H. Kress, Los Angeles; Charles C. Browning, Pasadena, and Richard G. Brodrick, San Francisco; Mr. A. Bonnheim, Sacramento, and Miss Catherine C. Felton, San Francisco. Tuberculosis, as it affects the poorer classes, will be studied in particular.

San Diego Notes.—Drs. H. Clifford Loose, Bernard J. O'Neill and Harry M. Wegeforth have been appointed members of the San Diego Board of Health. A vigorous campaign for the betterment of hygienic conditions in the city has been inaugurated. The first result of this being the creation of a board of meat and milk inspectors, headed by a veterinary surgeon. The inspectors are to be appointed by the board of health.——A dairy for certified milk is in preparation and will be opened in a short time.

New Hospitals.—The new Children's Hospital, San Francisco, was formally opened October 20. The building is four stories and a sub-floor in height. Three stories are especially fitted up for women and the top floor is entirely reserved for children.——The corner stone of St. Luke's Hospital, San Francisco, was laid with impressive ceremonies by Bishop Ford, October 18. The new hospital is to cost about $400,000.——Dr. Harold S. Warren, Montague, is planning to erect a hospital at Taft, to cost $4,000.

Psychopathic Hospital for Los Angeles.—The superintendent of construction of the county hospital has completed plans and specifications for a psychopathic ward to be erected on the county hospital property on Mission Road. The building will be 224 by 142 feet and will surround a court, 120 by 72 feet. The front portion will be three stories and the wings and rear two stories in height. There will be two wards of eight beds each and the remainder will be divided into single rooms. Accommodation will be provided for ninety-eight patients, and the building will cost about $100,000.

Sanitary Districts.—California has been divided into fifteen sanitary districts for administration in case of the invasion of any communicable disease which might spread through the state. These districts and their administrative centers are as follows: Humboldt District, Eureka: Tehama District, Red Bluff; Lassen District, Alturas; Sonoma District, Santa Rosa; Sacramento District, Sacramento; San Francisco District, San Francisco; Santa Clara District, San Jose; San Joaquin District, Stockton; Mono District, Bridgeport; Fresno District, Fresno; Santa Barbara District, Santa Barbara; Los Angeles District, Los Angeles; Kern District, Bakersfield; Riverside District, Riverside, and San Diego District, San Diego.

Personal.—By resolution of the San Francisco Board of Health, November 14, the present advisory committee of the municipal clinic was removed and a new committee appointed, of which Dr. George K. Frink is the medical member.——Dr. Frederick L. Wright, Oakland, Mariposa, was shot and slightly wounded by a nurse, formerly in his employ, November 7.——Major Oliver C. McNary, Santa Monica, has resigned as chief surgeon of the National Home for Disabled Volunteers, Soldiers' Home, Cal.——Dr. Waid J. Stone, physician at the state penitentiary, San Quentin, has resigned.——Drs. James C. Hanley and Charles A. McQuesten have been appointed members of the Board of Health of Alameda.——Dr. Alexander S. Kelly, Oakland, has returned from Europe.——Dr. James H. Parkinson has been reappointed a member of the Sacramento Board of Health.

COLORADO

Disinfection for Tuberculosis.—A committee on public health of the Denver Chamber of Commerce has requested the mayor to include in his budget an appropriation for $2,000 for the purpose of disinfecting premises occupied by the tuberculous poor.

Catholic National Tuberculosis Sanatorium.—At the recent meeting of archbishops of the Roman Catholic Church in the United States, in Baltimore, the proposition to establish in Denver a Catholic National Hospital for consumptives was favorably reported.

State Charities.—At the semi-annual conference of the State Board of Charities it was announced that $722,822 had been spent during the last year on state and county charities. Of this amount $125,728 was spent for the fourteen county hospitals and $14,676 for salaries to county physicians. Of the inmates of state and county institutions, 57 per cent. are said to be of foreign birth.

Personal.—The Colorado Ophthalmological Society tendered a complimentary dinner to Dr. Edward Jackson, Denver, at the University Club, October 21.——Dr. Patrick V. Carlin, Denver, was presented with a loving cup, November 17, by his friends and associates. Dr. Carlin has been obliged to go East, on account of ill health.——In accepting the resignation of Dr. S. D. Van Meter, Denver, as secretary-treasurer of the State Board of Medical Examiners, the board paid a glowing tribute to the work done by Dr. Van Meter during his term of office under five successive governors.

ILLINOIS

Gift to Sanatorium.—Mrs. George T. Smith, Chicago, has given a check for $2,000 to the Edward Sanatorium, Naperville.

License for Sanatorium.—The Board of Administration on November 14 authorized the issuance of a state license to Dr. George W. Mitchell, Peoria, to operate the Peoria Sanitarium in that city.

Personal.—Dr. George F. Butler, Wilmette, has been appointed physician of Cook County, vice Dr. Thomas S. Crowe, resigned.——Dr. Vance M. Powell, Peoria, who has been seriously ill, is reported to be improving.

Antituberculosis Society Organized.—The Aurora Society for he Prevention and Cure of Tuberculosis was organized at a meeting held November 6. Dr. James W. Selkirk, Aurora, was elected vice-president of the association and a committee was appointed to secure a cottage to be used this winter for the care of local tuberculosis patients.

Chicago

Personal.—Dr. Stephen R. Pietrowicz, Chicago, has been appointed superintendent of the Cook County Institutions, Dunning.——Dr. Helen M. Parker has rented the old Lewis Hospital, Bay City, Mich.

University Buys Property.—Northwestern University has purchased eleven parcels of property, both improved and vacant, on Dearborn Street, between Twenty-Fourth and Twenty-Fifth Streets, adjoining the medical school and also facing the Wesley Hospital, for approximately $150,000. This property is purchased to meet the present and future needs of the medical school.

Memorial Institute for Infectious Disease.—A site for the Memorial Institute for Infectious Diseases, to be built with funds bequeathed by Mrs. Annie W. Durand, has been selected and purchased. It is at the corner of Wood and York Streets and has a ground area of 100 by 126 feet. The building will be four stories and a basement in height and will cost with its equipment about $200,000.

Health Commissioner Asks Larger Appropriation.—Dr. Geo. B. Young, health commissioner, has asked for an appropriation of $300,000 to build an isolation hospital for contagious diseases, and $50,000 for two new public bath houses and the enlargement of the three bath houses. The entire appropriation asked for by the health department is $1,186,030.83, or 539,935.02 in excess of that for 1911.

Conservation of Infants.—The members of the Chicago Medical Woman's Club, at its meeting, November 9, are said to have pledged themselves to take maternity cases at the same figures asked by midwives. The club is making an effort to raise the standard among midwives by securing more stringent regulations for licenses, more thorough inspection and more severe penalties for violation of laws.

Open-Air Schools.—Twenty-five pupils were picked out for the first class of the new Elizabeth McCormick Open-Air School on the roof of Hull House to try the new class-room, November 14, and the school was formally opened on the following day.——At the present time five open-air schools are being operated by the health department, assisted by the Board of Education and the United Charities, and the health commissioner desires to open still more schools of this kind.

Tuberculosis Notes.—Dr. William T. Brown, director of the Valmora Industrial Sanatorium, Watrous, N. Mex., which was founded by some of the large business firms of Chicago for the care of their tuberculous employees, reported that during the year and a half of the establishment of the sanatorium, seventy-one patients had been treated, the majority of whom had been entirely restored to health.——The Chicago-Winfield Sanatorium announces an increase in the number of its directors from seventeen to twenty-one.

MISSISSIPPI

State Health Day.—November 17 was generally observed throughout the state as "Health Day," and members and field agents of the State Board of Health and physicians in many communities gave addresses on sanitation and hygiene.

Personal.—Dr. Hall Knox, Houston, is seriously ill with pellagra.——On the retirement of Dr. Robert J. Turner, Bay St. Louis, from active practice, a number of citizens presented him with a handsome tea service. Dr. Turner will reside with his son and family in Jacksonville, Tex.——At the meeting of the Harrison County Medical Society at Gulfport, November 8, the nomination of Dr. Charles G. McEachern, Moss Point, for member of the State Board of Health, was indorsed.

NEW HAMPSHIRE

Tuberculosis Ward Accepted.—The new tuberculosis ward at Hillsboro County Hospital, Grasmere, was completed November 8 and has been inspected and accepted by the commissioners. The twelve tuberculosis patients now at the county hospital are to be moved into the new ward.

County Medical Society Meeting.—At the seventh annual meeting of the Rockingham County Medical Society held in Portsmouth, November 9, the following officers were elected: president, Dr. John G. W. Knowlton, Exeter; vice-president, Dr. Fred Fernald, Nottingham; secretary, Dr. Walter Tuttle, Exeter; treasurer, Dr. Alice M. Chesley, Exeter; and delegates to the state medical society, Dr. Albert Buswell, Eppling, and Dr. John H. Neal, Rochester.

NEW JERSEY

Hospital for Lakewood.—A charter has been obtained for a hospital for Lakewood, as a memorial to the late Dr. Paul T. Kimball, and $30,000 has already been subscribed for the institution.

New Medical Society.—Physicians of Ridgewood and vicinity have organized the Ridgewood Medical Society and elected the following officers: president, Dr. William L. Vroom; vice-president, Dr. Cornelius A. Demund; secretary, Dr. William C. Craig, and treasurer, Dr. George M. Ockford, all of Ridgewood.

Hospital Physicians Organize.—At a meeting of the staff of the Orange Memorial Hospital held in Newark, November 6, the Orange Memorial Hospital Medical Society was organized and the following officers were elected: president, Dr. John Hammond Bradshaw, Orange; vice-president, Dr. Edgar Calvin Seibert, Orange; and secretary-treasurer, Dr. Leonard H. Smith, East Orange.

Memorial to Deceased Members of Staff.—In memory of the physicians of the visiting and dispensing staff of the Elizabeth General Hospital a bronze tablet inscribed with their names was unveiled at the hospital, November 3. The presentation speech was made by Dr. Norton L. Wilson, president of the staff, and the tablet was accepted by the president of the board of managers.

Associated Physicians of Montclair.—The Associated Physicians of Montclair and Vicinity have commenced the third annual series of meetings. The society is composed of about fifty members, of both schools of medicine, and was organized for the promotion of social and professional feeling and mutual instruction. At each monthly meeting an address is made by some prominent member of the medical profession, followed by a general discussion and a social half hour. The officers for the present season are: president, Dr. Henry Wallace, Glen Ridge; vice-president, Dr. James W. Kirchbaum, Upper Montclair, and treasurer, J. Corwin Mabey, Montclair.

NEW YORK

The Otisville Sanitarium.—The Tuberculosis Sanatorium of the New York Department of Health at Otisville has been steadily increasing its work. The average daily census of patients during 1910 was 350; during the first nine months of

1911, the daily average has been 420, and by Jan. 1, 1912, the capacity of the institution will be 500 patients. Plans are being carried out which will give accommodations for 100 more by July 1, 1912.

A Year's Campaign for the Prevention of Insanity.—The report of the committee on mental hygiene of the State Charities Aid Association shows that during the past year 366,000 persons in the state have received a pamphlet entitled "Why Should Anyone Go Insane," issued by the committee, giving some of the facts as to the extent, causes and prevention of insanity. Another feature of the campaign has been the sending out of 24,845 circular letters asking cooperation, to physicians, clergymen, teachers, social workers and heads of various organizations. Of these 13,500 went to physicians alone. It is estimated that through lectures, public meetings, magazine articles, pamphlets and letters more than 500,000 persons have been reached. Among new agencies for the treatment of incipient insanity inaugurated during the past year are the out-patient department of the Long Island State Hospital in Brooklyn, the new Psychopathic Hospital at Syracuse, and plans for two clinics for mental diseases, one to be established at Kings County Hospital and the other at the new Gouverneur Hospital in New York City.

New York City

For Portrait of Dr. Wyeth.—Subscriptions are being taken to purchase a photograph of Dr. John Allen Wyeth for presentation to the gallery of presidents of the New York Academy of Medicine. Subscriptions will be received by Dr. Simon Baruch, 51 West Seventieth Street, New York City.

Personal.—Dr. Morris J. Karpas of the Manhattan State Hospital has been appointed first assistant in the psychopathic ward at Bellevue Hospital. Dr. Benjamin F. Vosburgh has been appointed first assistant in the alcoholic ward.——Dr. Albert W. Ferris, Manhattan, has resigned as the medical member of the State Commission in Lunacy.

Free Hospitals Need Money.—According to the annual report of the Hospital Saturday and Sunday Association, some 1,235,524 days of free hospital treatment were given in this city during the year just ended by the forty-five hospitals belonging to this association. The amount contributed to the association during the year was almost $116,000, or about 28 per cent. more than in 1910. They are asking for a contribution of $200,000 when the next collection is taken up on the last Saturday and Sunday of the year.

The Board of Health and Infantile Paralysis.—The Board of Health has assigned inspectors to all orthopedic hospitals and dispensaries to insure complete reports of all cases of infantile paralysis. Circulars will be issued to every family in which a case occurs, giving information on the disease and its treatment. A minimum of six weeks' quarantine will be established and renovation or disinfection of bedding and houses will be required. A circular calling attention to these requirements will be sent to all physicians and henceforth they will be required to report all cases of infantile paralysis to the health department promptly.

Lecture on Cancer.—The New York Skin and Cancer Hospital announces that a lecture will be given by Dr. de Keating Hart of Paris, France, December 4, in the out-patient hall of the hospital, at 8 o'clock, on the "Fulguration Treatment of Cancer." The lecture will be illustrated by stereopticon pictures and charts, and on the following mornings of the week there will be practical demonstrations on patients, of the new fulgurating apparatus of the hospital. Cards of admission for these demonstrations will be issued by the research committee on request made to Charles C. Marshall, chairman of the executive committee of the hospital.

NORTH CAROLINA

New Hookworm Dispensaries.—Wake and Vance counties have recently been added to the list of counties whose commissioners have appropriated funds for the operation of hookworm dispensaries under the direction of Dr. J. A. Ferrall, assistant secretary of the State Board of Health for Hookworm Eradication.

National Guard Changes.—Captain J. F. Clemenger, Asheville, has been promoted to major, M. C., N. C. N. G., Captain Claude N. Pridgen, Kinston, has been promoted to major, Lieutenant William C. Horton, Raleigh, to captain, and Dr. A. Campbell, Morganton, has been commissioned first lieutenant in the Medical Corps.

Personal.—Dr. Paul V. Anderson, assistant physician to the State Insane Hospital, Morganton, has resigned.——Dr. Fonso B. Watkins has been appointed first assistant physician at the State Hospital, vice Dr. James K. Hall, resigned.——Dr T. E. Hughes, Magnolia, has accepted an appointment as assistant director of the work against hookworm disease.

Hospital News.—Plans are being made for a new mission hospital, Asheville, which is to cost $75,000 and will occupy a site adjoining the present building.——Dr. Frank T. Meriwether, Asheville, has broken ground for a thirty-room addition to the Meriwether Hospital.——Dr. Jacob H. Shuford Hickory, has recently completed and opened a three-story brick, fireproof, private hospital with accommodation for thirty patients.

PENNSYLVANIA

Personal.—Dr. Charles K. Ferer has been elected a member of the school board of Meadville.——Dr. W. T. Dutton, Meadville, is reported seriously ill with heart disease.

Contract Practice.—At the meeting of the Wilkinsburg Medical Society, November 20, a resolution was unanimously adopted that each member should sign a paper agreeing never to engage in any contract lodge work and, furthermore, that all local physicians should be asked to sign this paper.

Examination of School Children.—Dr. Samuel G. Dixon State Commissioner of Health, has appointed more than 500 physicians in 321 boroughs and 460 townships to make a thorough inspection of every child, and wherever a pupil is found defective in hearing, sight or otherwise in need of attention the parents will be notified by the commissioner. The inspection will begin at once and two weeks will be required to complete it. The physician conducting the inspection will make his report to Dr. Dixon, who will send a duplicate to the teacher in charge, who in turn will notify the parents. The pupils' vision will be tested by the use of test type charts and the degree of impairment of sight noted. This will be followed by hearing tests and an examination of the cervical glands examinations for skin diseases, nervous disorders, infectious diseases, deformities and into the general nutrition of the child. The inspector will also make a thorough report on the sanitary conditions of the school and its surroundings. The amount of lighting space in proportion to the floor area will be computed and the number of cubic feet of air space per pupil; the method of heating, whether steam, hot water, stove and the location of the apparatus and the water supply will be given attention. The care of the water in the school room will also be a subject for examination.

Philadelphia

Club Excludes Lodge Doctors.—At the last meeting of the board of directors of the Medical Club of Philadelphia it was enacted that the board of governors should not recommend any person known to be engaged in lodge practice and that he shall be considered ineligible to membership in this club.——Similar action was recently taken by the Medicolegal Society here, so that the club doctor is now practically excluded from all Philadelphia medico-social functions.

Child Welfare Conference Dinner.—A subscription dinner to include all those interested in the different branches of Child Welfare work in Philadelphia and vicinity will mark the culmination of the Conference on Child Welfare to be held in City Hall from November 20 to December 2. The mayor has appointed the following committee to have charge of the dinner: Dr. Robert N. Willson, chairman; Mrs. Charles H. Frazier, Mrs. R. R. Porter Bradford and Dr. Joseph S. Neff.

Officers Elected.—At the meeting of the Aid Association of the County Medical Society, the following officers were elected: president, Dr. Roland G. Curtin; vice-president, Dr. Jacob R. Shellenberger; secretary, Dr. Lewis H. Adler; treasurer, Dr. John B. Turner; solicitor, Francis C. Adler; directors for three years, Drs. Isidor P. Strittmatter, William S. Wray and William T. Hamilton. Dr. James M. Anders was elected a director for two years to fill the vacancy caused by the death of Dr. John C. DaCosta and Dr. Charles A. E. Codman, a director for one year to fill the vacancy caused by the resignation of Dr. Alexander R. Craig. An appropriation of $200 was made for the physicians who were sufferers in the Austin flood. Appropriate resolutions were adopted on the death of Dr. Charles A. Oliver.

TENNESSEE

Aid for Tuberculosis Hospital.—The county court of Davidson County, at its session October 2, adopted a resolution that $10,000 should be borrowed by the finance committee for the use of the tuberculosis hospital.

Medical Staff of Juvenile Court.—The personnel of the medical staff of the juvenile court of Memphis is follows: medicine, Drs. J. J. Cullings, Memphis; Joseph M. Smith, M.

ringarn and W. L. Williamson, Milan; diseases of the eye, r. nose and throat, Drs. Edward C. Ellett, Harry F. Minor d George H. Savage; nervous diseases, Drs. Henry Posert, . G. Somerville and B. Frank Turner; skin diseases, Drs. obert G. Henderson and L. H. Pendergrast; orthopedic surry, Drs. Willis C. Campbell and Robin Mason; children's seases, Dr. William W. Mitchell, and consulting surgeons, rs. George R. Livermore and Edward D. Mitchell.

New Medical Officers for the National Guard.—The adjunt general has issued an order appointing the following amining board for candidate medical officers and for promoon in the medical corps of the state: Brigadier-General mes H. McCall, Huntingdon, surgeon-general, and Majors mes R. Nankivell and Buford N. Dunavant, Memphis, medal corps. This board has in charge the examination of all ndidate officers for the medical corps, N. G. S. T. Its first eeting was held in Nashville, November 9, and its second eeting in Knoxville, November 11. As a result of the second amination, Drs. Robert H. Newman and Karl Rogers, noxville, have been commissioned as first lieutenants in the edical corps.

TEXAS

Northeast District Physicians Meet.—At the annual meetg of the Northeast Texas Medical Society held in Texarkana, ovember 14, Dr. Samuel C. Ball, New Boston, was elected esident; Dr. E. Y. Anthony, Omaha, vice-president; Dr. obert H. T. Mann, Texarkana, secretary, and Dr. C. A. nith, Texarkana, treasurer.

GENERAL

Yellow Fever and Plague.—Owing to the appearance of oradic cases of yellow fever in Central America and more equent cases in South America, the government of Hawaii making a determined effort to rid the Island of Oahu of the *egomyia fasciata* which breeds in Hawaii in great numbers. n October 23 the steamship *Hongkong Maru* arrived from anzanilla with a case of yellow fever aboard.——A case of ıbonic plague is said to have appeared on the Isthmus of ınama. The patient, who had sailed from a port in Ecuador, uth America, passed the quarantine station and was admitd to a hospital, in which he died. The condition is said not have been recognized until autopsy was made. The quarıtine period for passengers from plague-infected ports has en extended from six to seven days.

Personal.—Passed Assistant Surgeon George W. McCoy, U. Public Health and Marine-Hospital Service, has been reved as director of the Federal Plague Laboratory at San ancisco, and detailed as director of the U. S. Leprosy Invesgation Station, Honolulu, Hawaii.——Lieutenant Herbert W. emans, M. R. C., U. S. Army, enthusiastic Esperantist, and r several years on duty at Fort Wayne, Detroit, has been dered to the Philippines for duty, and will sail from San ancisco, January 5.——Lieutenant Maurice Buchsbaum, M. C., U. S. Army, has returned from the Philippines to Chigo, where he will enter private practice.——Dr. Holmes F. ontman has resigned as chief of staff of Queen's Hospital, onolulu, and has been appointed chief surgeon for three rge sugar plantations in one of the Hawaiian Islands.

Bequests and Gifts.—The following bequests to hospitals ve recently been announced:

Alfred Heinsheimer has given $15,000 toward the purchase of two uses adjoining the Hospital for Deformities and Joint Diseases, w York City, and $10,000 for the maintenance of a room.

By the will of the late William Bonsall, Philadelphia, a congent bequest of $80,000 is made to the Presbyterian Hospital.

The will of the late Frank Haseltine, Philadelphia, contains quests to the University, Jefferson and Pennsylvania Hospitals nounting to $29,650.

The will of the late John S. Hurst, Philadelphia, gives $15,000 to e Methodist Hospital.

Henry E. Pierrepont in his will left $10,000 to the Brooklyn spital.

The late Mrs. Mary E. Prichard, Corona, N. Y., bequeathed $1,000 the St. Johns Hospital, Long Island City.

By the will of the late Moses Richardson, Boston, $10,000 is queathed to the Free Hospital for Women, Brookline, and $5,000 the Cottage Hospital, Baldwinville, Mass.

American Association for the Conservation of Vision.—This ganization is inaugurating a wide-spread campaign of public ucation to call the attention of people to the care and preserıtion of their eyesight. The association has recently moved new offices at 105 East Twenty-Second Street, New York ity. A recent election of officers leaves the personnel as llows: president, Dr. F. Park Lewis, Buffalo; vice-president, . L. Elliott; acting secretary, Douglas C. McMurtrie; acting easurer, T. Commerford Martin. Dr. Hiram Woods of Balmore is on the board of managers and Dr. George Lord de chweinitz of Philadelphia is director of the Department of Diseases and Defects of the Eye. Among the publications of the association are its *Bulletin* and monograph series, the first of a popular, and the latter of a technical nature. The first issue of the *Bulletin* is entitled "Conserving Vision," compiled by Douglas C. McMurtrie and edited by George Lord de Schweinitz, M.D., F. Park Lewis, Buffalo, M.D., Louis Bell, Ph.D., and E. Leavenworth Elliott. The first issue of the monograph series, edited by Douglas C. McMurtrie, is entitled "Ophthalmia Neonatorum in Ten Massachusetts Cities," by Henry Copley Greene. The association has now in press additional instructive booklets of a popular nature.

Railway Surgeons' Meetings.—At the twenty-first annual meeting of the New York and New England Railway Surgeons' Association held in New York City, November 16, a report was unanimously adopted providing for the reexamination of all railway employees under the following conditions: Three years after the date of the last examination; after an accident that may have been due to defective vision, color sense, hearing or general condition; after recovery from any serious illness or injury, and after any severe inflammation or disabling affection of the eyes or ears; yearly, if ordinary conversation cannot be heard at twenty feet; enginemen and firemen in road service, conductors and brakemen in road and yard service, enginemen and firemen in yard service, train baggagemen, switch tenders and hostlers yearly, if the vision of one eye falls to 20-40 without glasses; signalmen, towermen, telegraph and telephone operators, station agents, yearly, if the vision of one eye falls to 20-50 without glasses. The following officers were elected: president, Dr. Walter Lathrop, Hazelton, Pa.; vice-presidents, Drs. John W. Le Seur, Batavia, N. Y., and Clifford A. Pease, Burlington, Vt.; corresponding secretary, Dr. George Chaffee, Brooklyn, N. Y.; recording secretary, Dr. J. H. Reed, Troy, N. Y., and treasurer, Dr. James K. Stockwell, Oswego, N. Y.——The twenty-fourth annual meeting of the Wabash Railway Surgical Association was held in St. Louis, November 16. Dr. Matthew W. Pickard, Kansas City, Mo., was elected president, and Dr. Porter M. Parish, Decatur, Ill., vice-president. St. Louis was selected as the meeting place for next year.

Marie Feodorovna Prize Competition for 1912.—At the Seventh International Red Cross Conference held in St. Petersburg in 1902, the announcement was made that the Dowager Empress Marie Feodorovna of Russia had instituted a fund for prizes to be awarded to the originators of the best inventions for the purpose of relieving the sufferings of wounded and sick soldiers. This fund amounts to 100,000 rubles or approximately $50,000, but as the interest is disbursed in prizes only every five years, the amount to be so distributed is about 20,000 rubles or approximately $10,000.

The first awards were made at the eighth conference in London in 1907. On this occasion there were no American competitors. The second award will, however, be made in this country in connection with the Ninth International Red Cross Conference, which will be held in Washington, D. C. next May. The American Red Cross is making great preparations for this conference, even to the extent of erecting a special building for the exhibition. A government appropriation has been obtained and also congressional approval for locating the building on public ground.

Besides the exhibition of articles offered in competition for the Marie Feodorovna prizes there will be a general Red Cross exhibit in the same building. This will comprise exhibits made by Red Cross associations throughout the world, and should serve to show how thoroughly well organized and efficient such associations are in other countries. Furthermore, our own Army and Navy will have extensive exhibits. The former contemplates an exhibit which will consist of a field hospital and an ambulance company completely equipped for field service. The Navy will show methods for caring for wounded on shipboard. The American Red Cross will install a rest station which will be conducted by some of its enrolled women nurses. "First Aid to the Injured" competitions for prizes offered by the American Red Cross will be another interesting feature of the meeting.

The Marie Feodorovna prizes are offered for competition to everyone who cares to enter an invention or innovation. There will be nine of these prizes, one $3,000, two $1,500 each, and six of $500 each. The maximum prize will be awarded to the best invention as determined by judges irrespective of the subjects, and so on down the list.

The subjects are as follows:

1. Organization of the methods of evacuation of the wounded on the battlefield, comprising as complete an economy as possible in litter bearers.
2. Portable (surgeons') washstands for war.

3. Methods of packing dressings at the aid stations and in the ambulances.
4. Wheeled stretchers.
5. Carriage of stretchers on mule-back.
6. Folding stretchers easily portable.
7. Transport of the wounded between war vessels, hospital ships and the coast.
8. The best method of heating railroad cars by a system independent of steam from the locomotive.
9. The best model of a portable Roentgen apparatus, permitting utilization of *x*-rays on the battlefield and at first aid stations.

It will be noted that Subjects 1 and 7 do not really compel exhibitors to submit apparatus, though possibly some such apparatus might be supplied in connection with the monographs. Models are, however, required for all the other subjects. Preferably these should be full-sized, working models which may be demonstrated under actual conditions simulating those of field service. Small models and drawings and specifications are not excluded from consideration.

It is of course realized that the material of the medical department in war is of somewhat less importance than a trained personnel; still it is of extreme importance if sick and wounded are not to undergo unwarranted sufferings. It is hoped that many persons may be induced to enter inventions in the Marie Feodorovna Prize Competition and thus assist in carrying out the humane purposes of the donor of the fund.

Full details in regard to this competition may be obtained from the American Red Cross, Washington, D. C.

LONDON LETTER

(From Our Regular Correspondent)

London, Nov. 18, 1911.

Sir Samuel Wilks, Bart., M.D., F.R.S.

Sir Samuel Wilks, Bart., M.D., F.R.S., past president of the Royal College of Physicians of London, sometime physician extraordinary to Queen Victoria, consulting physician to Guy's Hospital, died last week at his residence in London on November 8, in his eighty-eighth year. A great pathologist, a great physician, a striking personality, he occupied a prominent place in the profession for more than half a century. Born in London in 1824, he was apprenticed to a surgeon in 1840 and studied at Guy's Hospital. In 1847 he became a member of the Royal College of Surgeons and in the following year graduated with honors at the London University. In 1851 he became a member of the Royal College of Physicians, and in 1856 a fellow. He filled in succession most of the offices of the College—examiner, councilor, censor, and finally president (1896-99). At Guy's Hospital he passed through the stages of medical and surgical registrar, curator of the museum, demonstrator of morbid anatomy, lecturer on pathology, assistant physician, lecturer on medicine and full physician. He was a great teacher and his contributions to medical literature were numerous and valuable. His most important work was in pathology, of which he was one of the pioneers. He said himself that he was led to study morbid anatomy "because it offered something positive or at any rate more positive than the symptoms of disease in the patient's life-time." He was the first to describe the visceral changes of syphilis and he has recorded that when he first examined the body of a man who had died from that disease he could find no account of such an examination having been made. The fruits of his work were given to the world in 1869 in a book on pathologic anatomy which laid the foundation of scientific pathology in this country. A second edition appeared in 1875 in which the famous Dr. Moxon collaborated. The work became so famous that in pathologic discussions it was constantly quoted as "Wilks and Moxon." In it he made the statement that the interior of the body was affected by syphilis just as the exterior. This statement was so novel in that day that it was adversely criticized by a reviewer. Of this Wilks humorously said that it was his best friend as it showed his originality. As a clinician his interests were many-sided but he devoted special attention to diseases of the nervous system on which he published a book in 1878. Among the more important of his many other publications were "The Study of the Human Mind," "The Pupil of the Eye in Emotional States," "Sleep-Walking and Hypnotism," "How the Blind Dream," "The Origin of Music," "Treatment of Pneumonia," "Alcohol as a Beverage and Medicine," "Psychic Force," "Addison's Disease," "Tubercular Meningitis in Adults," "Furrows on the Nails." As this list shows, his abilities were versatile and extended beyond the range of medicine. He was a great teacher and has left an indelible impress on medical science. He was distinguished both as a pathologist and as a physician. He had the gift of rapid insight into a patient's disease from one glance. In therapeutics he was opposed to polypharmacy, no believing in long prescriptions containing salts, essences and vegetable infusions, none of which had any particular efficacy and of which one-half would perhaps neutralize the other. He believed in well-tried drugs such as mercury, digitalis, iodid etc. When charged with skepticism he told his critics that they were the real skeptics, as they were willing to give up the drugs in which they professed so much faith as soon as new ones came upon the market.

Consumption Declared a Notifiable Disease

A government order has been issued making tuberculosis of the lungs a compulsorily notifiable disease from Jan. 1, 1912 The advisability of this step has long been under the consideration of the health authorities, and in certain districts local health authorities have adopted optional notification, making an arrangement with the doctors who voluntarily agreed to report the disease. It is now held that universal compulsory notification is an indispensable preliminary to the effective administrative control of pulmonary tuberculosis. Though the death-rate from pulmonary tuberculosis is still higher than that from any of the notifiable diseases (the specific fevers) it has shown a marked decline in the last thirty years. In 1881 it amounted to 18.25 per ten thousand; in 1891 to 15.99 in 1901 to 12.64; and in 1909 to 10.93. The decrease has coincided with a marked increase in local administrative activity including greatly improved sanitary arrangements. While it is impossible to estimate precisely their effect in diminishing the death-rate there can be no doubt that they have had a powerful influence. At present the local health authorities have power to provide sanatoriums and dispensaries for the treatment of tuberculosis. By the order they are given further powers to supply such medical assistance, articles and facilities as may be necessary for the early detection of tuberculosis for preventing the spread of infection, and for removing predisposing conditions. The local authorities are also empowered to appoint any additional officers required for these purposes As stated in a previous letter to The Journal, under the national insurance bill it is proposed that a capital sum of $7,500,000 shall be set apart for the provision of sanatoriums and other institutions and further money for defraying the expenses of sanatorium treatment of insured persons. As tuberculosis differs from other infectious diseases in that it does not disable the patient from following his occupation while the possibility of conveying infection is limited and intermittent, and infection can be prevented by the patient following the rules, it is declared necessary to educate the public on these points to prevent consumptives being exposed to the hardship of not being able to obtain work. It is also declared undesirable that notification should involve publicity and it is insisted that it should be considered confidential.

Cancer Investigation

The Imperial Cancer Research Fund has just published its fourth report. Eight years have now elapsed since the fund was established and, as previous letters to The Journal show an enormous amount of experimental and other work has been done. The present report, however, declares that we are still confronted by facts "so new to experimental biology and as yet so imperfectly comprehended that observers throughout the world are still engaged in discussing what may be their true significance as sign-posts indicating a road or roads by which the correct advance is to be made." One of the most important facts established by the fund is that cancer occurs in practically all races of men and throughout the vertebrates living in a state of nature, even in marine fish. This wide zoological distribution shows that cancer is not a recent acquirement, such as might be referred to the influences of civilization. The fund has also shown that cancer can be transferred from one individual to another of the same species by the implantation of living cells, suggesting that it is not due to a parasite. It is now declared that the inquiry has reached the stage at which it has been established that cancer is a personal and originally local affection, depending on some part of the organism to take on a special form of redundant growth; that this growth in every individual has a certain personal element which differentiates it from others of a like kind. The redundant growth exhibits, in different subjects, every grade of difference between the most acutely malignant forms and those which are hardly distinguishable from normal tissue. The place of appearance is often determined by some form of local irritation, such as the kangri, or charcoal stove, which in cold weather the men of Kashmi carry under their garments, or the betel, which is mixed with me and chewed in India, or the very hot rice which is eaten n some parts of China. The cancer which arises in an indi- idual is, so to speak, an integral part of himself. Parts of transplanted to another place in his body are at home and ake root and grow readily. There are no ascertained general auses of the tendency to cancer. Nothing in the way of etary, place of abode or general habits of life can be fixed n as likely either to increase or diminish the tendency to ncer. In regard to heredity, the report confirms a belief hich is widely held but which could not be proved until xperiments had been made on many generations of short- ved animals. In this country the registration of the causes t death has not been in operation over the course of one long fe. Moreover, cancer being a disease of declining life, a rge proportion of the descendants of cancerous parents ight not live long enough to develop a tendency latent in eir systems. By observations extending over many genera- ons of mice, the somewhat greater liability due to descent om cancerous female ancestors has been found. But this not of so marked a kind as to be likely to exert any dis- overable effect on individuals of the human race. Thus the nclusion of the report is that cancer is due to some personal ndency on the part of the individual in whom it appears, nd external causes are only operative in that they determine y irritation the part in which the tendency will first display self. The nature of this tendency is a subject to be investigated and until it is solved the question of prevention can- ot be entertained. As to treatment, early and complete moval is imperative and if carried out will, in the majority f cases, result in cure.

The Health of the Nation

The annual report of Dr. Newsholme, chief health officer of he Local Government Board for the year ending March 31 ast. has just been issued and shows a gratifying improvement n the public health. The annual death-rate per thousand ving for England and Wales has fallen during the last four ecades from 21.4 through 19.1, 18.2 to 15.3; and the rate for 910 was 20 per cent. lower than for 1900. A large part of he life-saving is due to a diminution of infant mortality, hich was 30 per cent. lower in 1910 than in 1901. Substan- al reductions have occurred in the mortality of the diseases hich are most obviously under the control of sanitation, such s typhoid fever, scarlet fever and diphtheria. The death- ate of the last disease was 50 per cent. lower in 1910 than in 901. Typhoid fever is taken as the best illustration of the alue of national sanitation, as its past history shows no arked changes in severity of attack, or of cyclical changes in revalence, like scarlet fever and diphtheria. Since 1869 it as shown an almost uninterrupted decline in mortality, which chiefly attributable to public health work, and particularly the general provision of public supplies of water. In the ear 1910 it caused 1,848 deaths in England and Wales. If he death-rate of the decade 1871-80 had been maintained the eaths would have amounted to 11,800. This saving of 10,000 ves in a single year implies about 70,000 cases less of pro- racted and disabling illness. On the other hand measles and hooping-cough have proved the least amenable of the infec- ons to better sanitary conditions and show little change.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Nov. 10, 1911.

A Death From Salvarsan

On October 31, Dr. Gaucher, clinical professor of cutaneous nd syphilitic diseases at the Faculté de médecine de Paris, ported before the Académie de médecine the case of a young an, 19 years old, who entered the St. Louis hospital in the rvice of Dr. de Beurmann, having an indurated chancre of he frenum, a month old, accompanied by a double indolent, guinal adenopathy. This patient who was free from all isible lesions received an intravenous injection of 0.6 gm. of lvarsan. A quarter of an hour later he was seized with rtigo and a little later with vomiting and elevation of tem- erature. The next day his condition was normal. Two days ter a new injection was made, which was followed by vertigo, eadache and greenish vomiting. This vomiting persisted the ext day and was accompanied by epigastric pain. The day fter that in the afternoon the patient was seized with con- ulsions first tonic, then clonic epileptoid, with frothing at the outh. At 4 o'clock he was in coma and died two hours after- ard without having regained consciousness. At the necropsy ll the organs except the kidneys were normal. The kidneys ere increased in volume, hard and congested. Microscopic xamination showed lesions of acute nephritis with epithelial degeneration and tubular rupture. In short, the patient had succumbed to a hyperacute arsenical intoxication and died of uremia caused by degeneration of the kidneys.

A New Sign Associated with Kernig's Sign: Extension of the Toes

In one of the last sessions of the Société médicale des hôpitaux, Dr. P.-E. Weil, physician of the hospitals, drew attention to a new sign which he had observed in twenty-four out of twenty-five meningeal cases in which there was hypertension of the cerebrospinal fluid. When one is obtaining Kernig's sign, at the moment that the leg begins to place itself in the line of extension of the thigh, one obtains, both in the reclining and the seated position, movements of the toes similar to those which are known as Babinski's sign. Like Kernig's sign, the sign of the associated extension of the toes may be more intense on one side, complete on the right, for instance, and incomplete on the left. When it is dissociated the extension of the large toe generally shows it alone. The fan-like spread of the toes is rare. This sign appears in adults as well as children, often very early and its semeiologic value is the same as that of the Kernig sign.

Specimens of Prehistoric Surgery Found in a Neolithic Tomb

Dr. Marcel Baudouin, secretary general of the Société préhistorique française, reported on November 6 before the Académie des Sciences, the results of an investigation of a tomb belonging to the polished-stone age recently discovered at Vendrest, Seine-et-Marne. It is the first time an investigation of this kind has been so scientifically carried out. Each bone was taken from the sand of the mortuary chamber by Dr. Baudouin, himself. He was thus able to ascertain that the corpses placed in the cavern had previously undergone a desiccation in the open air and incomplete removal of flesh from the bones. In the first period of the use of the mortuary chamber, the human remains had been first burned in the open air and only the ashes were taken to the tomb. Later only the dried bones were placed there without being burned. A circumstantial study of the bones showed that at present there were two kinds of lesions; (1) pathologic lesions (osteites, hyperostoses, healed fractures, etc.); (2) results of surgical operations, performed by the aid of flint implements. There were found, moreover, scattered throughout the tomb, the instruments utilized for these operations on human bones.

Election of Two Foreign Correspondents of the Paris Academy of Medicine

Dr. G. Marinesco, clinical professor of the diseases of the nervous system at the Faculté de médecine de Bucarest, and Dr. Finlay of Havana have just been elected foreign correspondents of the Académie de médecine de Paris.

Twelfth Meeting of French Internists

The Congrès français de médecine interne, which was held at Lyons, October 23 to 25, under the presidency of Dr. J. Teissier, professor of clinical medicine at the Faculté de médecine de Lyon, resulted in the formation of a new society called the Association des médecins de langue française, and with membership drawn from all French-speaking countries. The meeting this year brought together 600 physicians, of whom a large number were foreigners, Italian physicians being particularly numerous. Among the four questions considered two were of special practical interest.

DIABETIC COMA

Two papers were devoted to this subject. Dr. Marcel Labbé, *agrégé* professor at the Faculté de médecine de Paris, emphasizes especially the importance of the diagnosis of acidosis, since such diagnosis permits the institution of active treatment, thus often postponing for a long time the danger of coma. Acidosis is signalized by a certain number of chemical signs and clinical symptoms. The urine is constantly acid and this acidity offers especial resistance to the alkalization of the organism by the ingestion of alkalies. While in a normal subject the urine becomes alkalized after the ingestion of from 5 to 10 gm. of sodium bicarbonate, in a subject of acidosis the urine remains acid after the absorption of a sometimes very considerable quantity of alkali. The amount of beta-oxybutyric acid is particularly important in the diagnosis of acidosis. Unfortunately, it cannot be discovered by any reaction simple enough to be employed at the bed-side. Diacetic or acetylacetic acid is easily recognized by the Gerhardt reaction with ferric chlorid. In regard to modification of the blood, the most salient facts are the milkiness due to leukemia and the diminution of the alkalinity. The clinical signs are often incomplete and easily pass unperceived. The general troubles, when present, consist of a marked physical depression, a sensation of intense fatigue, rapid loss of flesh, due to decreased appetite, digestive trouble and difficulty of alimentation. The aromatic odor of the breath is one of the signs which struck the old authors most forcibly. Dr. Labbé says that he has seen diabetic patients succumb in the coma of acidosis without having presented any acetone odor in the breath and more than once he has perceived this odor in subjects who presented no acetonuria and no other signs of acidosis. Among the other symptoms, the dyspnea of Kussmaul (slow, sighing, noisy inspirations, followed by forced and abrupt expirations), in spite of its inconstancy, possesses great diagnostic value. As for treatment, one should not confine oneself to a timid and, too often, inefficacious employment of alkalies. The most-used salt is sodium bicarbonate. To give the bicarbonate by mouth is often impracticable because of the insurmountable distaste of the patients or the deep coma or the gastro-intestinal trouble which the salt provokes. Accordingly, in serious cases in which it is necessary to act quickly, intravenous injection is the method of choice. Dr. Labbé habitually employs solutions of from 3 to 5 per cent. in distilled water. The injection of a warm solution may be made in any vein. When the signs of acidosis are pronounced and coma is imminent, there must be no hesitation in injecting 25 gm. of sodium bicarbonate at once. Doses given by mouth will naturally be much larger and in an adult may be as much as 100 or 200 gm.

Dr. L. Blum, privat-docent at the Faculté de médecine de Strasburg, in his report shows that diabetic coma may be produced in various forms, most frequently under the form of dyspneic coma, more rarely under the type of cardiac coma or in a more complex form in which the first phase is marked by dyspnea and the last period by coma accompanied by myocardiac asthenia. He mentions that the intravenous injection of sodium bicarbonate is likely to give rise to serious complications because of the reaction of the venous walls to the alkali and because of the toxicity of large quantities of sodium introduced into the organism (THE JOURNAL, Oct. 21, 1911, p. 1408). He gives preference to the administration of sodium bicarbonate by mouth whenever it is possible to do so. Besides the neutralization of acids, the treatment should be directed to the activation of the combustion of acids and their elimination. The substances which act most efficaciously are the carbohydrates which are strongly antiketogenetic. Oat and wheat porridges and milk are the foods best received. Against myocardic asthenia the digitalis preparations, caffein, camphor and intravenous injections of physiologic serum appear to be the means of producing the best effects.

Dr. Blumenthal of Berlin has no confidence in the treatment with alkalies. According to his personal observations, a milk régime is the one that should be employed in the first place. If it is instituted early the acetonuria diminishes and the patient recovers health, at least for a time. Dr. P. Lereboullet of Paris drew attention to an early symptom (epigastralgia) which, in two cases, permitted him to foresee the imminence of coma. Prof. J. Teissier of Lyons emphasized the fact that the presence of acetone in the urine does not necessarily imply an unfavorable prognosis. It is only when, along with the acetonuria, a massive or intense destruction of the albumins of the blood is perceived that the prognosis becomes extremely serious. Dr. Mariani of Genoa, having observed a marked diminution of glycosuria experimentally induced in animals by high frequency currents, asked if this method of treatment would not be efficacious in diabetic coma. According to Dr. Rubino of Naples the true treatment of diabetic coma and acidosis consists in the disintoxicating method, of which the two essential elements are lavage of the blood by physiologic serum and the fasting-cure. Dr. Blum, on the other hand, does not advise the fasting-cure in serious diabetes, the best antiketogenetics being carbohydrates, which are lacking in the diabetic.

EPIDEMIOLOGY AND PROPHYLAXIS OF CEREBROSPINAL MENINGITIS

This question aroused warm discussion between the partisans and adversaries of the theory which assigns the chief agency in the dissemination of meningitis to healthy germ-carriers. Dr. Rouget, who is professor at the Ecole d'application de médecine militaire du Val-de-Grâce and delegate from the minister of war, believes it possible to reduce the prophylaxis of cerebrospinal meningitis in the army to systematic research for and isolation of germ-carriers. This view aroused strong objections, especially on the part of Dr. Mongour, *agrégé* professor at the Faculté de médecine de Bordeaux, who is an adherent of the doctrine of autogenesis, which wa defended at the Académie de médecine by the late Profess Kelsch. According to this doctrine, saprophytic germs ma become pathogenic with a specific morbid function, and thi may occur simultaneously in all regions subject to the sam influences. The theory of autogenesis does not deny the possibility of contagion resulting from hypervirulence, but considers it an accident against which the isolation of the patien is a sufficient safeguard. Observations taken in the meteorologic station annexed to the laboratory of Dr. Rappin, professor at the Ecole de médecine de Nantes, have show relations existing between secondary causes (humidity of th air, etc.) and the virulence of the germs. Dr. Carrieu, professor of clinical medicine at the Faculté de médecine de Montpellier, drew attention to the persistent localized lesion remaining after the otherwise complete cure of the meningitis These lesions are, moreover, extremely variable. One of hi patients remained deaf after cure; a second remained paralyzed in the legs and a third was affected with strabismus. I is probable that cases of this kind increase in proportion a cures become more numerous through the employment o antimeningococcus serum.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 9, 1911.

Personal

Professor Stöhr, director of the Anatomic Institute at Würzburg, died November 4, aged 62. He was a pupil of Köllike and became prosector at Würzburg in 1876; in 1874 he wa appointed professor extraordinary; in 1879 he accepted a cal to Zurich as regular professor and returned to Würzburg i 1889. He published a large number of articles on anatom and physiology, particularly of the digestive canal. His manual, the "Lehrbuch der Histologie und mikroskopischen Anatomie des Menschen," has appeared in numerous editions.

The Death-Rate in the German Empire During 1910

On the basis of the monthly reports that are sent to th Gesundheitsamt, the imperial health office, from 348 localitie of the German empire which have at least 1,500 inhabitant (altogether about 23,000,000 inhabitants), estimates of th mortality for the German empire for the last year have jus been published by the authorities.

The number of children born living during the year 191 was 18,172; that is, 2.8 per cent. less than in the previou year, although the entire population, according to the estimate based on the results of the last census, has increase from 22,889,705 to 23,479,610; that is, by 2.6 per cent. Th number of legitimate children born living decreased 17,204 or 3 per cent.; that of the illegitimate, 968, or 1.2 per cent Also the number of stillbirths fell as compared with the previous year by 337, or 1.64 per cent., but reckoned accordin to 10,000 children born living, there were in the previou year 316 and in the year reported 320 stillbirths. With reference to the number of deaths, the figures for 1910 are distinctly more favorable than those for 1909, for in the entir number of places reported, in spite of the increase of the living population, 13,963 less people—3.8 per cent. less—died an the mortality figure reckoned per thousand living fell fro 16.08 to 15.08. So far as facts are available regarding th age at death, the reduction of deaths in infancy is much mor evident than among the older inhabitants; for the number o children under 1 year who died during the year fell fro 105,022 to 96,622; that is, to 92 per cent. of the previous year which was a reduction for the number reckoned for every 10 born living from 16.2 to 15.3. On the other hand, the number of persons who died after one year fell from 263,009 t 257,446, or only to 97.9 per cent. of the number for the previous year.

If the causes of death are taken into consideration, ther appears to be an increase (1) in the number of deaths fro diphtheria, including croup; (2) in puerperal fever, and (3 in violent death. However reckoned according to 100,00 living, the mortality even for these causes of death has no increased. The rate of all deaths by violence decreased fro 65.3 to scarcely 63.8. It is especially worthy of notice tha there has been a reduction of 11.7 per cent. in the mortalit of children under 1 year from gastro-intestinal catarrh, including diarrhea, and of 16.8 per cent. among adults from th same cause, and further, that the deaths from diseases of th respiratory organs have diminished by 7.3 per cent.; pertussis by 5.2 per cent.; scarlet fever by 33.6 per cent.; typhoi fever by 9.25 per cent., and measles by 3.1 per cent.

The smallest reduction is shown in the number of deaths used by tuberculosis, namely, a reduction of only 0.14 per nt. of the mortality of the previous year. The tuberculosis ortality for 1909 was, however, markedly smaller than that f the year 1908. Finally, it should be noted that from 1905 1910 the death-rate for the whole community has steadily ecreased from 185.6 to 150.8 (per 10,000), and that the rate f infant mortality reckoned for 100 born living has quite teadily decreased during the same six-year interval, from 0.4 to 15.3. There died in the entire registration area the ollowing number:

Year.	Total per 10,000 Inhabitants.	Infants Under 1 Year per 100 Born Living.
1905........	185.6	20.4
1906........	174.7	18.6
1907........	170.5	17.1
1908........	170.7	17.5
1909........	160.8	16.2
1910........	150.8	15.3

Nevertheless, during the last five years in the total registraion area the birth-rate has declined from year to year at a ot inconsiderable rate, for the number of children born living for every 10,000 inhabitants from 1906 to 1910 successively ere 310.1, 302.6, 295.2, 284.0 and 269.2, and the excess of irths over deaths for every 10,000 inhabitants, which in 906 was 135.4, amounted in the last year to 118.4.

Marriages

Harry T. Ballantine, M.D., to Miss Leona Dorsey Van ess, both of Muskogee, Ala., at Kirkwood, Mo., October 25.

Howard Lilienthal, M.D., New York City, to Miss Edith trede of Amherst, Va., in New York City, November 7.

Norman D. Morrison, M.D., to Miss Pearl Lancaster, both f San Mateo, Cal., in San Francisco, November 2.

Rembert H. Thigpen, M.D., to Miss Adelaide Vecze, both of a Colorado, Mex., at Tucson, Ariz., November 9.

Philip Du Bois Bunting, M.D., to Miss Mabel Audrey acdougall, both of Elizabeth, N. J., November 8.

William W. Dinsmore, M.D., Montgomery, Ala., to Miss erta Ragan of High Point, N. C., November 7.

James Manning Bernhard, M.D., to Miss Marion Alma enior, both of Montgomery, N. Y., October 23.

Henry Bardwell Donaldson, M.D., Chicago Heights, Ill., to iss Pearl Anderson of Chicago, November 16.

Harold Everett Eggers, M.D., Shanghai, China, to Miss unice Cartwright of Chicago, November 15.

Daniel Edward Remsberg, M.D., Philadelphia, to Miss elen Hickman, at Baltimore, November 16.

Daniel Kriedt, M.D., Minneapolis, Minn., to Miss Margaret ine Morgan of Racine, Wis., November 16.

W. Ten Eyck Elmendorf, M.D., to Miss Katarine Elmenorf, both of New York City, November 15.

George W. Hayes, M.D., to Miss Kathleen Howard, both of ranklin, Va., at Baltimore, November 16.

Benjamin Franklin Stahl, M.D., to Miss Annette Thomas astle, both of Philadelphia, November 24.

John Breckenridge Bayne, M.D., to Miss Olga Roosevelt, oth of Washington, D. C., November 15.

William C. Meacham, M.D., Oak Park, Ill., to Miss Irene ate of Ottawa, Ont., November 29.

Arthur W. Boslough, M.D., to Miss Myrtle C. Johnson, oth of Dwight, N. Dak., October 4.

Frank Cohen, M.D., New York City, to Miss Constance laut of Cincinnati, O., October 26.

Frank M. Fuller, M.D., to Miss Caroline Thistle Davis, oth of Keokuk, Ia., November 15.

Theron Earle Fuller, M.D., to Miss Emeline Grim, both of exarkana, Ark., November 1.

Edward S. Godfrey, M.D., to Miss Alma McDonald, both of hoenix, Ariz., November 14.

Frederick Auld Hudson, M.D., to Miss Grace Goltry, both Enid, Okla., October 25.

A. P. Deaver, M.D., Wimer, Okla., to Miss Atta Campbell, Athens, Ga., recently.

William E. Knewstep, M.D., to Miss Helen Scott, both of ampton, Va., June 28.

Deaths

Surgeon John Francis Bransford, U. S. Navy (retired); died at his home in Stony Point, Va., November 4, aged 65. He was a cadet in the Virginia Military Institute during the Civil War and enlisted in the Confederate service. At the close of the war he entered the Medical College of Virginia, Richmond, from which he graduated in 1867. He entered the United States Navy in 1872 and had seven years and five months sea service and eight years and five months shore or other duty. After making some special archeologic researches in Central America for the Smithsonian Institute, Washington, he resigned from the service and resided at Stony Point, Va., maintaining a winter home in Augusta, Ga. At the outbreak of the Spanish-American War, Dr. Bransford reentered the service and was made surgeon on the converted yacht *Gloucester* and participated in the engagement with the torpedo destroyers, *Pluton* and *Furor* and commanded a gun on the *Gloucester* during the battle with Cervera's fleet and was one of the twenty-eight promoted for eminent and conspicuous conduct in battle, and was voted a medal of honor by Congress. He was appointed a surgeon, and placed on the retired list, February 5, 1901, and retired to his home near Bonair, where he afterward lived.

George Cornell Freeborn, M.D. College of Physicians and Surgeons, New York City, 1873; a member of the American Medical Association, and once president of the New York Pathological Society; for more than twenty years instructor in normal histology in his alma mater; pathologist to the Woman's Hospital in the state of New York, and later assistant pathologist to St. Luke's Hospital; surgeon to St. Michael's Hospital, Newark, N. J., for seven years; died at his home in New York City, October 30, aged 61. By his will Dr. Freeborn left books and memoranda and $100 to the alumni of the College of Physicians and Surgeons, and instruments valued at $100 to St. Luke's Hospital.

James M. Weaver, M.D. Western Reserve University, Cleveland, 1861; formerly a member of the American Medical Association; for six years a member of the medical staff of the National Military Home, Dayton, O.; for many years a member of the board of education and surgeon to the Big Four and Dayton and Northern Railways; Surgeon of the Ninety-Third Ohio Volunteer Infantry during the Civil War; consulting surgeon to St. Elizabeth's Hospital and a member of the local board of U. S. pension examiners; health officer of Dayton from 1886 to 1891; died at his home, November 6, from pneumonia, aged 73.

Thomas Milton Colley, M.D. University of Tennessee, Nashville, 1859; major surgeon in the Confederate service during the Civil War, and later a practitioner of Palestine, Tex.; for many years chief surgeon of the International and Great Northern Railway and in charge of its hospital in Palestine; died at his home, October 30, as the result of injuries received in runaway accidents, four and two years before, aged 75.

Albert Alonzo Ames, M.D. Rush Medical College, 1862; surgeon of the Seventh Minnesota Volunteer Infantry during the Civil War; formerly surgeon general of Minnesota, and for four terms mayor of Minneapolis; local surgeon for the Chicago, Milwaukee and St. Paul, Minneapolis and St. Louis, Great Northern and Northern Pacific systems; died at his home in Minneapolis, November 17, aged 69.

Clarence Edmund Wardell, M.D. University of Southern California, Los Angeles, 1907; of Seattle; a member of the Washington State Medical Association; while going over a grade crossing at Argo, November 6, in his automobile, was struck by an engine, receiving injuries, from which he died on the same evening, in the Providence Hospital, aged 28.

Antoine Ferdinand Vadeboncoeur, M.D. Syracuse (N. Y.) University, 1875; of Syracuse, N. Y.; a member of the Medical Society of the State of New York; a specialist on diseases of the nervous system; died in the Hospital of the Good Shepherd, Syracuse, November 9, from cerebral hemorrhage, aged 57.

William J. Moore, M.D. Rush Medical College, 1870; consulting physician to St. Elizabeth's Hospital, Danville, Ill.; a veteran of the Civil War and one of the oldest practitioners of Danville, was found dead in his office, November 6, from the effects of an overdose of chloroform, aged 65.

Ratliff P. Talley, M.D. Medical College of Virginia, Richmond, 1865; a Confederate veteran and during the last year of the war, assistant surgeon C. S. Army; for more than forty years a resident of Texas; died at his home in Temple, October 28, from cerebral hemorrhage, aged 75.

George Edward Gilpin, M.D. University of Maryland, Baltimore, 1882; local surgeon to the Baltimore and Ohio Railroad, and president of the Morgan County Board of Health; died at his home in Berkeley Springs, W. Va., November 4, aged 65.

George McLain, M.D. Trinity Medical College, Toronto, Ont., 1881; a specialist in diseases of the eye and ear of Excelsior, Minn.; died in St. Luke's Hospital, Minneapolis, October 18, three weeks after an operation for carcinoma of the stomach, aged 60.

Frank A. Clark (license, Kentucky, years of practice, 1910); one of the oldest practitioners of Newport; for several years district and jail physician; died at the home of his daughter in Newport, October 24, a week after a surgical operation, aged 62.

Thomas Marlett Sabin, M.D. University of Wooster, Cleveland, O., 1875; a member of the American Medical Association; died at his home in Warren, O., November 6, from septic endocarditis, resulting from prostatitis and cystitis, aged 61.

Stephen O. Culmer, M.D. Medical College of Evansville, Ind., 1880; of Odon, Ind.; while suffering from mental aberration, leaped from the window of a hotel in Odon, October 28, sustaining injuries from which he died the same day, aged 52.

Josephine Griffith Davis, M.D. Woman's Medical College of Philadelphia, Pa., 1877; a member of the American Medical Association; died at her home in East Orange, N. J., November 8, after a surgical operation, aged 72.

Robert Charles Marshall, M.D. Jefferson Medical College, 1863; surgeon of Pennsylvania Volunteers during the Civil War; died suddenly at his home in West Fairview, October 12, from cerebral hemorrhage, aged 70.

Horatio Seymour Brown, M.D. Eclectic Medical Institute, Cincinnati, 1889; of Niles, O.; while driving in his automobile over a grade crossing at Niles, October 29, was struck by a train and instantly killed, aged 44.

William B. Lewallen, M.D. Kentucky School of Medicine, Louisville, 1895; a member of the State Medical Association of Texas; died at his home in Bonham, November 1, from laryngeal tuberculosis, aged 42.

George Benford, M.D. Bellevue Hospital Medical College, 1875; for several years coroner's physician of Monroe County, N. Y., and city physician of Rochester; died at his home in that city, October 29, aged 59.

Louis M. Bassett, M.D. Louisville (Ky.) Medical College, 1877; a member of the State Medical Association of Texas; died at his home in Hearne, November 7, two weeks after a surgical operation, aged 55.

George Boswell Marable, M.D. Jefferson Medical College, 1846; a member of the Morehouse Parish (La.) Medical Society; of Bastrop; died in Oak Ridge, La., Oct. 28, 1910, from senile debility, aged 90.

George S. Albee, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1858; for forty-five years a practitioner of Hopkinton, Mass.; died at his home in Worcester, October 21, aged 80.

Arthur Johnstone, M.D. University of California, San Francisco, 1879; for many years a practitioner of Brooklyn, N. Y.; died in his apartments in New York City, October 15, from asthma, aged 63.

Michael Dienhart (license, Indiana, 1897); for forty-nine years a practitioner of Indiana and for several years postmaster at Number Ten; died at his home in Lafayette, November 10, aged 69.

John Lombard Dale, M.D. University of Pennsylvania, Philadelphia, 1872; a practitioner of Fall River and later of Springfield, Mass.; died at his home in the latter city, October 30, aged 62.

Harrison S. Chandler, M.D. Missouri Medical College, St. Louis, 1887; for eighteen years a practitioner of Woodward, Okla.; died in St. Francis Hospital, Wichita, Kan., October 26, aged 62.

Isaac William McGinnis, M.D. Medical College of Ohio, Cincinnati, 1869; Bellevue Hospital Medical College, 1871; died at his home in Newcastle, Ky., in February, from diabetes, aged 73.

Edward Dwight Hooker, M.D. Harvard Medical School, 1884; formerly a member of the American Medical Association; died at his home in Arlington, Mass., October 27, from septicemia, aged 52

Leo Breitzmann, M.D. Kentucky School of Medicine, Louisville, 1879; formerly of Menasha, Wis.; died in the Northern State Hospital for the Insane, Oshkosh, Wis., November 6.

Milton Riol Wilkinson, M.D. University of Nashville, Tenn., 1868; a surgeon in the Confederate service during the Civil War; died at his home in Westmoreland, Ala., October 17

Charles B. Bates, M.D. University of California, San Francisco, 1868; for many years a practitioner of Santa Barbara; died at his home in Nahant, Mass., October 13, aged 69.

Henry J. Mullin, M.D. Keokuk Medical College, College of Physicians and Surgeons, 1905; of Dubuque, Ia., died at the home of his mother in that city, October 7, aged 35.

Emil Heinrich Riedel, M.D. New York University, New York City, 1881; died at his home in Maywood, N. J., October 19, from malignant disease of the bladder, aged 65.

Hugh Burch Logan, M.D. University of Missouri, Columbia, 1849; for forty years a practitioner of St. Louis; died at his home in Westville, Mo., October 8, aged 87.

Jeremiah J. Slattery, M.D. Bellevue Hospital Medical College, 1893; of Chicago; died in his office in that city, November 8, from organic heart disease, aged 40.

William Stevenson, M.D. Manitoba Medical College, Winnipeg, 1904; of Virden, Man.; died in the Virden Hospital, October 15, from typhoid fever, aged 48.

Charles B. Wurtz, M.D. Hahnemann Medical College, Philadelphia, 1880; died at his home in Frankford, Philadelphia, October 8, from heart disease, aged 52.

Henry E. Tuttle, M.D. Queen's University, Kingston, Ont., 1892; of Evans Mills, N. Y.; died suddenly in Waddington, N. Y., October 6, from angina pectoris.

George W. Holman, M.D. Eclectic Medical College of the City of New York, 1878; of Brooklyn; died in the Seney Hospital in that city, October 12, aged 85.

William H. Malin, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1858; died at his home in Chestnut Hill, Philadelphia, October 14.

Victor B. Ochiltree, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1883; died at his home in Keokuk, October 11, from cerebral hemorrhage, aged 51.

Thomas B. Englehart, M.D. Druidic University of Maine, Lewiston, 1886; a veteran of the Civil War; died at his home in Buffalo, October 25, aged 88.

Clinton James Morse, M.D. University of Edinburgh, Scotland, 1862; died at his home in Amherst, N. S., October 22, from heart disease, aged 71.

Robert W. Byrns, M.D. Missouri Medical College, St. Louis, 1893; of Frankford, Mo.; died in the Jewish Hospital, St. Louis, November 1, aged 45.

Israel G. Heilman, M.D. University of Pennsylvania, Philadelphia, 1873; died at his home in Philadelphia, October 26, from heart disease, aged 65.

Sydney George Brown, M.D. University of Bishop's College, Montreal, P. Q., 1901; died at his home in Montreal, October 19, from sarcoma, aged 35.

Le Roy Grimes, M.D. Marion-Sims-Beaumont Medical College, St. Louis, 1903; died at his home in Maplewood, Mo., October 19, aged 23.

Thomas Curtin Conser, M.D. Jefferson Medical College, 1888; died at his home in Sunbury, Pa., October 28, from cerebral hemorrhage, aged 48.

Frank P. Strayer, M.D. Columbus (O.) Medical College, 1879; died at his home in Bremen, October 30, from chronic nephritis, aged 56.

Eliab Myers, M.D. Medical College of Ohio, Cincinnati, 1873; died at his home in Springfield, O., October 8, from uremia, aged 63.

Alphonse Oulman, M.D. University of Vienna, 1862; died at his home in Chicago, October 10, from cerebral hemorrhage, aged 69.

Lycurgus A. Bard, M.D. Western Reserve University, Cleveland, O., 1860; died at his home in Cleveland, November 3, aged 65.

Clark Hopkins, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1901; died at his home in Norcross, October 25.

Thomas Ellmaker, M.D. Jefferson Medical College, 1846; died at his home in Lancaster, Pa., October 22, aged 88.

Henry Brandt, M.D. Washington University, St. Louis, 1862; died at his home in Cappeln, Mo., November 1, aged 75.

Wiley K. Faircloth (license, Louisiana); of Leesville; died in the Leesville Hotel, October 15, aged about 60.

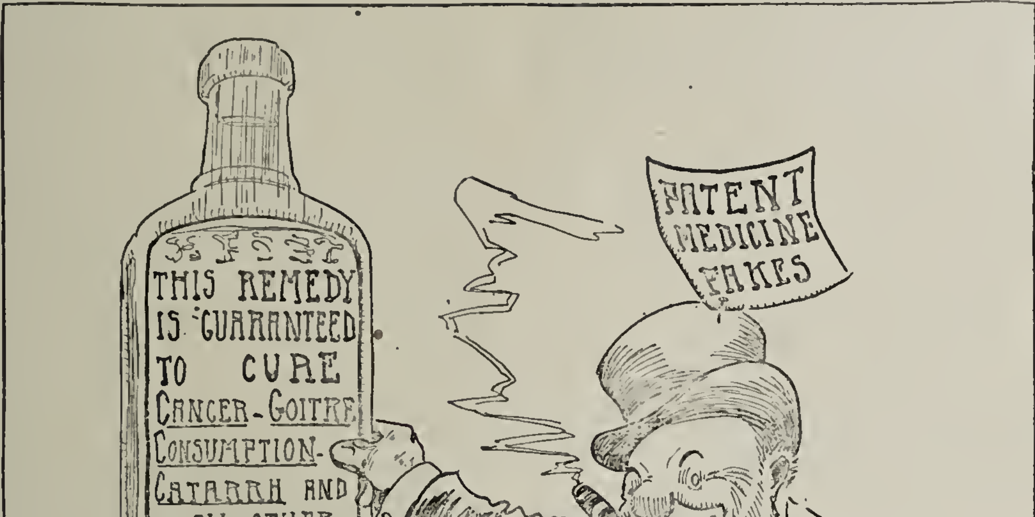
The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

LIQUID SULPHUR—SULPHUME

Many medicinal fakes apparently lead a charmed life. They may be exposed, ridiculed and seemingly annihilated, but in due time they are bound to renew their existence. As a type of such fakes we may take any of the various aliases under which the venerable Vleminckx' solution, after falling into disuse, has been again and again revived and rechristened. Vleminckx' solution was introduced years ago as an external application for skin diseases, and in recent years has been exploited in slightly varying compounds and under various names: sulphume, sulphurine, golden lotion, yellow lotion, liquid sulphur and soluble sulphur. This solution is essentially an aqueous solution of calcium polysulphid and thiosulphate, such as is obtained when a mixture of lime and sulphur is boiled in water. A solution of this kind is described in the National Formulary under the title of "Liquor Calcis Sulphuratæ." According to the National Formulary, 5 ounces of slaked lime and 8 ounces of sulphur are made to yield 32 ounces of the solution, the material costing about 8 cents.

We had hoped that the "liquid sulphur" fake was at last dead, but this hope has been dispelled by recent inquiries for "the formula of sulphume," and for information in regard to "soluble sulphur," etc.


THIS REMEDY IS GUARANTEED TO CURE CANCER-GOITRE CONSUMPTION-CATARRH AND ALL OTHER DISEASES
GUARANTEED UNDER THE FOOD AND DRUG ACT.
PATENT MEDICINE FAKES
THE PUBLIC
TESTIMONIAL
TESTIMONIALS
$
COWAN
American Medical Association Cartoon Series

As the number of inquiries indicated a rather general interest in Sulphume, the Association laboratory was requested to make an analysis of the preparation as exploited to-day. It reported as follows:

"A package of Sulphume recently purchased bears the following legend:

> 'Sulphume for the skin and blood. The contents of this bottle makes 10 strong sulphur baths. Dose—Internally: Four to six drops of Sulphume in one-half tumbler of water 3 times daily, one-half hour after meals. Price $1.00. Sulphume Company, Boston, U. S. A.'

"Accompanying the bottle is a booklet entitled 'Sulphur and Its Benefits to Health,' in which Sulphume is lauded for its value in treating all sorts of skin diseases, catarrh, corns, bunions, diabetes, diphtheria, female weakness, fevers, hemorrhoids, rheumatism, prostatitis, rickets, etc.

"The preparation as received in the laboratory is an orange-colored clear liquid, which on the addition of acid yields a precipitate of sulphur, accompanied by evolution of hydrogen sulphid. The liquid is alkaline toward litmus. Qualitative tests showed the presence of polysulphid, thiosulphate and calcium, but the absence of sulphate or sulphite.

"Quantitative determination showed the presence of about 1 gm. sulphur, per 100 c.c. of Sulphume, in the form of thiosulphate, and about 4 gm., per 100 c.c., in the form of polysulphid, making a total of about 5 gm. sulphur per 100 c.c. of the preparation. The calcium content was found to be equal to 2.55 gm. calcium oxid (CaO) per 100 c.c. of Sulphume."

Such a solution of calcium sulphid would doubtless be valuable for removing hair from hide as the first stage of its conversion to leather. While a few physicians still believe sulphids to be alteratives and general antiseptics and to possess some special value in the treatment of skin eruptions and recurring boils and even in acute and general sepsis, this foul-smelling remedy is now pretty generally ignored. While we are afraid its disgusting odor will continue to be a strong "talking point" for the stuff, let us hope that in due course of time the public will learn the fallacy of the old idea that anything that is nasty in taste or odor must be "powerfully good medicine."

TIZ

A Cure for "Smelly Feet"—and Other Things

A widely advertised toilet article, which is of a medicinal nature, and about which we have had numerous inquiries, is sold under the name of Tiz by Walter Luther Dodge & Co., Chicago. Tiz, we are told, is "a new scientific, medical toilet tablet." Some other claims made for the preparation are:

> "It is different from anything ever before sold."
>
> "Small shoes can be worn by using Tiz."
>
> "Guaranteed to cure Corns, Callouses, Bunions, Frost Bites, Chilblains, Ingrowing Toe Nails, Tired, Aching, Swollen Nerveus, Sweaty, Bad Smelling Feet."
>
> "Draws out all poisonous exudations which bring on soreness of the feet and is the only remedy that does."
>
> "Cleans out every pore and glorifies the feet—your feet."

From the amount of money that is spent on advertising this stuff, it would seem that the number of people who suffered from the minor pathologic states above described is large. Of course, testimonials are used in true "patent-medicine" style. We learn, for instance, that Mrs. Crockett of Jeffersonville (state not mentioned) had been unable to walk down stairs for five years "except by stepping down on each step with one foot at a time"—the intimation being, apparently, that most people walk down stairs with both feet at a time. In any case, we learn that "after the second treatment she walked down stairs one foot at a time." The lady's husband, who sends in this testimonial, closes by saying: "This is remarkable. Send five more boxes." Doubtless by the time the fifth box is used Mrs. Crockett will be spry enough to slide down the bannisters.

To determine the composition of this wonderful remedy an examination of Tiz was made in the chemical laboratory of the American Medical Association. Our chemists' report follows:

LABORATORY REPORT

"Tiz is sold in the form of tablets, of which a 25-cent package contains from twenty to twenty-five. Neither on the label of the package nor in the circular accompanying it is there any statement concerning the composition of the preparation. The tablets weigh about 1.14 gm. (17½ grains) each. Qualitative tests indicated the presence of aluminum, potassium, a sulphate, tannic acid, salicylic acid, powdered talcum and starch. Quantitative determinations of the aluminum, the sulphate and the salicylic acid were made. An approximate estimation of the sum of the starch and talcum was made by determining the portion insoluble both in water and in alcohol. From the loss on the ignition of this fraction the relative proportions of starch and talcum were estimated. From the results of the examination it is believed that a tablet having the following composition would have properties similar to Tiz:

Potassium aluminum sulphate (alum)...	60 per cent.
Tannic acid	10 per cent.
Salicylic acid	5 per cent.
Talcum (Talc)	5 per cent.
Starch	20 per cent.

Here again, we find the time-worn scheme of taking advantage of facts well-known to the medical profession and dressing them in the fantastic garb of quackery. For years physicians have prescribed these astringent drugs for the alleviation of excessive local sweating. Yet the impression is given that such a use was never before conceived. According to the directions for using, the tablets are to be dissolved in water and the feet soaked in the solution and allowed to dry without wiping. The result of such treatment, of course, is to deposit on the feet in a finely powdered state the alum, tannic acid, salicylic acid and starch of which the tablets are composed. And yet the exploiters of Tiz emphasize the following claims:

> "Tiz is not a powder. Powders and other foot remedies clog up the pores."

Like most nostrums, Tiz is exploited with a delightful disregard for the truth. When a man, or a group of men, goes into the "patent-medicine" business, it seems to be a fixed policy to cast truthfulness to the winds. Apparently, it is against the ethics of the business to use either moderation or veracity in making claims for the preparation exploited.

Correspondence

So-Called Brill's Disease—A Correction

To the Editor:—The editorial entitled "So-Called Brill's Disease: An Acute and Infectious Disease of Unknown Origin" (The Journal, Nov. 18, 1911, p. 1700), hardly interprets my conception of this disease, and it may tend to produce a wrong impression of what my own beliefs and opinions are. I do not consider the skin eruption as pathognomonic, because an erythema, similar to what this must be considered to be, occurs in other infectious diseases, viz., in measles, rötheln and in typhus fever. In fact, Peebles, as long ago as in 1835, pointed out the rubeloid character of the eruption of typhus fever. I have no right to assume that the syndrome represents a "mild abortive type of typhus fever" which the editorial in The Journal gives as my opinion, because I have seen and known of typhus fever only as it occurs epidemically and endemically. During such prevalence of typhus I have never seen, nor do I know what would constitute, an abortive typhus fever.

My opinion is briefly this: Though I was the one originally to propose that this disease in many respects resembles typhus clinically, there is epidemiologic, experimental and clinical evidence to negative their absolute identity and even, perhaps, to indicate respective individualities. I have in vain attempted to prove that it is typhus fever and shall regard it as such only when (1) I shall be shown typhus fever statistics, whether taken from epidemics, endemics or sporadic cases, which show a mortality of only 1 per cent., such as these cases show (Friedman's mild sporadic typhus cases showed a 6 per cent. mortality); (2) when inoculations into animals of blood or serum from patients with this disease will successfully produce the diseases in the inoculated animal; and (3) when evidence is brought forward to show that the disease commonly occurs in family groups, or, as a rule, in more than one patient living in the same residence or even in definite localities or districts—in other words, that it is communicable. Until such evidence is brought forward, I think I am justified in calling this disease an infectious disease of unknown origin.

N. E. Brill, New York.

[Comment.—We derived the impression that Dr. Brill considers the skin eruption, in the syndrome described by him, as "characteristic, even pathognomonic, of the disease" from his statement[1] that "an eruption appears which is rather characteristic and differentiates the disease from most other infectious diseases."

With regard to the identity of the syndrome described by him, Brill states, on page 196 of the article above cited, that "from experimental data it would appear that the relation of this disease to typhus fever is farther than ever from being indubitably established," but in the concluding paragraphs of his article he asserts (pp. 217-218) that "inasmuch as clinically the disease is similar to typhus fever, though the experimental data would appear to negative their identity, I still reserve in my mind the belief in the possibility of the development of an attenuated virus of typhus fever. This attenuation in virulence could, I imagine, be induced by environment and improved sanitation to such a degree as to change to a great extent the clinical characters of typhus fever. . . . It may be that future investigators will prove this to be so, and thus be enabled to satisfy all doubts as to the true nature of the disease, . . . and securely place it finally in the at present undifferentiated group of typhus fever." From this last remark we inferred that Dr. Brill did regard the disease he describes as a modified typhus fever.

Our editorial was written with the purpose of calling attention to Dr. Brill's important observations, and we are glad to have, in his letter to us, a more precise statement as to his present attitude regarding this infectious process.—Editor.]

A Suggestion to Advertisers

Gentlemen:—You send us data, some of which are not only interesting and instructive, but often of great practical use. Much of this we might use for reference with advantage to ourselves and also to yourselves. Why do you offer it in such grotesque shapes, such multiform guises, so that no reference system can be devised for making it available?

Let me beg of you, do not consider us (the willing recipients of varied information) as so many children or half-civilized savages, who are—or should be—pleased by the toy-like bizarrerie of all sorts, sizes and forms of strange, colored circulars, cards, booklets, etc., exhibits of puzzling cleverness of the printer's and lithographer's arts. Send these expensive, often beautiful, but sometimes hideous devices, if you deem it best, but *give us also at least one uniform, plain card which can be filed in an index-filing system.* Most men keep a card index file for just such information, in which important facts can be arranged alphabetically.

Some fifteen years ago I urged agents of the great manufacturing houses to do this. I published an article in (if my memory serves) the *Druggists' Circular*, making a suggestion which several houses have adopted to my comfort, viz., a series of indexible cards, of the usual size—say, 5 by 3 inches—on one side of which appear (1) in small type: "File this in index catalogue;" (2) the name of the manufacturing house; (3) a list of the chief specialties. Also, other cards with the above inscriptions (1) and (2) and fuller descriptions of the special preparations. This can be printed on both front and back. We can then turn at once to a card under an approriate heading, or to two cards cross-indexed, e. g.: under irm name and name of product.

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[1] Brill: Pathologic and Experimental Data Derived from a Further Study of an Acute Infectious Disease of Unknown Etiology, Am. Jour. Med. Sc., 1911, cxliii, 197.

For other things, I would suggest grouping of subjects, e. g.: nder sanatoriums, waters, foods, instruments, books, etc., he special sanatorium, water, food, book, etc., described. If ne card is too small, use a folding card, like a return postard, and thus get four surfaces. One point more. Booklets, atalogues, etc., should be of uniform size, or there might be wo standard sizes, a larger and a smaller, as 4 by 7, or 5 by inches, as might be determined by mutual agreement.

You may be sure of one thing: Very few booklets, circulars, etc., will be preserved that do not exhibit some such niform conformation, whereby they can be filed in some suitable receptacle. Of all the exasperating forms of advertisement, the envelope chockfull of ill-assorted sizes, colors, shapes and kinds of leaflets, is the surest to reach the wastebasket unread.

J. Madison Taylor, Philadelphia.

Antityphoid Inoculation

To the Editor: We notice in The Journal (Oct. 28, 1911, p. 1466), a statement that the Seventy-First Infantry, N. G. N. Y. is the first volunteer organization to submit to inoculation against typhoid fever. Also, in the issue of November 11, p. 1626, it is stated that the War Department has issued a circular setting forth that the actual cash value of the antityphoid serum will be charged against the allotment of the state, for any serum furnished by the War Department.

We desire to state that the administration of antityphoid serum to the National Guard of Colorado antedates New York by nearly four months. Colorado did not wait for the War Department to furnish the serum but bought it outright and administered it free of all charge to the members of its national guard.

T. E. Carmody,
Colonel, Surgeon General, N. G. C.
G. P. Lingenfelter,
Major, Commanding Medical Dept., N. G. C.

The Ethics of Proprietary "Literature"

To the Eaitor:—Recently I received a booklet, "The Petroleum Idea," published by the Angier Chemical Company, and containing an article on "Caricature in Medicine," the illustrations and the reading-matter in which have in great part been stolen from my paper on "Caricature in Medicine," published last May in the *Chicago Medical Recorder*. No credit is given either to myself or to the *Chicago Medical Recorder*, although I notice that in their little booklet the reading-matter is copyrighted! This is certainly a cheap way of obtaining advertising matter.

Mortimer Frank, M.D., Chicago.

[Comment.—While the matter in the Angier pamphlet is not taken verbatim from Dr. Frank's article, it is very evident that that is its source. An occasional twist to the sentences and a slight transposition of the words have been made—possibly with the idea of making the piracy a little less evident.—Editor.]

Escape of a Paranoiac—Assistance Wanted

To the Editor:—During the night of November 21-22, a dangerous paranoiac, one Ottilia Schneider, escaped from the State Asylum for the Criminal Insane at Matteawan, N. Y. She had been sent to the above institution in April, 1907, for a murderous assault on me, and has the delusion that she was operated on and that there is a plot to prevent her from obtaining justice against me and other physicians.

She is said to have effected her escape through the connivance of several attendants at the insane asylum, and it is presumed that she will seek medical advice in an attempt to have herself adjudged sane. The original indictment against her is still in force, and I offer a reward of $500 for her arrest, or for such information as shall lead to her arrest.

The description furnished by the asylum authorities is as follows: age, 46; height, 5 feet 7½ inches; weight, 152 pounds; eyes dark brown; hair black, slightly streaked with gray, combed with a peculiar curl in center of forehead; lower teeth slightly irregular; quite deaf; decided German accent.

As it is almost a certainty that she will seek the services of a physician, I take this method of appealing to the medical profession, and request any colleague under whose notice she may come to communicate with me at once.

I am also desirous of learning the addresses of the two nurses, Anna Pruss and Wally Breimeier, who have left Matteawan and are said to be in New York.

Frederic Bierhoff, M.D., 10 W. Sixty-First Street, New York.

A Swallowed Thermometer

To the Editor:—Cases are on record in which people in hospitals for the insane have swallowed all kinds of junk and also cases in which children have accidentally swallowed small articles of hardware, but I find no record showing that anybody ever swallowed a clinical thermometer. The patient in question, a white man about 60, was in the Mattie Hersee Hospital suffering from an attack of malaria. While the nurse was taking his temperature, the patient says, he momentarily fell asleep and swallowed the thermometer. The nurse was afraid to say anything about it, but at the end of thirty-six hours, very much to her delight, it was passed from the bowels, registering 104 F.

S. H. Hairston, B.Sc., M.D., Meridian, Miss.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BLOOD TRANSFUSION IN HEMORRHAGIC AND NON-HEMORRHAGIC ANEMIAS

To the Editor:—Is blood transfusion ever used in the anemia secondary to chronic nephritis? M., Joplin, Mo.

Answer.—So far as we know, blood transfusion has not been used to overcome the anemia secondary to chronic nephritis. Its greatest field of usefulness seems to be in the anemias due to direct loss of blood through hemorrhage, and in some cases in which the hemorrhagic tendency is marked, as, for instance, in some of the hemorrhagic conditions of the new-born. Where much blood has been lost through hemorrhage, the transfusion makes good the loss and tides the patient over a critical period of severe anemia until his own blood-making powers are able to furnish sufficient new blood. In the hemorrhagic conditions there is probably supplied some element necessary for normal coagulation, but temporarily lacking. In anemia secondary to chronic nephritis temporary improvement might result from transfusion, through the improved quality of blood that would result from the addition of healthy blood, as well as from the fact that toxins that might be present in the diseased blood would now be in a more diluted solution. It is difficult, however, to see how permanent good would result.

PROSTATECTOMY

To the Editor:—Please state the method of operation for removal of the hypertrophied prostate through the perineum, and also by means of a suprapubic incision. By which operation would the patient have the best chances for a recovery? Are not the bladder sphincters injured in the operation through the prevesical space, i. e., the suprapubic operation? R. K., Chicago.

Answer.—In removing the prostate through the perineum the gland is approached through either a slightly curved transverse incision or a median incision which may be straight or in the shape of an inverted Y. In making the dissection some operators separate freely the rectum from the urethra and the prostate gland so as to expose to view the gland in its capsule. A longitudinal incision is then made through the capsule on either side of the mid-line, the object being to preserve intact, if possible, the ejaculatory ducts. Through the incision in the capsule the gland is then enucleated with the finger, keeping within this capsule. The enucleation is facilitated at times by the introduction of a special retractor into the bladder through an opening made in the posterior urethra.

Those who prefer the median incision usually separate the rectum from the urethra as far back as the beginning of the prostate. The posterior urethra is then opened longitudinally and the finger introduced into the bladder. With long-curved scissors introduced under the guidance of the finger an incision is made on either side through the mucosa over the bulging prostate. Through this incision the prostate is then enucleated in one or more masses as the case may be.

In all perineal operations drainage is established by means of a large tube which should be removed usually at the end of twenty-four hours.

In the suprapubic operation an incision is made in the midline above the symphysis, the muscles separated and the prevesical space opened up without opening the peritoneal cavity. The bladder is then exposed and opened and its edges caught with forceps or temporarily stitched to the walls of the incision. An incision is then made through the mucosa of the neck of the bladder over the bulging prostate and the gland enucleated. This part of the operation is much facilitated by the fingers of an assistant or of the opposite hand of the operator introduced into the rectum. The bladder should be drained with some form of syphon apparatus so as to keep the patient as dry as possible.

So far as the mortality is concerned, the perineal route shows a slight difference in its favor. The drainage is better by the perineal route and the patient can usually be allowed to be up sooner, which is a factor of considerable importance in the recovery in these cases. The bladder sphincters ordinarily are not injured in either method.

THEOBROMIN SODIUM SALICYLATE

To the Editor:—Is sodio-theobromin salicylate (Diuretin) manufactured and sold under its true name, and if so, by whom? The only make I am able to find on the market is under the name Diuretin. O. M. Vaughan, Covert, Mich.

Answer.—Sodio-theobromin salicylate (more generally called theobromin sodium salicylate) is sold under its descriptive name by such firms as Mallinckrodt Chemical Works, St. Louis, Powers-Weightman-Rosengarten Co., Philadelphia, E. R. Squibb & Sons, New York. Your druggist should have no difficulty in supplying a product that complies with the standards laid down for it in New and Nonofficial Remedies.

ALYPIN

To the Editor:—What is Alypin and where may it be secured? All I know of it is that it is used by some surgeons as a local anesthetic. A. F. S., Illinois.

Answer.—We are daily receiving queries like the above, answers to which may be found in "New and Nonofficial Remedies." Alypin is a proprietary medicine, described on page 24 of the 1911 edition. This book should be on the table of every practicing physician. It costs only 25 cents in paper cover, or 50 cents in cloth. Copies of it were sent to 56,000 physicians last spring, as a supplement to The Journal, April 15, 1911.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Nov. 25, 1911.

Siler, Joseph F., captain, November 20, leave of absence extended one month.

Lynch, Charles, major, November 22, ordered to New York City on business pertaining to American National Red Cross.

Ingalls, R. E., dental surgeon, November 3, reported for temporary duty at Fort Yellowstone, Wyo.

Wing, Franklin F., dental surgeon, November 15, reported for temporary duty at Fort Mackenzie, Wyo.

Johnston, James F., lieut., November 15, relieved from temporary duty at Whipple Barracks, Ariz., and to return to presidio of San Francisco.

Crosby, William D., lieut.-col., November 21, relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to his proper station. Granted seven days' leave of absence.

Maynard, E. B., M.R.C., November 22, relieved from duty at Fort Snelling, Minn., and ordered to the Philippines division for duty, Jan. 5, 1912.

Hewitt, John M., M.R.C., November 22, relieved from duty at U. S. military prison, Fort Leavenworth, Kan., and ordered to the Philippines division for duty, Jan. 5, 1912.

Clayton, George R., M.R.C., November 22, orders directing him to proceed to the Philippines division for duty on Jan. 5, 1912, revoked. Lieutenant Clayton will, on expiration of leave of absence, proceed to his home and stand relieved from further active duty in the medical reserve corps.

Hallett, Harley J., lieut., November 23, ordered to proceed to Fort Slocum, N. Y., for temporary duty

Lyster, William J. L., major, November 23, relieved from treatment at Army and Navy General Hospital, Hot Springs, Ark., and will return to proper station.

Foley, Thomas M., M.R.C., November 23, leave of absence extended one month.

Medical Corps, U. S. Navy

Changes for the week ended Nov. 25, 1911.

Bagg, C. P., surgeon, transferred to the retired list from Nov. 16, 1911; detached from the *Colorado* and ordered home.

Reed, T. W., P. A. surgeon, detached from the *Marietta* and ordered to the *San Francisco.*

Cottle, G. F., asst.-surgeon, detached from the *Annapolis* and ordered home to await orders.

Henry, R. R., P. A. surgeon, commissioned passed assistant surgeon from Sept. 10, 1911.

Barker, Z. A., A. A. surgeon, appointed acting assistant surgeon from Nov. 14, 1911.

Rennie, W. H., P. A. surgeon, detached from the *Wisconsin* and ordered to the *Ohio.*

Stuart, A., surgeon, detached from the navy recruiting station, Hartford, Conn., and ordered to duty at the naval disciplinary barracks, and additional duty in command of the naval hospital, Port Royal, S. C.

Seaman, W., surgeon, detached from the naval disciplinary barracks, Port Royal, S. C., and ordered to the *Michigan.*

Hoyt, R. E., surgeon, detached from the navy recruiting station, San Francisco, and ordered to the *Franklin.*

Snyder, J. J., surgeon, detached from the *Michigan* and ordered home to await orders.

Hough, F. P. W., P. A. surgeon, detached from the *Franklin* and ordered to the navy recruiting station, San Francisco.

Munson, F. M., P. A. surgeon, detached from the *Independence* and ordered to the navy recruiting station, Hartford, Conn.

Baker, M. W., P. A. surgeon, detached from the naval hospital, New York, and ordered to the *Independence.*

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 22, 1911.

Foster, M. H., P. A. surgeon, relieved from temporary duty at Stapleton, N. Y., and directed to report to the chief medical officer, Ellis Island, N. Y., for duty.

Ebersole, R. E., P. A. surgeon, granted two months' leave of absence from Dec. 2, 1911.

Ridlon, J. R., asst.-surgeon, directed to proceed to Texarkana, Tex., to investigate an epidemic of typhoid fever.

Heterick, R. H., asst.-surgeon, directed to proceed to the San Francisco quarantine station, Angel Island, Cal., and report to the medical officer in command for duty and assignment to quarters.

Bell, Charles, A. A. surgeon, granted thirty days' leave of absence from Nov. 22, 1911.

White, R. C., A. A. surgeon, granted thirty days' leave of absence from Nov. 10, 1911.

Board of medical officers convened to meet at Savannah, Ga., Nov. 20, 1911. Passed Assistant Surgeon C. H. Lavinder, chairman, vice Assistant Surgeon R. M. Grimm, relieved.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

Newspapers on a National Department of Health

Much discussion continues to fill the editorial columns of the daily newspapers regarding the proposed department of health. Despite criticism and fabrication, most of the newspapers are able to see clearly the immense significance of such an advance on the part of the federal government, as well as the sophistry of the arguments brought against the measure. Evidently the attempt to persuade the press that the reputable physicians of the country are trying to enslave the people is not meeting with much success. It has been repeatedly shown both in Congress and through the press that a national department of health would have nothing to do with the individual patient or the individual physician; that each state, and not Congress, must regulate the practice of medicine, and that as this department would concern itself with prevention, it would have nothing to do with treatment of patients or with drugs. These facts have been so clearly established that any person making statements to the contrary is either ignorant or guilty of intentional misinterpretation.

A few of the editorial expressions are given below, as typical of the attitude of the press. The *Farmer* said:

"One of the important bills that will come up for consideration in Congress this winter is that by Senator Owen providing for a national department of health, to be organized and operated on the same basis as the other government departments.

"The health of its people is a nation's greatest resource. If any subject merits governmental investigation and support, surely that subject is health. There is much that a national department of health could do in the way of studying some of the diseases which so far have baffled scientists. To study these diseases effectively requires the entire attention of trained men, with facilities and funds for unlimited experimentation. This is a work that surely comes within the province of the national government.

"The pure food and drug work has grown too large for the department of agriculture. It properly belongs under the supervision of a department of health. The attitude of the people on the Dr. Wiley case shows unmistakably that they favor the most stringent enforcement of the present pure food laws. It is likely that the present law may be amended to strengthen it in several important particulars. All this will increase the importance of Dr. Wiley's bureau and make the need for a separate department more imperative.

"The people need instruction in the fundamental rules of health and sanitation. A national department of health, through a series of popular bulletins, could save the people many millions of dollars a year by preventing sickness.

"The American Medical Association has come out in favor of the Owen bill. The people will be unanimously for it. The opposition will come from the patent medicine and tainted food interests. Such opposition ought to carry little weight when a matter of so great importance to the whole country is at stake."

The Milwaukee (Wis.) *Free Press* says:

"At a time when certain self-interested groups of citizens are opposing the establishment of a national health department because, as they claim, it would play into the hands of the accepted systems of prophylactics and therapeutics and thus curtail what is indefinitely designated as 'medical freedom,' the accepted systems have scored a distinct triumph in the mortality statistics for the past decade.

"During the years from 1890 to 1900, in which medical and sanitary science has made such epoch-making progress along acknowledged lines, the average span of life has received an astonishing extension.

"Whereas in the decade ending with the former year the average age of all persons dying in the United States was a small fraction over 31 years, the average age for the same class in the decade ending 1900 was 35 years.

"Truly, an astonishing extension, and traceable by means of indubitable statistics to that greater knowledge and application of the laws of hygiene and sanitation, to the enlarged understanding of germ-life and its relation to disease and, especially, to the increased discovery and use of antitoxic serums, which has come about in this period.

"Another remarkable evidence of the triumph of medical science is to be found in the gain of country mortality over city mortality in recent years.

"Up to twenty-five years ago the mortality of urban communities was far in excess of the mortality of the rural districts. To-day, the death-rate of cities is less than that of the country.

"What does this mean?

"It means that whereas a quarter of a century ago the water was purer, the sanitary conditions better and advanced medical aid little worse in the country than in the city, the city has rapidly outstripped the country in all these particulars through its readier response to the discoveries of medical and sanitary science."

The Cedar Rapids (Ia.) *Republican* says:

"In California they seem to have started a movement against the proposed national medical laws. They charge it up to the doctors who want to entrench themselves through legislation. It is set forth that they are in favor of medical as well as of other freedom. They dwell especially on the evil influences of compulsory medical examinations, especially of school children. They hold that such examinations have a tendency to create diseases, through fear. The element of suggestion is dwelt on strongly. The suggesting of diseases to children is often equivalent to subjecting them to those diseases. The cry is to be raised all over the country.

"One is inclined to believe that too much is made out of these ideas. The doctors who have favored the creation of a national department of health probably have no such ideas; they are, in all probability, as much interested in the welfare of their fellow men as are those who are crying against them. It is impossible to proceed on the supposition that they want to enslave their fellow men in this country, or propagate diseases through suggestions or through fears in order that they may be employed to cure them. . . .

"The present outcry against the doctors will not last. When one is in physical affliction he is apt to be glad to get the service of one who is skilled in their treatment."

UNIQUE TRUST

Under this head the Johnstown (Pa.) *Tribune* comments on the efforts of the opponents of advanced health legislation to brand the American Medical Association as a trust. This editorial comment is so pertinent that it is quoted in full:

"Everything that is is sooner or later termed a trust nowadays. There has even been talk about a doctors' trust. If there is a doctors' trust—and we hope there is if it would do the doctors any good to have one—it is the only trust that deliberately tries to keep down business without at the same time boosting prices. The doctors of to-day are without a doubt the most potent force we have in the great struggle to conquer disease.

"Lawyers have never placed themselves on record as favoring any movement calculated to curtail litigation, but there has not been a single instance during the last half century in which a campaign to make conditions more healthful has not had the backing of the doctors. The doctors could, if they were that kind of men, sit quietly back and let epidemics come and then they and death could make their harvests. The modern doctor is the greatest force we have in the matter of preventing disease. There may be a bit of bosh in their sacred 'medical ethics,' but just the same the doctors have held their standard high and have kept their light burning with a clear and steady flame."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

General Subject for the Month: Diseases of the Lungs

Fourth Month—First Weekly Meeting

Anatomy: Demonstrate Fresh Specimen

Trachea and Bronchi.

Trachea: Length, diameter, boundaries and important relations. Blood and nerve supply.

Bronchi: Right and left, location and surface markings. Difference between the two. Gross and microscopic anatomy. Blood and nerve supply. Lymphatics.

Pleura: Pleura and its reflections.

Mediastinum: Divisions and important contents of each.

Lungs: Size, shape, weight, color, etc. Differences between right and left. Relation of structures entering root of lung. Histologic structure. Differentiate functional and nutritional blood-supply. Nerve supply. Lymphatics.

Physiology of Respiration

Theories of respiration. Errors of each. Normal position of thorax.

Inspiration and expiration, (a) active and (b) passive.

Mechanism of (a) inspiration, (b) expiration.

Types of breathing.

Vital capacity. Tidal air. Complemental air. Supplemental air. Residual air. Intrapulmonic and intrathoracic pressure. Effect on circulation.

Differences, physical and chemical, in inspired and expired air.

Changes in blood during passage through lung.

Respiratory center. Location. Automaticity.

How stimulated reflexly.

Normal Physical Diagnosis[1]

Outline regions of chest, locating different organs by surface markings. Demonstrate methods of examination, inspection, palpation, percussion and auscultation on normal chest.

REFERENCE BOOKS FOR THE FOURTH MONTH

Text-Books on Practice.
Osler's Modern Medicine.
Nothnagel's Practice.
Babcock: Diseases of the Lungs.

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[1] Progressive Med., September, 1904, p. 44, and September, 1906, p. 55.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: Los Angeles, December 5-8. Sec., Dr. Charles L. Tisdale, 929 Butler Building, San Francisco.

DELAWARE: State Society and Homeopathic, Dover and Wilmington, December 12. Secretary of the Medical Council, Dr. Henry W. Briggs, Wilmington.

FLORIDA: Eclectic, 1805 Florida Avenue, Tampa, December 4. Sec., Dr. Hiram J. Hampton.

KENTUCKY: The Armory, Louisville, December 19-21. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: Regular, 1211 Cathedral Street, Baltimore, December 12. Sec., Dr. J. McP. Scott, Hagerstown.

OHIO: Columbus, December 5-7. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Harrisburg, December 12-15. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, December 19-22. Sec., Dr. R. S. Martin, Stuart.

Arizona July and October Reports

Dr. Ancil Martin, secretary of the Arizona State Board, reports the written examinations held at Phoenix, July 5-6 and Oct. 2-3, 1911. The number of subjects examined in was 9; questions asked, 99; percentage required, 75. At the examination held July 5-6, 13 candidates were examined, of whom 9 passed and 4 failed:

College	PASSED	Year Grad.	Per Cent.
University of Alabama		(1911)	78.2
College of Physicians and Surgeons, Los Angeles		(1910)	82.6
Rush Medical College		(1904)	89.5
Northwestern University Medical School		(1911)	75
College of Physicians and Surgeons, Chicago		(1904)	81
Tulane University of Louisiana		(1907)	76.3
University and Bellevue Hospital Medical College		(1899)	80.4
Western Reserve University		(1902) 77; (1909)	83.6
	FAILED		
College of Physicians and Surgeons, Little Rock		(1911)	68
State University of Iowa, College of Medicine		(1910)	70.9
Louisville Medical College		(1899)	68.3
University Medical College, Kansas City		(1909)	74.1

At the examination held October 2-3, the total number of candidates examined was 7, all of whom passed:

College	PASSED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock		(1911)	75
Rush Medical College		(1901) 83.3; (1908)	85.6
Hahnemann Medical College and Hospital, Chicago		(1892)	75
Baltimore Medical College		(1909)	75
University and Bellevue Hospital Medical College		(1905)	88.2
University of Tennessee		(1911)	79.4

Minnesota October Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, Oct. 3, 1911. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 17, of whom 15 passed and 2 failed. Twenty-eight candidates were licensed through reciprocity.

College	PASSED	Year Grad.	Per Cent.
Rush Medical College		(1911)	84.7
Bennett Medical College		(1910)	81.2
Baltimore Medical College		(1910)	85.1
Harvard Medical School		(1911)	83.1
Hamline University		(1909)	75.1
University of Minnesota, College of Med. and Surg.		(1911)	89.1
New York Homeopathic Med. College and Hospital		(1895)	76.3
Western Reserve University		(1902)	85.8
University of Pennsylvania		(1899) 78.4; (1900)	89.3
Queen's University, Kingston, Ontario		(1908)	85.4
University of Toronto, Ontario		(1908) 85; (1910)	84.9, 89.2
Laval University, Quebec		(1910)	80.8
	FAILED		
Louisville and Hospital Medical College		(1908)	71.3
Hamline University		(1908)	67.5

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Northwestern University Medical School		(1909) (1910, 3) (1911, 5)	Illinols.
Chicago College of Medicine and Surgery		(1910)	Illinois
Hahnemann Med. College and Hospital, Chicago		(1910)	Illinois
Keokuk Medical College, College of Physicians and Surgeons		(1903) (1905)	Iowa:
University of Michigan, Department of Medicine and Surgery		(1903)	Illinois;
		(1909, 2) (1910) (1911)	Michigan.
University of Minnesota, Coll. of Med. and Surg.		(1906)	N. Dakota
Barnes Medical College		(1909)	Illinois
Creighton Medical College		(1907) (1911)	Iowa
Medical College of Ohio		(1908)	Ohio
Marquette University, Milwaukee		(1910)	Nebraska
		(1911, 4)	Wisconsin

Book Notices

THE CHEMISTRY OF SYNTHETIC DRUGS. By Percy May, B.Sc. (London). Cloth. Price, $2.25 net. Pp. 229. New York: Longmans, Green & Co., 1911.

Some of us made our first attempt to study chemical analysis with the aid of a text-book of the "cook-book" style; that is, one which gave the student little or no information in regard to the chemical reactions which occurred in the course of an analysis or the object of the reagents added or the operations directed. Those of us who can recall our utter helplessness and confusion during these days, may be able to sympathize with the uncritical use of medicaments by some physicians and may be inclined to condone the use of ready-made complex mixtures of doubtful potentiality—for have we not, in the time gone by, blindly used complex solutions and followed incomprehensible directions and yet felt justified in expecting reliable results?

But, while in chemical analysis empiricism has been replaced by knowledge and each reagent is added for a perfectly specified purpose, in medicine the use of drugs is still almost entirely empirical. It may be a far cry to the formulation of a disease and its neutralization or precipitation by medicaments, in the same way that a certain constituent is identified in, or removed from, a complex solution. Nevertheless, it is generally acknowledged that the effect of a medicament is in the end a purely physical or chemical one. And nothing less will satisfy us than an understanding of the changes involved than which is comparable with that of our knowledge of familiar test-tube experiments.

So far the investigations along these lines have in the main been devoted to the study of the effect which chemical constitution has on pharmacologic action. This knowledge, although still most fragmentary, has proved fruitful in many directions. As a means of widening the physician's horizon such a study of the relation of chemical constitution of drugs to their effect is bound to be great. In our opinion no progressive physician can afford to be entirely ignorant of this line of investigation and a perusal of the brief outline contained in this book will be not only useful but most interesting as well.

To indicate concretely the subject matter of the book, the chapter headings are given as follows: I, "Theories of the Action of Synthetic Drugs"; II, "The Effect of Various Elements and Radicles"; III, "The Chemical Changes of Drugs in the Organism"; IV, "Narcotics and General Anesthetics"; V, "Antipyretics and Analgesics"; VI, "Alkaloids"; VII, "Atropin and the Tropeins—Cocain and the Local Anesthetics"; VIII, "Morphin Group of Alkaloids and Isoquinolin Group of Alkaloids"; IX, "Adrenalin and Other Derivatives of Ethylamin"; X, "Derivatives of Phenol (Antiseptics)"; XI, "Other Organic Antiseptics, Excluding Iodin Compounds"; XII, "Iodoform and Its Substitutes—Other Iodin and Bromin Compounds"; XIII, "Inorganic Antiseptics and Metallic Compounds"; XIV, "Arsenic and Antimony Compounds"; XV, "Purin Derivatives (Diuretics) and Uric-Acid Solvents"; XVI, "Purgatives and Other Substances Acting on the Gastro-Intestinal Tract"; XVII, "Various Other Compounds of Interest."

LIPPINCOTT'S NEW MEDICAL DICTIONARY. A Vocabulary of the Terms Used in Medicine, Dentistry, Veterinary Medicine, and the Allied Sciences with Their Pronunciation, Etymology and Significance, Including Much Collateral Information of a Descriptive and Encyclopedic Character. By Henry W. Cattell, A.M. (Laf.), M.D. (U. of P.), Editor of International Clinics. Second Edition. Flexible Leather. Price, $5 net. Pp. 1108, with illustrations. Philadelphia: J. B. Lippincott Co., 1911.

A number of changes, additions and improvements have been made in this work, 500 new words and a number of new illustrations having been added. Cross-references have been inserted in this edition for two or more forms of the same word, as for instance, from "gastrenteralgia" to "gastro-enteralgia." The book, however, still contains, in addition to the excellent features to which attention was called in the more extended review of the first edition a year ago, some of the shortcomings which were then evident. Portraits of physicians are still included and also many poor r indifferent illustrations of plants, substances such as wool, tc., arbitrarily selected, the space occupied by which might ave been saved without detracting from the value of the ork. As we remarked in the earlier review, we believe that iving "œsophagus," "anæsthesia," etc., as the preferable spellngs, is not in line with progress.

One Hundred Surgical Problems. The Experiences of Daily ractice Dissected and Explained. By James G. Mumford, M.D., isiting Surgeon to the Massachusetts General Hospital. Cloth. rice, $3. Pp. 354. Boston: W. M. Leonard, 1911.

The 100 problems presented in this volume have their basis n 100 patients seen, examined, studied and operated on by he author. The history of each case is carefully detailed, nd the significance of each symptom or group of symptoms iscussed in a foot note as it is brought out. A diagnosis is ade based on the clinical history and the results of the hysical examination. Then follows a description of the peration, together with the operative findings and finally he ultimate outcome of the case.

It is this checking up of the pre-operative conclusions as o the conditions present with the actual operative findings hat gives the great value to this work. It is an easy matter o make a diagnosis, but an entirely different matter to ake one that will tally with the operative findings.

If we had more books like this—personal analyses of the ork of competent, conscientious surgeons—we would be much etter off than with the surfeit of text-books now present.

The work is unique and of decided value.

A Manual of Practical Hygiene for Students, Physicians nd Health Officers. By Charles Harrington, M.D., Late Professor of Hygiene in the Medical School of Harvard University. ourth Edition, Revised and Enlarged, by Mark Wyman Richardon, M.D., Secretary to the State Board of Health of Massausetts. Cloth. Price, $4.50 net. Pp. 850, with 124 illustraons. Philadelphia: Lea & Febiger, 1911.

In consequence of the death of Dr. Harrington in 1908, the resent edition of his work has been revised by Dr. M. W. ichardson who has brought the different sections of the work ell up to date. The plan of the work is unchanged and the lterations in the text are in most places inconspicuous, while others some paragraphs have been added. The new edition well suited to maintain the enviable reputation achieved by revious editions of the work. One disadvantage due to the rrangement of the work deserves notice. The reader who eks a definite statement of the measures applicable for the ntrol of an infectious disease, like typhoid, finds only scatred references throughout the work. The value of the work many practitioners would be enhanced by a brief summary the measures best suited to prevent the spread of infection, ven under the heading of the individual disease.

Refraction and Visual Acuity. By Kenneth Scott, M.D., C.M., R.C.S., Consulting Ophthalmic Surgeon to St. Mary's Hospital r Women and Children, London. Cloth. Price, $1.75. Pp. 191, th 16 Illustrations. New York: Rebman Company, 1911.

This volume adds one more to the manuals intended to ach the general practitioner how to fit glasses, and how herwise to deal with the commoner refractive errors. The thor also has something to say about the use of the hthalmoscope and the detection of color blindness. A usel chapter is that devoted to the medical inspection of the es and eyesight of school children, a subject that so far as ncerns America has lately been too much neglected in both y and medical literature.

A goodly portion of the work is devoted to the visual uity required by the employees of railroad and steamship mpanies, especially in Great Britain and her colonies. The atter has recently attracted much attention here and Dr. ott's abstracts will be found very useful for comparing the quirements exacted by the British authorities with those posed by our own.

The Fourth Physician. A Christmas Story. By Montgomery kett. Illustrated by Gordon Stevenson. Cloth. Price, $1 net. . 144, with Illustrations. Chicago: A. C. McClurg & Co., 1911.

This is a well-written Christmas love story about physis, involving the conflicting calls of self-aggrandizement on one hand, and devotion to the call of suffering on the her.

Medicolegal

Medicine Sent by Mail Covered by Pure Food and Drugs Act

(United States vs. Tucker (N. S.), 188 Fed. R. 741)

The United States District Court, in Ohio, sustains a conviction of violating the pure food and drugs act of June 30, 1906, by the sending by mail of a bottle of a nostrum ("Tucker's Asthma Specific") containing cocain, the bottle bearing no label or brand indicating the presence of that drug in the preparation. The court says that the defendant, in answer to an inquiry from a party called Henson, mailed to him an examination or symptom blank and what was manifestly a previously prepared stock letter, stating that under a separate cover were forwarded to him circulars fully explaining his system of relief and cure for asthma, hay fever and nasal catarrh, and naming the cost of treatment. Henson was requested to fill out the blank and return it with full payment in advance, on receipt of which a treatment would be sent by express without delay. Henson filled out the symptom blank and returned it with a postal order for the sum named. Thereupon the defendant deposited in the mail at Mt. Gilead, Ohio, a bottle containing 2 ounces of the medicine, addressed to Henson, and also shipped to him by express an atomizer, both of which were received by Henson at Washington, D. C. Later a second bottle of medicine was sent in the same manner as the first. Henson made no suggestion and gave no direction as to the mode of transporting any of the medicine.

Was the transaction in which the defendant engaged interstate commerce, so as to come within the provisions of the federal law? His contention was that the sale and delivery were completed in Ohio, when the medicine was deposited in the mail, and governed by the Ohio law of sales, and that the fact that the sale was made with the intent that the medicine should be transported from Ohio to the District of Columbia after the sale and delivery were fully completed did not impart an interstate character to the transaction, because the agent by which the transportation was effected, the United States mail, was the agent of the purchaser and not of himself. But the court holds otherwise, overruling a motion for a new trial.

The court says that the second section of the pure food and drugs act is limited in its application to interstate and foreign commerce. The prohibition therein contained runs against the introduction of misbranded drugs into any state, or territory, or the District of Columbia, from any other part of the United States, or from any foreign country. The defendant solicited and obtained Henson's order for the medicine. He knew that the transaction, if consummated, would necessitate interstate transportation. A sale, the parties to which are from different states, is a transaction of interstate commerce, wherever the contract of sale may be made, when the goods are to be transported from one state to another, whether the sale is made before or after shipment. The indispensable element and test of interstate commerce is importation into one state from another. The transaction in which the defendant engaged was interstate commerce.

Construction of Portion of Medical Practice Act on Sales of Drugs by Itinerant Venders

(Williams vs. State (Ark.), 137 S. W. R., 927.)

The Supreme Court of Arkansas reverses a conviction of an itinerant vender of prepared drugs of practicing medicine without a license on the ground that the indictment did not state facts sufficient to constitute an offense, because it failed to state that the accused did "by writing, print or other methods, profess to cure or treat diseases or deformity." The indictment was preferred under that section of the statute enacted in 1903 to regulate the practice of medicine and surgery which provides that: "Any itinerant vender of any drug, nostrum, ointment or application of any kind, intended for the treatment of disease or injury, or who may, by writing, print or other methods, profess to cure or treat diseases or deformity by any drug, nostrum, manipulation or other expedient, in this state, shall be deemed to be in violation of this law and punished as provided. This does not apply to persons who obtain certificates as herein provided."

The court says that this section is somewhat ambiguous, and, in order to ascertain its exact meaning resort must be had to the whole statute, which in its entirety and according to the language of its title was designated to regulate the practice of medicine and surgery, and to require practitioners to first stand examination and obtain certificates authorizing them to practice. This section and the succeeding one undertake to define what shall constitute the practice of medicine or surgery.

The language of the whole statute, when considered in its entirety, does not warrant the conclusion that the lawmakers intended to require an itinerant vender who merely sells medicine to stand examination and obtain a certificate as a physician. On the contrary, it seems clear to the court that it was intended as one of the definitions of the practice of medicine to declare that an itinerant vender of medicine who professes to cure or treat diseases or deformity by any drug, nostrum, manipulation or other expedient shall be deemed to be within the terms of the statute, and shall be required to obtain a certificate. Any other construction would not only do violence to the scheme outlined in the statute as a whole, but it would render the section meaningless, and would give no force at all to the words "who may, by writing, print or other methods, profess to cure or treat diseases or deformity by any drug," etc., for if it was intended to declare an itinerant vender who merely sells medicine without a certificate to be an offender, then the words above quoted are useless. The construction adopted makes it necessary to disregard the disjunctive "or," or to substitute the conjunctive "and" therefor, before "who may," but that may be done when essential in order to carry out the manifest intention of the lawmakers.

Affidavits of Non-Resident Physicians Sufficient for Inquest of Lunacy

(Hundley vs. Sumrall (Ky.), 137 S. W. R. 842.)

The Court of Appeals of Kentucky holds that the physicians need not be residents of that state to make the affidavits required by the statute which provides that the personal presence of the person charged with being of unsound mind, or an imbecile, or incompetent to manage his estate, may be dispensed with when it shall appear, by the oath or affidavit of two regular practicing physicians, that they have personally examined such person, and that they verily believe him to be an idiot or lunatic, or incompetent to manage his estate, as the case may be, and that his condition is such that it would be unsafe to bring him into court.

In the case before the court a resident of Kentucky had his son, who became insane, removed to Baltimore, Md., and placed in a sanitarium there, where he remained, a lunatic, violent and uncontrollable. After the father died it became necessary that a committee should be appointed to receive the son's share of the estate, and look after his interest, and an application was made to the county court for an inquest of lunacy. The affidavits of three of the physicians in charge of the sanitarium in Baltimore were filed showing that they were regular practicing physicians; that they had personally examined said son; that he was a lunatic; and that his condition was such that it would be unsafe to bring him into court. That, it is held, was sufficient.

The court says that there is nothing in the statute requiring that the physicians must be residents of Kentucky. The court cannot add to the terms of the statute. The purpose of the provision is to dispense with the presence of the lunatic in court when it would be unsafe to bring him there; and when he is out of the state there is no reason why the physicians there having charge of him may not make the affidavits referred to. This is within both the letter and the spirit of the statute, the purpose being to allow the inquest to be held when it would be unsafe to bring the lunatic into court, and this is shown by the affidavits of two regular practicing physicians

This lunatic had not ceased to be a resident of Kentucky; his domicile was still in that state. He was simply in Maryland for treatment. His estate was in Kentucky; the courts of Kentucky had jurisdiction to hold an inquest, and to appoint a committee to take charge of his estate. He had notice of the proceeding in the only way in which notice was practicable. True, it was constructive notice, but it would have been contrary to the plain intent of the statute to have taken this lunatic out of the sanitarium and brought him to Kentucky, thus endangering his safety and the safety of others.

Privilege Not Waived

(Slater vs. Sorge (Mich.), 131 N. W. R. 565)

The Supreme Court of Michigan holds that, in this action to recover damages for being bitten by the defendant's dog, the plaintiff having employed one physician immediately, and another later, to treat his wounds, his calling the second physician as a witness was not a waiver of privilege as to the first physician. Nor does the court think that the fact that the plaintiff himself had testified as to the treatment by the first physician of the identical injury for which suit was brought, should be held to be such a waiver of the privilege conferred by the statute as would permit that physician to testify.

Society Proceedings

COMING MEETINGS

American Association of Anatomists, Princeton, N. J., Dec. 27-29.
American Physiological Society, Baltimore, Dec. 27-30.
American Public Health Association, Havana, Cuba, Dec. 4-9.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

SOUTHERN MEDICAL ASSOCIATION

Fifth Annual Meeting, held at Hattiesburg, Miss., Nov. 14-16, 1911

The President, Dr. Isadore Dyer, New Orleans, in the Chair.

Officers Elected

The following officers were elected: President, Dr. James M. Jackson, Jr., Miami, Fla.; vice-presidents, Drs. Frank A. Jones, Memphis, Tenn., and Daniel J. Williams, Ellisville, Miss.; and secretary-treasurer, Dr. Seale Harris, Mobile, Ala.

Jacksonville, Fla., was selected as the next place of meeting.

The Stokes-Adams Syndrome

Dr. J. G. Gaither, Oxford, Miss.: There seem to be two distinct classes of cases, first, in patients past middle life in whom arteriosclerosis has become pronounced in its effect on the brain, heart and kidney, and, second, a younger class of patients, under 50, usually men, in whom a variety of causes are found. Pathologists have failed to find any lesion sufficient to justify the assumption of a causal relation. The prognosis is serious and uncertain; the treatment is purely symptomatic.

DISCUSSION

Dr. J. B. Elliott, Jr., New Orleans: I have seen only one case of Stokes-Adams disease, and this was associated with arteriosclerosis. The patient died in the second attack. He was 70 years of age. There was an atheromatous cicatrix in the bundle of His.

Dr. J. B. McElroy, Memphis: We must distinguish clinically between two groups of these cases, one the cardiac group, and the other the neurogenous group. Much work has been done with reference to the disturbance of the conductivity of the bundle of His, but undoubtedly there are many of these cases which present the symptoms of the Stokes-Adams syndrome in which this bundle is not involved. Adami reports a case, and I have autopsied one case myself in which the bundle of His was involved and almost completely destroyed by a gumma in which there were no symptoms or evidences of the disease during life.

Dr. Frank A. Jones, Memphis: I have seen five cases of heart-block, three in men, and two in women. In nearly all f these cases there was pronounced arteriosclerosis, with high blood-pressure. I have seen one case with a pulse as low as 8 for nearly a week before the patient died in a kind of coma nstead of a convulsive seizure.

Causal Factors in Malarial Recurrences

Dr. Graham E. Henson, Crescent City, Fla.: Parthenogen- sis cannot be considered a factor in recurrences of malaria ecause the existence of such a phenomenon is a matter of great doubt. Many cases have at no time during the infection shown the sexual forms, but have frequently relapsed. Ross cited four cases in which inoculation experiments containing only sexual forms failed in each instance to produce clinical symptoms of malaria or to reveal the presence of any plasmodia, while in fifty-one cases cited by the same author inocu- ation experiments containing the asexual parasites, in every nstance produced clinical symptoms of the infection, and parasites of the type inoculated were demonstrated in all of the cases experimented with since the discovery of the plasmodia.

DISCUSSION

Dr. R. H. von Ezdorf, Mobile, Ala.: According to the inves- igations made in 1898 and 1899, parthenogenesis may have omething to do with the recurrent cases of malaria. I have observed in blood-examinations what appeared to have been the conjugate forms. Again, I have noted cases in which only the gametes have been present, and have not been able to find the gametes changed into the form which would revert to the chizodont cycle. In making examinations of the blood of the stivo-autumnal cases, in which the gametocytes were pres- nt, I have found that under the specific treatment of quinin he microgametes would disappear in a short time and the macrogametocytes would predominate.

Dr. Louis Leroy, Memphis: I have not had an opportunity o study parthenogenesis or asexual reproduction, but the rest- ng form mentioned by the essayist has occurred to me a number of times. We have had quite a number of patients oming from latitudes that are considered more malarious than ur section of the country, who had in many instances been ree from any malarial attacks for periods varying from six months to several years, and invariably after a week in that istrict outbreaks of malaria occurred. I examined a dozen or more specimens of blood but failed in many instances to find ny parasites, and yet inside of ten days or so apparently new ttacks of malaria would be developed. In most of these atients enlargement of the spleen would develop subsequently. Whether or not the spleen or bone-marrow was the site of the esting parasites, which under these changed conditions brought hat about, I am not able to say, but that was my working ypothesis. Paroxysms occurred in one patient following xposure of the enlarged spleen to the Roentgen-ray, in whom gain I was unable to find parasites in the blood. Again, nder similar conditions I have seen attacks of malarial aroxysms following the administration of large doses of ergot nd hydrastin, given with the idea of attempting to reduce the ize of the spleen.

Dr. J. B. McElroy, Memphis: My impressions, as gained from a study of the blood itself and from the literature, are irectly in opposition to those of the essayist. I can see no vidence from a study of the blood of these conjugating forms eveloping in the body. On the other hand, according to the ork of Schaudinn, parthenogenesis is a well-established prin- ple. I agree with Dr. von Ezdorf that these macrogameto- tes continue in the blood after the continued and heroic dministration of quinin, and in the diagnosis of malaria we ould not only include the presence of malarial parasites, but e varieties of them, and we should determine from an exam- nation of the blood whether or not we are dealing with a elapse. This can easily be determined both by the presence f the macrogametocytes and by the tertiary and the estivo- utumnal types.

Vaccine Therapy in Typhoid

Dr. J. B. Elliott, Jr., New Orleans: In a series of over 00 vaccinations among the senior class of Tulane University during the past two years, we have had only one case and the patient was proved to have had the infection previous to vaccination. Cullinan inoculated 500 asylum inmates, and of these only 1.3 per cent. had it, while of the non-vaccinated, 14.9 per cent. went down with typhoid fever.

I have treated only three patients. I have become enthused over this method of treatment and shall continue to administer the vaccines in all cases of typhoid, if seen within the first eight or ten days.

DISCUSSION

Dr. A. W. Freeman, Richmond, Va.: It is hardly fair to say that typhoid vaccination at present is without danger. In a recent issue of the *Naval Medical Bulletin*, the case of a young marine is reported. He was inoculated with the same vaccine that was used in the routine inoculations of the marines of that corps, and who within two or three days developed a most virulent case of typhoid and died. At the autopsy typhoid bacilli were found in the circulating blood and in the various tissues of the body. Those who studied this case and did the bacteriologic work, as well as the clinician, agreed that this young man was in the incubative stage of typhoid, and a dose of vaccine was sufficient to overwhelm him and result fatally, when he might have had a case with demonstrable symptoms of the disease. There is no doubt that typhoid vaccination does confer relative immunity against typhoid, but the degree of that immunity has been variously estimated by various experimenters and observers.

Dr. Louis Leroy, Memphis: I believe that at present we are suffering very largely from a pernicious activity of certain biologic features in the line of pushing and recommending indiscriminately biologic products of this nature. It is claimed that negative phases are not so frequent in typhoid as in some other forms of vaccine administration. Dr. Elliott was careful to say that he limits the use of the vaccine to the first ten days. Even at that, it would require some discrimination, which I am willing to concede he has, in the administration of this vaccine in all cases. We have all seen typhoid patients who were almost overwhelmed from the beginning, and I would question the administration of large doses of vaccine to a patient in that condition. Again, late in the disease it does not seem to be of much use. The main thing I wish to protest against is the indiscriminate use of typhoid vaccines and untruthful advertising of these remedies by therapeutic houses, and by detail men who do not know the first principles about it, urging its indiscriminate use in all cases of typhoid.

Dr. Charles Debarron, Gulfport, Miss.: At the time of the Spanish-American war, shortly after my return from Chickamauga Park, there was quite an epidemic of typhoid below this region. Twenty people were exposed to the disease. Every one of them was given typhoid vaccination and not one contracted the disease.

Dr. J. B. McElroy, Memphis: I think Dr. Elliott should hedge in these good results from typhoid vaccination by a warning or by putting a large question mark against the proposition as to whether or not these typhoid vaccines can be used promiscuously for the prevention of typhoid. Theoretically, we would expect that while these individuals are acquiring immunity from one or two doses which have been administered, there is a negative phase or sensitization of the individual during which he is more liable to contract typhoid than at other times.

Dr. R. H. von Ezdorf, Mobile: One patient to whom the vaccine was given developed a temperature of 104 F. which lasted two days. On the second injection, the same reaction occurred which did not last quite as long. Statistics show that we can expect these reactions to take place in about 10 per cent. of the cases.

Dr. Hiram Byrd, Jacksonville, Fla.: About a year and a half ago we began the administration of typhoid vaccines. We vaccinated 125 people. In two instances the reaction was severe. In a woman the reaction lasted for three days. Aside from these reactions, the results have been very favorable. The youngest child vaccinated was 16 months old. There was a reaction in that instance as in two other children. We have vaccinated several children under 5 years of age in whom the reaction has been very slight.

Dr. J. B. Guthrie, New Orleans: I feel we are perfectly justified in resorting to vaccination as a preventive of typhoid fever when we consider the present condition of sanitation in some of our cities and country towns, particularly where streams are so liable to contamination. Any person whose occupation brings him in contact with typhoid patients, or who is forced to live in a neighborhood where typhoid infection is rife, should be vaccinated against typhoid.

Dr. William Krauss, Memphis: We may take it for granted that the German government would not countenance any system of experimentation with its troops which would prove detrimental to the personnel of the army, and considering that soldiers are priceless possessions, no government would permit vaccination against typhoid if it was so dangerous as some would have us believe it is.

(To be continued)

UTAH STATE MEDICAL ASSOCIATION

Annual Meeting, held at Salt Lake City, Oct. 4-5, 1911

(Concluded from page 1789)

Use of the Cystoscope in Diagnosis

Dr. O. S. Fowler, Denver: The revelations of the cystoscope could not possibly be obtained in any other way; without its aid many unpardonable mistakes in diagnosis are made. In diagnosing abdominal conditions, the stomach, gall-bladder and ducts, the appendix, ovary occasionally, and the kidney must be thought of. The most common error is the differentiation between chronic appendicitis and recurrent attacks of renal colic or obstruction of the ureter from a kink giving intermittent hydronephrosis. The pain of prolapsed kidney may occur in the exact region of the appendix. Diseases of the genito-urinary tract are evidenced chiefly by pain, suppuration, hemorrhage and tumor, each of which symptoms must be weighed with careful judgment. The cystoscope gives valuable information in congenital deformities, and the origin of pus and blood in the urine. Injections of collargol into the kidney pelvis enable one to study its contour relations, etc. The cystoscope discloses the presence, location and operability of neoplasms of the bladder; if hemorrhage occurs from above the bladder, one can determine from which kidney it comes, and without the cystoscope one is at sea in diagnosing any case of hemorrhage. The most commonly overlooked condition of all kidney obstructions is prolapsed kidney with an aberrant vessel to the lower pole of the kidney or a cicatricial band producing a kink in the ureter by torsion of the kidney, which may occasion recurring attacks of indefinite abdominal pain, often in the region of the appendix. The therapeutic application of the cystoscope is a wide one: Infections of the kidney pelves and strictures of the ureter can be successfully treated; small stones can be dislodged; foreign bodies in the bladder can be snared and removed; ulceration of the bladder treated topically, and most important of all is the recent discovery that papillomata of the bladder, especially inoperable ones, can be treated successfully by a process of fulguration. Another important feature of the cystoscope is the determination of the sufficiency of excreting power of each kidney separately by segregation of the urine, after injection of certain drugs into the muscles, making it possible to foretell the existence of kidneys that might incapacitate after operation.

DISCUSSION

Dr. E. C. Rich, Ogden: Many cases of stone in the pelvis of the kidney or in the ureter are mistaken for appendicitis. With proper instruments for doing this work, the surgical problems of the genito-urinary tract can be approached with a feeling of confidence. It requires time and patience, and considerable experience, to succeed in cystoscopy. Not long ago a patient came to me with an old, chronic cystitis. Almost every remedy mentioned in the Pharmacopeia had been used previously, without relief. With the aid of the cystoscope I found a piece of bone in the bladder. It had become detached from the pubic region in front, where an osteomyelitis had developed.

Infantile Pernicious Vomiting and Rectal Hemorrhage

Dr. Anna Ries-Finley, Salt Lake City: I recently attended a woman who gave birth to a well-developed male child. Nothing eventful occurred until the fourth day, when the child passed about 12 ounces of blood per rectum. I found the temperature subnormal, the pulse weak, but otherwise the child did not appear much depressed. Two hours after the first hemorrhage, the child passed about 2 ounces of dark coagulated blood and a few hours afterward, it began to vomit a greenish, slimy material; this continued at intervals during the day and night until the sixth day when the infant was noticeably emaciated. Several attacks of choking occurred when the baby attempted to swallow. The first hemorrhage occurred thirty hours after birth, and the second on the morning of the seventh day. Between these hemorrhages the bowels moved freely three or four times daily, and the material passed appeared normal. Lavage of the stomach was resorted to, but the patient was otherwise treated expectantly. A careful physical examination of the abdomen gave evidence of none of the symptoms of obstruction and elicited no pain. Life terminated on the morning of the seventh day. A post-mortem examination showed the stomach and small intestine distended with gas; the mesenteric vessels were engorged. The stomach contained a small amount of blood. The bowel was found to contain many small blood-clots floating in a serum-like fluid. The abdominal cavity contained about 1 ounce of a dark fluid after the intestines were removed. The pathologic findings were insignificant and elusive in every respect.

DISCUSSION

Dr. Elsie A. Faust, Salt Lake City: The possibility of hemophilia occurred to me, as well as intestinal obstruction in some rare or unusual form. What makes the case more obscure is the fact that no important pathologic lesion was found on autopsy.

Dr. Clarence Snow, Salt Lake City: The etiology of this case is obscure. Intestinal hemorrhage in the new-born may indicate syphilis. Hemorrhage in these cases is more likely to be due to continuous capillary oozing than otherwise, and is generally inaccessible. In hemophilia, any attempt to cover the stump of the umbilicus is likely to open up fresh bleeding points. The injection of normal rabbit-serum, or horse-serum, has met with success. In emergency cases diphtheria serum, with the antitoxin present, may be used, or instead antistreptococcic serum. Finally, direct transfusion of blood is often successful.

Dr. Ross Anderson, Salt Lake City: I wish to emphasize the value of antidiphtheritic serum in hemorrhage from any cause. I have had occasion to use it in several cases of hemorrhage, and I have felt that its use was distinctly beneficial. I believe also that the calcium salts might be administered with advantage.

Dr. J. F. Critchlow, Salt Lake City: This condition is one I have never met. Intussusception should not be thought of. There are, no doubt, cases of intussusception which are not continuous or persistent, but temporary or recurrent. In intussusception sometimes the condition will unfold itself spontaneously. A case of this kind occurred once in my practice. During the administration of the anesthetic and the manipulation of the abdomen in cleaning the skin preparatory to operation, the intussusception disappeared. On opening the abdomen, I found evidence sufficient to verify the diagnosis.

Dr. O. B. Fowler, Denver: In an article written by one of the interns of the New York Lying-In Hospital, human blood-serum was used in seventeen cases of intestinal hemorrhage, with 100 per cent. of recoveries. In another series of twelve cases, treated by other means, they all terminated fatally. I have seen three or four cases of intestinal hemorrhage in the new-born, all but one of which terminated fatally. I think that this condition occurs as often as once in a hundred births. I would recommend the use of serum in every case. I do not believe that direct transfusion would be as successful as the use of serum.

Dr. Gill Richards, Salt Lake City: I have seen autopsies one in three or four cases of fatal intestinal hemorrhage in he new-born. The striking feature was the absence of any vidence of eroded blood-vessels. I think that these hemorrhages are due to oozing from the mucous membrane of the ntestinal tract. I have also seen a few patients successfully reated with serum.

Dr. G. C. Emery, Preston, Ida.: This is a rare condition. recall the case of an infant that began vomiting blood on he second or third day after birth. There was nothing to ndicate obstruction or distress. Every little while, however, he child would regurgitate considerable quantities of dark lood. It died within a few days. I believe there may have een a specific history in this case.

Dr. C. E. West, Salt Lake City: It has been my misortune to meet with four of these cases. Two patients died nd two recovered. I believe that the cause of death in these ases was intussusception. There was no specific history, nd pernicious vomiting was not present. One of these nfants passed about a pint of blood from the bowel at one ime. No post-mortem examination was allowed.

Dr. Anna Ries-Finley, Ogden: I thought of intussusception and my examination of the child covered this point, but he abdomen was soft on palpation and appeared normal in very respect. Post-mortem examination revealed nothing oteworthy, and I found no evidence of a preexisting intususception that had rectified itself.

nfections of Maxillary Antrum and Appliance for Drainage

Dr. H. Van Cott, Salt Lake City: Chronic infections of ne antrum of Highmore often resist both medical and surgil treatment, because the facilities for drainage are poor. he ostium is situated practically at the roof of the antrum nd drains into the middle fossa of the nose. Swelling of the ucous membrane of the antrum closes the ostium, so that ne only outlet to the cavity is closed, thus locking up the ecretions. Drainage of the antrum under natural conditions adequate, but when a chronic purulent condition exists, ne natural system of drainage becomes very inefficient. I ave seen several cases of chronic infection of the antrum xtending over a period as long as nine years; all the patients ere operated on without satisfactory results. Postoperative eatment of these patients was discontinued because the in of treatment was even greater than the suffering occaoned by the disease.

The radical operation can be carried out easily. It is done an incision in the mouth, over the anterior wall of the trum, carried to the bone; the cavity is curetted and ashed with an antiseptic solution. Curettage is often imposble, or a failure, on account of the inaccessibility of cerin parts that cannot be reached. The nasal wall is then ened freely and gauze packing is carried through the first ening into the antrum, then through the nasal opening and t through the nostril. The incision in the mouth is closed. fter the packing is removed the patient depends on the sal drainage for a cure. A cure will often follow, but, as rule, the nasal opening is closed before the infection has ased and drainage is defeated. In the alveolar method, the st or second molar tooth is extracted, and an opening is ade through the process into the antrum. The opening is larged and the cavity curetted, washed out, and a gauze ck is inserted to keep the cavity draining, or a vulcanite ug is placed in position to keep the antrum opened to ovide for irrigation and drainage.

By means of an appliance which I have devised, such tients can be promptly cured in a comparatively short time, d with decidedly less pain than by other means. The pliance consists of a gold tube, reaching through the alveolar ocess and ending a trifle above the floor of the antrum, ⅛ of inch in diameter, tapering slightly toward the distal end. e tube can be vulcanized into an artificial plate, if the tient has no teeth, and it can be removed in an instant d kept clean at all times. If the patient has teeth, the be can be vulcanized into a partial plate. If desired, a cap crown can be fitted snugly over the end of the tube to prevent food from entering the cavity during mastication. By having the patient lean forward, tilting the head to one side, and inserting the tip of a rubber-bulb ear syringe into the tube, the cavity can be washed out thoroughly. When the diseased condition ceases the distal end of the tube may be ground down to a level with the inner surface of the plate. The opening in the process will close in time.

DISCUSSION

Dr. R. R. Hampton, Salt Lake City: If every antrum had a level floor and there were no irregularities to deal with, the method of treatment devised by Dr. Van Cott might be a very satisfactory one. In the radical operation, the nasal opening will not close if it is made large enough, and one will have all the drainage that is needed.

Dr. Fred Stauffer, Salt Lake City: I do not believe that a drainage tube inserted as Dr. Van Cott has explained will cure every one of these patients. The procedure seems unsurgical to me, because if the radical operation is done through the canine fossa, and one curets all the diseased mucous membrane down to the floor of the nose, removing the anterior end of the inferior turbinate bone, and making an opening into the nose and keeping it packed until the opening heals, there will be no difficulty in curing these patients unless the cases are specific or malignant in origin. Sometimes results will be disappointing, because pus will be found discharging into the antrum from above, from the ethmoidal cells. In other words, the infection of the antrum may be secondary. If healing does not take place within a reasonable time, bismuth paste may be injected with very satisfactory results.

Dr. W. M. Stookey, Salt Lake City: A great many failures in these cases are due to the fact that the opening from the nasal side into the antrum is too small. If the opening is large enough, it will never close up. I do not approve of the extracting of teeth to provide a way for inserting the drain, as advocated by Dr. Van Cott.

Dr. H. Van Cott, Salt Lake City: Many people lose their teeth early, and the loss of a tooth is a trivial matter when compared with the loss of the mucous membrane in the nose. In the cases that I have quoted the patients were previously operated on, but unsuccessfully. When an opening is made through the alveolar process, one is opening into the floor of the antrum, into the most dependent portion of it, and in the position most favorable for drainage. The success of this operation depends largely on cleanliness. The cavity should be frequently flushed out and kept clean, and the simple operation advocated will often yield surprisingly satisfactory results, after the radical operation has actually failed.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

Second Annual Meeting, Held in Chicago, Nov. 16-19, 1911

(*Continued from page 1787*)

The Friday afternoon session was devoted to hearing reports and resolutions from the various sections.

Registration of Births

Dr. J. S. Neff, Philadelphia, presenting the report of the Committee on Birth Registration: Proper birth registration is to be considered the foundation of the safety of infant life, and, in order to be of value, must be done thoroughly. In fifteen states and in many cities accurate machinery exists for the registration of births, but in many others having such provision the work is not carried out thoroughly. One city, having birth laws for nineteen years, admitted that 20 per cent. of the births were not registered; another, having laws for an equal period, admitted that 25 per cent. to 35 per cent. of the births were not reported. The power of the association should be directed against physicians and midwives who fail to report births. Until such states and cities provide for accurate birth registration, they are not entitled to a representation in the association. Birth registration is the starting point for every measure for the prevention of infant mortality. Otherwise, the efforts of social workers, visiting nurses and others is blind work. Registration would permit of thorough and systematic work. The Committee on Birth Registration therefore wishes to amend the proposition of last year by the statement that it should be the object of the association to aid in demanding the official enforcement of the registration laws.

Dr. Neff offered the following resolution, which was carried: "Resolved that the American Association for the Study and Prevention of Infant Mortality respectfully requests the United States census office to supply the secretary of the association from year to year with a list of those states and municipalities which have presented satisfactory evidence of registering at least 90 per cent. of their births, and that this association in their official statement of infant mortality confine its statistics to such states and cities, and that the death-rates be expressed in proportion to the number of children born."

Recommendations on Eugenics

Prof. H. E. Jordan, University of Virginia, presented a report from the Section on Eugenics recommending the creation of public sentiment by moral suasion, by the church, by segregation, by legislation authorizing surgical procedures, and the improvement of economic conditions, for greater productivity among our better stock; in view of the report of the Chicago Vice Commission, the reporting of syphilis and gonorrhea, and in some cases isolation; the establishment and endowment of national hygienic investigations by trained scientists; the inauguration of collective investigations among the members and others to procure as complete information as possible regarding hereditary transmission of defects and diseases. He said that there seemed to be complete unanimity in the Eugenic Section regarding the hereditary transmission of syphilis, and the need of radical measures to prevent it. There was no unanimity regarding the hereditary transmission of tuberculosis. The section believed that there should be compensatory measures against the anti-eugenic effects of indiscriminate infant conservation.

The resolutions and recommendations of the committee elicited considerable discussion and were then carried.

A resolution from the Housing Committee that a standing committee be appointed to secure uniform statistics on infant mortality and morbidity from municipal officials and workers connected with the affiliated societies and associations of the association, was reported to the executive committee with an expression of approval from the association.

A resolution that the association urge the mayor and the council of the city of Chicago to give serious consideration to an increase to the funds available for the Health Department of the city of Chicago, with special reference to the improvement of housing conditions, was carried after considerable debate.

The committee from the Section on Nursing and Social Work offered recommendations that the education of mothers in prenatal care, preparation of clothing, the hygiene of babyhood and infant-feeding be made an integral part of the work of infant welfare clinics or stations and other agencies, and that methods be promoted for immediate relief for babies whose parents could not afford to pay for higher grade milk, and that the extension of "Little Mothers Clubs" be urged.

A resolution was adopted that all training schools for nurses be encouraged to add courses in social service, and that all nurses and social workers establish closer connection with each effort for community welfare; that attention be called to the lack of instruction and care in health matters in rural districts, that the National Red Cross be asked to consider the proposal made to it some time ago to inaugurate visiting nursing in neglected communities; that state and municipal control of the milk-supply and the permanency of milk stations be secured.

Infant Welfare Work in the United States

Dr. J. W. Schereschewsky, U. S. P. H. and M.-H. S.: Public schools should be utilized as centers through which information is diffused to the home on infant hygiene and feeding. Results obtained in the reduction of infant mortality are only to be guessed at, because of the incompleteness of the statistics and the difference in collecting the results, but it can be stated without hesitation that considerable reduction in infant mortality has been effected, but only a very small portion of the infants requiring attention have been reached. The work has been of preliminary and emergency character. Accurate statistics are necessary, and these will require complete birth and death registration. These would enable them to formulate measures for prevention. Unofficial agencies cannot cope with these conditions; federal, state and municipal assistance are required.

Prevention of Infant Mortality: One Aspect of the New Humanitarianism

Miss Jane Addams, Hull House, Chicago: I call it the new humanitarianism because of the way in which the wave of humanitarianism or of any other movement goes forward, lapses and then goes forward again. Humanitarianism at the time of the French Revolution had to do largely with the thirst for freedom. Equal opportunity was desired. This lasted for sixty years after Waterloo. It expressed itself in America, and in England through such men as Cobden and Bright. Then there was a change. The idea of imperialism and materialism developed. In the nineties, there came again the beginning of a new wave of humanitarianism. We do not care so much now for freedom in the abstract, but for opportunity for the fullest development of life. We have come in this conference to a test of that humanitarianism. If babies die in tenement houses as now constructed, then we are agreed that something is wrong. If a city has a high death-rate, which is abnormal, then we conclude that that city's affairs must be gone into. We investigate the water-supply and the milk-supply and other features. So that in addition to the old enthusiasm for human life there has come this new enthusiasm with this best test which the older men knew nothing about—the test of the little child—and on that test we are willing to take our stand as never before.

The Public and the Reduction of Infant Mortality

Dr. H. J. Gerstenberger, Cleveland: Physicians and nurses are not trained in the prevention of infant mortality on account of deficient teaching forces or because the material does not suffice for teaching purposes and most institutions have no funds to do research work. The public is ignorant. It does not appreciate the number of lives lost and what they mean to the nation and does not know that the remedy lies in its own hands. The remedy lies in the education of the parents, advisers and the public at large. Infant welfare stations are needed. Nurses should have postgraduate courses; so should physicians. The public at large should be educated in every possible way. High-class medical schools should be the centers from which the best knowledge is obtained. The eighth grade of the public schools is the place to educate the future mothers. Many will never enter the high schools where the instruction might be continued. In England this is done. In New York and Chicago, "Little Mothers' Clubs" have been inaugurated and instruction given. This ought to be made compulsory in the graded school curriculum. The only other means is through the education of physicians and nurses and for this we would need many more efficient hospitals for infants. The physician is the one who directs not only the scientific but also the practical end of the work of the reduction of infant mortality. Accurate statistics concerning birth-rates and death-rates are absolutely necessary. The governments of cities and states and the national government through a national board of health should do this work, but until they do we must depend on private agencies and they should be liberally supported.

Town Cows

Dr. W. A. Evans, Chicago: Milk is only one of the factors that enter into the baby problem. Therefore milk is not a solution of the entire problem. There is a certain percentage mothers who are not able to nurse their children; a larger ercentage think they cannot. There are many children for hom it is necessary to use milk from cows. But we inter-ose between the cows and the babies a railroad track and a agon at both ends. Everything intervening between the abies and the source of their milk-supply is a potential anger. In a city like Chicago, much milk is seventy-two ours old, some is forty-eight and some is twenty-four, before eing used. The rational thing is to eliminate as much of is time and handling as possible. The cows should be rought back to town, not uncontrolled as formerly, but nder such conditions of control as will result in an improved ilk-supply. An objection is raised that cows cannot be ercised in a town. The highest grade of milking cows are ept in the stable the year round. The stabling of cows in e city is therefore not a radical departure. Milk cows last ur or five years. Where kept in sanitary stables and kept ell the percentage of sickness among the cows is not so rge as among those left outside. With improvement in nitary conditions that would result from this experience the etterment of the health and a lengthening of the period of e productivity of the cows would result. Perhaps 25 per nt. of increased cost would ensue in the city. Much of is would be in food, but much of the food consumed in iries is now shipped from the cities to the country. This creased cost would be offset by eliminating the shipping arge, the overhead charge and the distributing charge, so at the production of milk would be more economical. An jection is that the cows in town would constitute a source nuisance. There are 70,000 horses in Chicago; there are 800 in the ward in which we are to-night. If we tolerate is nuisance we ought to be willing to tolerate 8,000 cows pplying all the babies needing cow's milk in the city. A operly kept dairy can be kept free from offense. There are great difficulties. It will be easier to keep the cows sted for tuberculosis and to protect the milk against typhoid ver, scarlet fever, diphtheria and other milk-borne diseases. f far greater menace is age and dirtiness and the temper-ure of the milk. Better inspection can be kept up. The blic can see the conditions and the milk will not be old. ilk produced in ideal stables if old is not as good as that oduced in ordinary stables if not more than twelve hours d. In the parks and squares of the city, the cows could placed for the producing of milk for the service of the ildren in the city. Some of the parks have stables. Some e in the milk business. They will furnish good milk stead of bad, young milk instead of old. The effect will educative in addition to being needed.

Special Methods in Great Britain

Miss Ellen C. Babbitt, New York: England is in advance this country in the study and prevention of infant mor-lity and schools are being conducted in all the impor-nt cities of that country where girls are taught how to re for babies. It has been found that the keeping of a rge number of babies under one roof in institutions is tal to their welfare and as largely as possible they are arded out.

Resolutions Concerning the Milk-Supply

Prof. E. O. Jordan, Chicago, Chairman of the Section of e City Milk-Supply, reported the following resolutions as e sense of that section:

Resolved that we recognize the danger to human beings and pecially to children from the bovine tubercle bacillus. We erefore demand protection against this danger by the actment and enforcement of laws requiring the tuberculin-sting of all cows furnishing milk for human consumption.

Resolved that until such a time as the tuberculin-test is iciently applied we recommend the pasteurization of milk der municipal, state and national control.

The first resolution was adopted by the association. Dr. rdan supported the resolution concerning pasteurization, as also Mr. Phillips of New York and Dr. W. A. Evans of icago.

DISCUSSION

Dr. George W. Goler, Rochester, N. Y.: Most pasteurization is done for the purpose of keeping the milk and not for the prevention of disease. We should teach the people to pasteurize the milk at home. The law in New York as to pasteurization is a political measure. The passage of this resolution would delay the introduction and enforcement of a law providing for the tuberculin-test and will help the man who produces dirty milk to go on in his dirty old way.

Dr. W. A. Evans, Chicago: Let us not in striving for ideal conditions forget that there are actual conditions to be met at once. Let us not allow the children to die of scarlet fever, diphtheria and septic sore throat, allow consumption to be spread by tuberculous cattle, allow men to be killed by typhoid bacilli by reason of the fact that some day we hope an ideal will be attained. Therefore pasteurize the milk.

The resolution was referred to the executive committee for further consideration. Professor Jordan agreed that the question was not a proper one for resolutions by a body like the association.

Report of the Committee on Midwifery

Dr. Mary Sherwood, Baltimore, Chairman of the Section, reported resolutions as follows:

Resolved that it is the sense of the Section on Midwifery that the teaching of obstetrics in medical schools is grossly inadequate; that no time should be lost in according to the teaching of obstetrics an importance equal at least to that accorded medicine and surgery.

It is the sense of the Section on Midwifery that the study of local midwifery conditions should be urged as a means of collecting facts with which to direct public opinion with regard to this important subject.

The extent of outdoor dispensaries and hospital obstetric facilities is advocated as one of the most efficient measures for obviating this source of maternal sickness and death and the high infant mortality-rate.

These resolutions were approved by the association.

A resolution recommending that a minimum standard of training be required for all who practice midwifery and that midwives be under state or municipal control and regulation was not adopted by the association as there was considerable opposition, among physicians chiefly, to the idea of recognizing midwifery in any sense.

A resolution that the nursing profession be asked to extend its field of usefulness by including the practice of midwifery for normal cases, elicited a great deal of discussion and went over for the same reasons as the previous resolution.

Officers Elected

The following officers were elected for the next year: president, Dr. Cressy L. Wilbur, Washington, D. C.; president-elect for 1913, Dr. L. Emmet Holt, New York; vice-presidents, Dı Joseph S. Neff, Philadelphia, and C. A. Otis, Cleveland; secretary, Dr. H. J. Gerstenberger, Cleveland; and treasurer, Austin McLanahan, Baltimore.

The next meeting will be held in Cleveland.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Infectious Diseases, Chicago

November, 9, No. 3, pp. 213-478

1 Complement Fixation Test in Diagnosis of Syphilis in Military Service; Analysis of 3,950 Tests. C. F. Craig, Washington, D. C.
2 Effect of Specific Vaccines on Rat Typhoid. E. Steinhardt and T. Flournoy, New York.
3 *Secondary Infection in Pulmonary Tuberculosis. Recovery of Streptococcus and Pneumococcus from the Blood. R. T. Pettit, Ottawa, Ill.
4 *Infection by Gas Bacillus in Coal-Mines. O. Koltz and W. L. Holman, Pittsburgh.
5 Cleaning Efficiency or Sanitary Value of Vacuum Cleaners. W. D. Frost and V. Armstrong, Madison.
6 Susceptibility of Certain Domestic Animals to Plague Infection, with Particular Reference to that of Ground-Squirrel Origin. G. W. McCoy and C. W. Chapin, U. S. P. H. and M.-H. S.

7 *Nature of Proteolytic Substances in Blood. G. F. Dick, Chicago.
8 *Comparative Virulence of Pneumococcus in Sputum of Lobar Pneumonia at Various Stages of Disease, with Special Reference to Crisis. J. A. Luetscher, Baltimore.
9 Blood of Dairy Cows in Tick-Infested Regions. R. P. Hibbard and D. C. Neal.
10 Interpretation of Tests for B. Coli Communis. W. R. Copeland and C. P. Hoover, Columbus, Ohio.
11 *Experimental Immunity with Reference to Leprosy Bacillus. C. W. Duval, F. B. Gurd and R. Hopkins, New Orleans.
12 *Specific Antibodies in Scarlet Fever. K. K. Koessler and J. M. Koessler, Chicago.
13 Relation of Illuminating Gas to Public Health. W. T. Sedgwick and F. Schneider, Boston.
14 Mankato Typhoid Epidemic of 1908. H. M. Bracken, F. H. Bass, F. F. Wesbrook, H. A. Whittaker and H. W. Hill, St. Paul.

3. **Secondary Infection in Pulmonary Tuberculosis.**—A total of 130 cases, including instances of all stages of pulmonary tuberculosis, from passive incipient involvement to far-advanced active processes with cavity formation, were examined by Pettit. Streptococci and pneumococci were recovered from the blood in sixty. Positive blood cultures were obtained in a relatively small number of cases classed as "incipient," whereas the percentage was almost three times as great among the "advanced" cases. From the "far-advanced" cases the percentage of positive results was almost twice that among the "advanced" cases and four times that of the "incipient" cases; fifty-eight of the sixty positive cultures were obtained from "advanced" and "far-advanced" cases. Approximately two-thirds of the positive cultures were obtained from individuals showing a very distinct afternoon fever.

4. **Infection by Gas Bacillus in Coal Mines.**—There appears, from the authors' findings, to be an unusual frequency of infection by the gas bacillus among those receiving lacerated injuries in the coal-mines. This infection gives all the clinical manifestations of gaseous phlegmon while the bacteriologic analysis indicates the presence of a member of the *B. welchii* group of organisms. The clinical observation of a rapid destruction of the red blood-cells during life in these infections is of interest and is probably associated with the rapidly fatal course in many cases. The hemolytic effect may also be observed in cultures.

7. **Proteolytic Substances in Blood.**—The results of Dick's experiments would indicate that the proteolytic substances of the blood are of a nature resembling that of the immune bodies, especially the lysins.

8. **Virulence of Pneumococcus in Lobar Pneumonia.**—Luetscher believes that crisis is not a result of any change in the virulence of the pneumococcus. As long as pneumococci are expectorated from the lungs (for a short time in cases with crisis, for a longer period in cases with lysis) the organisms retain practically their original virulence. Strains obtained from pharyngeal swabs during the pneumonic process have the same virulence as those obtained from the sputum. Strains obtained from pharyngeal swabs after the lungs have resolved and expectoration has ceased, have a relatively low grade of virulence. A strain obtained from the throat of a patient not ill with pneumonia, had the same relative virulence as strains obtained from the throats of convalescent patients in whom the physical signs had disappeared. Loss of virulence of organisms obtained from the throats of patients who have recovered from pneumonia, seems to be due to an unfavorable action of the saliva. From the results obtained in one case, there does not seem to be any difference in virulence of the organisms obtained from the blood and those obtained from the sputum.

11. **Experimental Immunity Against Leprosy Bacillus.**—In none of the cases treated by the authors with leprosin have new lesions developed after the local reaction was obtained. In early cases there is a complete subsidence of all visible lesions and other signs of the disease in four to six months after systematic treatment has been begun and carried out. They believe, therefore, that the proper administration of the product of *B. lepræ*, whether the protein extract or the whole killed bacilli are used, will not only ameliorate the condition of the leper but in early cases, including both types of the disease, will bring about a permanent cure.

12. **Specific Antibodies in Scarlet Fever.**—The authors believe that the serum of scarlet-fever patients contains specific antibodies for an unknown virus. This unknown virus seems to be present especially in the cervical lymph nodes.

Texas State Journal of Medicine, Fort Worth

November, VII, No. 7, pp. 183-208

15 *Intestinal Anastomosis by Invagination. W. W. Grant, Denver.
16 Blood-Pressure in Practice of Medicine and in Life Insurance. J. S. Lankford, San Antonio, Tex.
17 Prevention of Influenza. W. Shropshire, Yoakum, Tex.
18 Colitis. W. H. Stauffer, St. Louis.
19 Tendency of Modern Surgery. J. M. Inge, Denton, Tex.

15. Appeared in *Surgery, Gynecology and Obstetrics*, August, and abstracted in The Journal, Sept. 9, 1911, p. 925.

New Orleans Medical and Surgical Journal

November, 64, No. 5, pp. 335-410

20 *Problem of "Nervous Indigestion." G. M. Niles, Atlanta, Ga.
21 Cleaner and More Healthful New Orleans. C. Chassaignac, New Orleans.
22 *Paratyphoid Fever and Its Prevention by Means of Trivalent, Anti-Typhoid Vaccine. R. Lyons, New Orleans.
23 Epidemiologic Features of Plague in South America. H. D. King, New Orleans.
24 Painless Hematuria. F. C. Walsh, San Antonio, Tex.
25 Proper Feeding of Infants. C. H. Rice, New Orleans.
26 *Results of Investigation Concerning Extent of Uncinariasis in Louisiana. S. D. Porter, New Orleans.

20. **Nervous Indigestion.**—The whole plan of treatment outlined by Niles is based on reinforcing the weakened digestive functions, wherever situated, pressing every procedure with kindly interest and sympathetic optimism, keeping the patient as busy as practicable, heading off doubts and fears, springing, if possible, some therapeutic surprise at every visit, encouraging each glimmering ray of hope, providing ample calories, so that bodily strength may promote nervous equilibrium, and, without slighting the main issues, taking cognizance of the countless little intercurrent and irritating ills always present.

22. **Paratyphoid Fever.**—The average duration of fever in the four cases cited by Lyons was approximately fourteen days. All patients complained at the onset of headache, rather severe in character. All patients presented a palpable spleen at some time during the course of the disease. In one case mention is made of rose spots. There was a tendency to constipation, necessitating enemata. In Lyons' own case the patient took a purge and his bowels remained loose until convalescence. The relative slowness of the pulse as compared to the degree of temperature, so commonly observed in typhoid, was present in all four cases. The temperature curves show nothing distinctive except, perhaps, some tendency to irregularity. None of the patients showed any mental symptoms, as delirium, etc. On the whole the cases differed in no material way from a very mild type of typhoid. Lyons found in this study that an attack of typhoid or anti-typhoid vaccination does not protect against paratyphoid infection. The advantage of the trivalent anti-typhoid vaccine over the ordinary anti-typhoid vaccine is that the individual inoculated is immunized at the same time, not only against typhoid, but also against paratyphoid infections.

26. **Uncinariasis.**—Porter quotes figures to impress the relation between soil pollution and uncinariasis. One thousand eight hundred and five microscopic examinations taken at random showed 40 per cent. infection. In the nine Southern states now conducting an active campaign for the eradication of uncinariasis 101,735 persons have been examined and 43,000 cases of uncinariasis diagnosed.

Journal of Medical Society of New Jersey, Orange

November, VIII, No. 6, pp. 283-336

27 Early Diagnosis of Pulmonary Tuberculosis. I. E. Charlesworth, Bridgeton, N. J.
28 *Excision of Superior Maxilla for Sarcoma of Antrum. W. B. Johnson, Paterson, N. J.
29 Operation for Cleft Palate After Infancy. L. Emerson, Orange, N. J.
30 Diagnosis and Treatment of Some Special Conditions Seen in Epileptics. W. T. Shanahan, Sonyea, N. Y.

28. Abstracted in The Journal, July 22, 1911, p. 317.

Bulletin of Medical and Chirurgical Faculty of Maryland, Baltimore

November, IV, No. 5, pp. 73-85

31 *Why Should Physicians Attend Medical Societies? L. F. Barker, Baltimore.
32 Central Directory of Registered Nurses. J. Ruhrah, Baltimore.

31. **Why Should Physicians Attend Medical Societies?**—One's standing in the medical profession can, says Barker, to a certain extent, be measured by his relation to the various medical societies. Some physicians attend no medical society at all; these represent, on the whole, the lowest stratum of the profession. Others attend only their town or county medical society. Still others enjoy, in addition, the meetings of the state society and of certain special societies dealing with the parts of medicine in which they are particularly interested. The more advanced members of the profession in every community attend the American Medical Association. Only a few of the hardest workers and best known men in the profession attend the special national associations and international congresses. Medical societies have grown more interesting and more profitable with the general rise of private scientific societies during the 19th century. Most thinking men in the medical profession have seen the necessity of improving the organization of medical knowledge. It is a great advantage to physicians to meet one another on common ground, where they can compare their results and collect facts which will help them in their work. Two features of the more recent development of medical societies have been (1) the tendency to increase in number and (2) the tendency to become more and more specialized. There are both advantages and disadvantages accompanying these tendencies. The time consumed in attending a large number of meetings is considerable; it is rare that any one physician can attend all the general and special medical meetings held in a large city; he s compelled to make a selection. The specialization which has occurred is beneficial in that it leads small groups of men interested in the same subject, to meet together and to discuss problems in which they are really interested. It is necessary, however, to have a certain number of medical societies of more general nature, in order that there may be a proper synthesis and coordination of the scattered work of he special societies, so that in the first place, the general practitioner may profit by it, and, in the second place, the pecial worker in each branch may keep in touch with med-cine as a whole.

Journal of Medical Association of Georgia, Augusta

November, I, No. 4, pp. 117-152

33 The Gall-Bladder. J. L. Campbell, Atlanta.
34 *Drinking Water with Meals: A Physiologic and Dietetic Study. G. M. Niles, Atlanta.
35 *Penetrating Wounds of Abdomen. J. R. B. Branch, Macon.
36 Why Medical Association of Georgia Should Lend Its Influence in Revising Present Commitment Laws of Insane in Georgia. J. C. King, Atlanta.
37 Observations on Alimentary Canal. J. C. Brock, Carrollton.
38 Congenital Intestinal Occlusion. G. A. Wilcos, Augusta.
39 Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax. S. T. Harris, Valdosta.

34. Abstracted in The Journal, June 10, 1911, p. 1755.

35. Abstracted in The Journal, May 27, 1911, p. 1603.

Buffalo Medical Journal

November, LXVII, No. 4, pp. 181-242

40 Case of Myoclonus Associated with Unilateral Epileptoid Convulsions. J. W. Putnam and E. A. Sharp, Buffalo.
41 *Treatment of Subacute Gonorrhea and Complications. C. W. Bethune, Buffalo.
42 Polarimetry as Applied to Urinalysis. H. F. Lichtenberg.
43 The Austin Flood. E. H. Ashcraft, Coudersport, Pa.
44 Three Years with Army of Potomac. W. W. Potter, Buffalo.

41. **Treatment of Subacute Gonorrhea.**—Bethune has found he following formula to be very soothing as a local application in epididymitis:

℞	Gm. or c.c.			
Mentholis	1		or	gr. xv
Ung. Belladonnæ	1	33		gr. xx
Ung. Credé	2			gr. xxx
Ichthyolis	4			gr. lx
Petrolati, q.s.	ad 30			oz. i

The swelling subsides in about ten days.

Journal of Oklahoma State Medical Association, Muskogee

November, IV, No. 6, pp. 221-274

45 *Surgery of Urachus. R. V. Smith, Guthrie, Okla.
46 Theories of Immunity and Vaccine Therapy. W. R. Bevan, Oklahoma City.
47 Case of Eclampsia and Treatment. L. T. Strother, Nowata, Okla.
48 Case of Acute Catarrhal Laryngitis (Not Diphtheritic) Requiring Intubation. D. D. McHenry, Oklahoma City.
49 Diagnosis and Treatment of Acute Appendicitis. J. E. Gilcreest, Gainesville, Tex.
50 Management of Normal Labor. G. W. Graves, Hitchita, Okla.
51 Prevention of Postoperative Pain and Shock. L. F. Watson, Oklahoma City.

45. **Surgery of Urachus.**—Smith reports three cases. The first case was that of a girl 5 years old. In attempting a rapid incision to drain a diffuse suppurative peritonitis originating in the appendix, he made an opening nearly an inch long in a patent urachus. The second case was that of a girl, aged 16. In making a 2-inch median incision when operating for acute appendicitis, Smith found a fibrous band ¾ inch across at the lower angle of the wound outside of the peritoneum. A closer investigation revealed a patent urachus extending 1 inch from the pubic arch. The third patient was a man 34 years old. This patient gave a history of trouble at the umbilicus since childhood, though he could never recall having had any leakage of urine at the navel. His present trouble dated back about three months previous to the time of coming to hospital. Examination revealed a small, strawberry-like tumor protruding from the navel and a hard, indurated mass extending for about 2 inches on either side, including the greater part of both recti muscles. This mass could be traced well down towards the pubic bone. Quantities of foul-smelling pus exuded from the umbilicus. The operation consisted of entire removal of the mass down to and including a large part of both recti and a section of peritoneum. Well down in the tumor about 2½ inches from the navel was found a mass of sebaceous material about equal in size to a pigeon's egg. The pedicle of this tumor proved to be a broad, fibrous urachus about 1 inch across and ⅜ inch in thickness. The gross appearance of the mass was that of malignancy, yet the pathologic report showed the strawberry excrescence to be papillomatous and the other main portions of tumor fibrous tissue.

Journal of the Tennessee State Medical Association, Nashville

November, IV, No. 7, pp. 251-279

52 Operative Treatment of Acute Gonorrheal Epididymitis. P. Bromberg, Nashville.
53 When Does the Gonorrheic Cease to Be Infectious? C. F. Anderson, Nashville.
54 Treatment of Cancer of the Skin and Mucous Membrane. J. M. King, Nashville.
55 Submucous Resection of the Nasal Septum. E. C. Ellett, Memphis.
56 *Duty of Country Physician to the Mother and Child. H. C. Curtis, Algood.
57 Surgery of the Intestines; Report of Cases. J. H. Carter, Memphis.
58 Problem of Longevity as Related to Life Insurance. J. W. Johnson, Chattanooga.

56. Abstracted in The Journal, May 6, 1911, p. 1355.

Louisville Monthly Journal of Medicine and Surgery, Ky.

November, 18, No. 6, pp. 162-192

59 *Medical Tendencies. R. H. Babcock, Chicago.
60 *Indebtedness of Posterity to Pioneer Surgeon of Mississippi Valley. J. D. Bryant, New York.
61 *Physicians and the People. J. C. Wilson, Philadelphia.
62 *Certain Factors Relative to Etiology of Pellagra. C. C. Bass, New Orleans.

59, 60 and 61. Abstracted in The Journal, Nov. 11, p. 1635.

62. **Etiology of Pellagra.**—Bass has been able to produce a disease in a fowl with skin lesions exactly resembling those of pellagra in man by feeding corn-meal spoiled by inoculation with a pure culture obtained from a supposed source of pellagra.

Journal of the American Public Health Association, Columbus

October, I, No. 10, pp. 677-749

63 An Isolation Hospital Built and Operated by a City Department of Health. R. E. Wodehouse, Fort William, Ontario.
64 *Yellow Fever Has Dissappeared from the Mexican Republic. E. Liceaga, Mexico City, Mexico.
65 Effect of a High Tax on the Struggle Against Alcoholism. R. Serrano, Puebla, Mexico.
66 Influence of Storage and Various Preservatives on the Dissolved Oxygen in Waters. A. Lederer, Chicago.
67 Diphtheria and Its Prophylaxis. J. F. Arteaga, Havana, Cuba.

64. Abstracted in The Journal, Sept. 24, 1911, p. 1837.

St. Paul Medical Journal, Minn.

November, XIII, No. 11, pp. 483-522

68 Technic in Brain Surgery. R. Earl, St. Paul.
69 *Gonorrheal Endocarditis Which Developed During Convalescence, After Series of Gynecologic Operations. J. L. Rothrock, St. Paul.
70 Acute Meningeal Infection; Case for Diagnosis. C. E. Riggs and E. M. Hammes, St. Paul.
71 Cerebellar Cyst Associated with Tubercular Meningitis. E. M. Hammes, St. Paul.

69. **Endocarditis.**—In Rothrock's case the patient had a recent gonorrheal urethritis at the time of the operation and which was contracted shortly before the operation. It became necessary to catheterize this patient a few times immediately following the operation. Rothrock propounds the query: could the passage of the catheter over the inflamed mucous membrane of the urethra have opened up the atrium for the passage of the bacteria, or dislodged a small thrombus which might have been swept into the blood-current?

Wisconsin Medical Journal, Milwaukee

October, X, No. 5, pp. 243-273

72 Present Understanding of the Rheumatoid Diseases. J. E. Goldthwait, Boston.
73 Action of Arsenic on the Skin. R. G. Washburn, Milwaukee.
74 Axis Traction Forceps. J. P. McMahon, Milwaukee.
75 Rupture of Abdominal Viscera Without External Injury. J. F. Smith, Wausa.

72. Abstracted in The Journal, July 22, 1911, p. 315.

Kentucky Medical Journal, Bowling Green

September 15, IX, No. 18, pp. 787-808

76 Is Yankhauer's Recent Work a Real Discovery in Otology? G. C. Hall, Louisville.
77 Management of Acute Appendicitis and Indications for the Interval Operation. H. H. Grant, Louisville.
78 Ulcer of the Stomach. J. D. Hamilton, Louisville.
79 Congenital Hypertrophic Stenosis of the Pylorus; Report of Case. E. F. Katzmann, Louisville.
80 Laryngeal Stenosis: Possibly Non-Diphtheritic. E. F. Katzmann, Louisville.

Illinois Medical Journal, Springfield

November, XX, No. 5, pp. 501-606

81 *Rabies. A. M. Stimson, Washington, D. C.
82 *Euglobulin Reaction in Urine. A. R. Elliott, Chicago.
83 Unilateral Pyelonephritis. E. Mammen, Bloomington, Ill.
84 *Functional Kidney Diagnosis. L. E. Schmidt and H. L. Kretschmer, Chicago.
85 *Diagnosis and Treatment of Infections of Renal Pelvis. L. W. Bremerman, Chicago.
86 *Anesthetist as Member of Surgical Team. T. W. Gillespie, Peoria, Ill.
87 Clinical Manifestations of Arteriosclerosis. A. M. Miller, Danville, Ill.
88 Englewood Typhoid Fever Epidemic. A. G. Bosler, Chicago.
89 *New Tonsil Hemostat: Its Routine Use in Tonsillectomy. A. M. Corwin, Chicago.
90 What General Practitioner Should Know About the Eye. E. C. Spitze, Edwardsville, Ill.

81. **Rabies.**—Wounds received from any animal in which rabies is suspected, Stimpson says, should be cauterized as soon as possible, preferably with nitric acid and a physician consulted as to the advisability of taking the Pasteur treatment. He calls this treatment a makeshift because it is an attempt (usually successful to be sure) to ward off the evil effects of an infection which should never have occurred. The evidence of the efficacy of this treatment has heretofore been statistical and by inference from animal experiments. We can now add to this the fact that the blood-serum of persons and animals so immunized contains specific antibodies, which are capable of destroying the virus in a test-tube. But this treatment is expensive, time-consuming, somewhat painful and not absolutely certain, since a small percentage (about 0.5 per cent.) of treated persons die of hydrophobia despite treatment. Those who have to do with dogs should bear in mind if one becomes sick it may possibly be coming down with rabies, especially if opportunity for infection has occurred. A change in disposition, unusual affection and desire to be petted or the opposite, surliness and a desire to be alone, and extreme restlessness, should excite suspicion and the animal should be confined in a safe place for a few days of observation. A very common source of infection is by exposure to saliva while attempting to remove a supposed bone from the throat of a dog which is in reality suffering from paralytic rabies. Better let the veterinarian remove the bones; it is dangerous, but his business. When a person has been bitten by a dog there is a tendency on the part of many people to kill the animal immediately. This is bad practice for several reasons: The dog may have had nothing the matter with it, or may have been suffering from some other disease than rabies, as a few days of observation would have shown. Or it may have been in the early stages of rabies when the characteristic Negri bodies are sometimes insufficiently developed to make an early diagnosis possible. Of course when the dog is furious and manifestly dangerous to approach, it must be killed, but even then preferably after a veterinarian has had an opportunity to see it. When a dog has died or been killed for suspected rabies the head of the animal should be sent as expeditiously as possible to the laboratory for diagnosis and in the warm months it should be packed in ice.

82, 84 and 85. Abstracted in The Journal, June 17, 1911, p. 1843.

86. **Anesthetist as Member of Surgical Team.**—Miller insists that the anesthetist should have a general working knowledge of the technic of the particular surgeon with whom he is working. The anesthetist should be a graduate of medicine, familiar with surgical conditions and having a knowledge of sensitive and non-sensitive structures. He should follow each stage of the operation as it proceeds and vary the anesthetic accordingly.

89. Also published in The Journal, Nov. 4, 1911, p. 1533.

Lancet-Clinic, Cincinnati

October 21, CVI, No. 17, pp. 414-427

91 *Medical Tendencies. R. H. Babcock, Chicago.
92 *Doctors and the People. J. C. Wilson, Philadelphia.
93 *The Indebtedness of Posterity to the Pioneer Surgeons of the Mississippi Valley. J. D. Bryant, New York.
94 Ancient House Doctors and Interns. T. C. Minor, Cincinnati.

October 28, CVI, No. 18, pp. 441-446

95 Surgery of the Lungs: Pneumonectomy. B. M. Ricketts, Cincinnati.
96 Letters to Physicians: Nameless, Indescribable and Mysterious Suffering. G. M. Gould, Ithaca, N. Y.
97 Ancient House Doctors and Interns. T. C. Minor, Cincinnati.

November 4, CVI, No. 19, pp. 466-484

98 Alcoholic Problems in Medical Examinations: T. D. Crothers, Hartford, Conn.
99 Imperative Problems of Medicine. J. Krauss, Boston.
100 Auto-Therapy. C. H. Duncan, New York.
101 Old Days and New. J. C. Reeve, Dayton, Ohio.

November 11, CVI, No. 20, pp. 500-505

102 Relation of the Alienist to the General Practitioner and to the Public. R. H. Cook, Oxford, Ohio.
103 Plastic Repair of the Penis. E. O. Kane, Kane, Pa.
104 Surgery of the Lungs. B. M. Ricketts, Cincinnati.
105 Ancient House Doctors and Interns. T. C. Minor, Cincinnati.

91, 92 and 93. Also published in the *Louisville Journal of Medicine and Surgery* and abstracted in The Journal, Nov. 11, 1911, p. 1635.

Denver Medical Times and Utah Medical Journal, Denver

November, XXXI, No. 5, pp. 169-212

106 *Plan for Uniting Medical Profession in Effort to Maintain Highest Possible Standard of Ethics. I. B. Perkins, Denver.
107 Physical and Functional Defects Resulting from Nasal Obstruction. C. F. Osgood, Ogden, Utah.
108 Diseased Children. J. N. Hurty, Indianapolis.
109 Menace of Clandestine Prostitution. G. H. Bogart, Terre Haute, Ind.

106. **Plan for Uniting Medical Profession.**—The essential features of the plan proposed by Perkins are to organize societies for the purpose of dealing with ethical questions only, whose object would be to educate the profession and in some instances, perhaps, the public as well, along ethical lines; also to discuss any and all questions of ethics and to decide by vote what is or is not ethical and to make such by-laws as may be agreed on, for the purpose of governing the actions of its members, and in all ways to work for the maintenance of the highest possible ethical standard. Then publish a list of all the members of the Medical Ethics Society so that the public may know who are members in every locality. Also publish the by-laws of the society. Drop from membership anyone who fails to live up to the by-laws and

publish his name as having been dropped. The plan contemplates the formation of state, county and national societies on similar lines of organization to the present county, state and national societies.

Virginia Medical Semi-Monthly, Richmond

October 27, 16, No. 374, pp. 341-364

110 Medicine: Its Function, Scope and Limitations. O. C. Wright, Jarratt, Va.
111 Chronic Colitis. J. R. Verbrycke, Washington, D. C.
112 Sanitation in Virginia Cities and Towns. R. K. Flannagan, Richmond.
113 Management of Post Parturient Period. G. Baughman, Richmond.

New York Medical Journal

November 18, XCIV, No. 21, pp. 1009-1056

114 *Relation of Pharmacopeia to Practice of Medicine. S. Solis-Cohen, Philadelphia.
115 Inspection. M. I. Knapp, New York.
116 Value of Patients' Histories. B. Robinson, New York.
117 Sigmoidoscopy. A. Bassler, New York.
118 *Relation of Natural Antisheep Amboceptor to Wassermann Reaction. H. L. B. Peters, New York.
119 *Exophthalmos in Nephritis: Its Etiology. L. A. Levison, Toledo, Ohio.
120 Obscure Symptomatology with Tumors of Fourth Ventricle. G. R. Lafora, Washington, D. C.
121 *Purpura. D. Elliott and H. S. Martland, Newark, N. J.
122 Unusual Case of Lichen Planus in Negro. J. L. Kirby-Smith, Jacksonville, Fla.

114. **Pharmacopeia and Practice.**—Solis-Cohen objects to the prescription of drugs, unless they are intended to effect a necessary and definite purpose, indicated by pathologic and pharmacologic knowledge, or by well attested empiric observation. This objection applies to a drug that is not needed; to a drug that cannot effect the physician's purpose; to the wrong dose—too much or too little, one is as bad as the other—and to a drug that will harm instead of helping. It does not apply to a drug chosen wisely and skilfully administered. After all, the correct application of any and all remedial methods rests on the judgment and the knowledge—the wide knowledge and the balanced and comprehensive view—the discrimination and the common sense of the physician who applies them. He says, let us rejoice that year by year, day by day, our resources are increasing, our knowledge is enlarging. But let us not deceive ourselves with the idea that our knowledge is final; that we can be dogmatic in rejection or acceptance; or that the view of any individual, however learned or however able, can compass the whole vast domain of medical science and art.

118. **Antisheep Amboceptor.**—In a series of tests made by Peters using a cattle instead of a sheep system as indicator, the results have been uniformly good. No negative cases gave positive reaction, while of the cases of clinical syphilis, the reaction was found to be 12 per cent. more sensitive than with the sheep system. In each case in which a positive reaction was obtained with the cattle system, and a negative with a sheep system, the serum was found to contain more than 2 units of natural antisheep amboceptor. Cattle corpuscles are as easily obtained as sheep, and are used in the same dilution. The reaction with them as with sheep corpuscles is clearly cut; there is no agglutination or precipitation such as often occurs when a human system is used.

119. **Exophthalmos in Nephritis.**—Levinson believes that exophthalmos occurs in chronic nephritis to a much greater extent than has been supposed. He reports two cases.

121. **Purpura.**—The authors report a case of purpura fulminans developing in a baby 1 year old, in the course of a pneumococcus pneumonia. They think the evidence is strong enough to consider purpura fulminans as a secondary toxic purpura and not as a distinct clinical entity.

Medical Fortnightly, St. Joseph, Mo.

October 25, XXXX, No. 8, pp. 431-452

123 Neuro-Functional Disturbances in Children and Best Treatment to Prevent and Correct Resultant Deformities. J. W. Cokenower, Des Moines, Iowa.
124 Some Thyroid Problems. C. B. Davis, Chicago.

Boston Medical and Surgical Journal

November 16, CLXV, No. 20, pp. 747-780

125 *Use of Whole Milk and Fat-Diminished Milk in Infant Feeding. E. A. Darling, Cambridge, Mass.
126 Southern California as Winter Resort. G. G. Sears, Boston.
127 *Bone Plates and Clamps in Excisions of Knee-Joint. L. A. O. Goddu, Boston.
128 *Sciatica: Etiology and Treatment. M. H. Rogers, Boston.

125. **Whole Milk and Fat Diminished Milk in Infant Feeding.**—The main points made by Darling are: (1) That cow's milk unmodified or modified simply by dilution or removal of part of its fat content is a suitable food for infants. (2) That digestive disturbances in babies fed on cow's milk are usually due to an excess of fat. (3) That the caloric requirement according to the age and weight of the infant is the best guide in calculating the amount of food to be given.

127. **Bone Plates and Clamps in Excisions of Knee-Joint.**—Goddu presents a general summary of eight excisions of tuberculous knees, in which metal plates or clamps were used to keep the cut surfaces in good position. It is very interesting to note how tolerant disease tissue is of the presence of metal plates; and that the results obtained by their use seem to justify the employment of this fixative method in these operations. Six patients, three with plates and three with clamps, showed good union in three to six weeks after operation. The two cases which did not give as good results were two in which reexcisions were done, a fact which leads Goddu to infer that these patients lacked ability to form proper callus, rather than anything due to the presence of the plates. Both patients have now practical ankylosis; one at a period eight months after operation, the other nine months after. All of the cases were not specially picked, but such as were operated on as they presented themselves one after the other in the general routine of the clinic. The knee-joints presented those from a mild to a marked disintegration. The ages of the patients varied from 18 to 57 years. The period of conservative treatment varied from two to seven years. It is now about two years since the first knee in which plates were used was operated on, and the patient has had no symptoms. The same may be said of the other patients.

128. **Sciatica.**—Sciatica is referred pain due to some lesion near the sacral plexus, and is not a clinical entity. The most common cause is a disturbance of the sacro-iliac joint, so that, according to Rogers, treatment should be directed toward the joint lesion rather than the referred nerve pain.

New Mexico Medical Journal, Las Cruces

October, VII, No. 1, pp. 1-34

129 Mastoid Surgery. E. H. Irvin, El Paso, Tex.
130 Septal Deviations. L. T. Ritchie, Trinidad, Colo.
131 Dental Surgery. C. A. Eller, Albuquerque, N. Mex.
132 Tonsillectomy. W. G. Shadrach, Albuquerque, N. Mex.
133 Abscess of Liver. W. G. Hope, Las Vegas.
134 Control of Small-Pox in Rural Districts and Small Municipalities. H. M. Bracken, St. Paul.

Archives of Internal Medicine, Chicago

November 15, 8, No. 5, pp. 557-716

135 Congenital Obliteration of Bile-Ducts. C. P. Howard, Iowa City, Iowa, and S. B. Wolbach, Boston.
136 *Duodenal Diagnosis: Roentgen-Ray Considerations. E. H. Skinner, Kansas City, Mo.
137 *Ameboid Movements in Macrocytes and Megaloblasts. R. S. Morris, St. Louis, and W. S. Thayer, Baltimore.
138 *Effect of Some Hydrotherapeutic Procedures on Blood-Flow in Arm. A. W. Hewlett, J. G. Van Zwaluwenberg and M. Marshall, Ann Arbor, Mich.
139 *Investigation of Depressor Action of Pituitary Extracts. C. P. McCord, Ann Arbor, Mich.
140 *Hemolytic Skin Test for Cancer. L. M. Warfield, Milwaukee, Wis.
141 *Recovery of Typhoid Bacillus-Carrier During Vaccine Treatment. W. V. Brem, Los Angeles, and F. C. Watson, Cristobal, Canal Zone.
142 Subacute Liver Atrophy. L. S. Milne, New York.
143 *Diagnostic Value of Mitotic Figures in Cells of Serous Exudates. L. F. Warren, Ann Arbor, Mich.
144 *Percussion Signs of Persistent or Enlarged Thymus. T. R. Boggs, Baltimore.
145 *Nitrogen and Fat Metabolism and Other Functional Tests in Chronic Pancreatitis. H. G. Barbour, Baltimore.
146 Metabolism in Case of Idiopathic Osteopsathyrosis. A. Bookman, New York.
147 Coagulation-Time of Blood as Affected by Various Conditions. M. Solis-Cohen, Philadelphia.

136. Abstracted in The Journal, Oct. 14, 1911, p. 1309.

137. **Ameboid Movements in Macrocytes and Megaloblasts.** Since the observations made by Thayer of ameboid movements in a megaloblast, the authors have studied the fresh blood of five severe anemias. In three of the bloods examined

ameboid motion was striking not only in many of the megaloblasts but also in the macrocytes. The absence of ameboid activity in the two remaining cases is attributed to the almost complete lack of unusually large cells in the blood. To determine the effect of temperature, specimens were examined on the warm stage at body heat. It was impossible to see any difference in the ameboid activity of cells studied in this way and those at room temperature. The cells, both megaloblasts and macrocytes, exhibiting ameboid movements were for the most part well colored, many seeming to be richer in hemoglobin than the average cell. A few, paler than the majority of the surrounding reds, were seen to change form, but no difference was determined in the motion of such cells and those more highly colored. No suggestion of crenation was observed in the ameboid cells. That the alterations in shape observed were not the result of osmosis is made probable by the absence of shadows or crenated erythrocytes in the neighborhood of those studied, and, further, by the fact that smaller red cells and many which were large remained immobile.

Many poikilocytes and normocytes were studied. In no case was there the least evidence of change in form while they were under observation.

138. **Effect of Hydrotherapeutic Procedures on Blood-Flow in Arm.**—The authors found that when hot water is applied to the arm, the local rate may be increased from four to eight times, and when cold is applied the local rate may fall to one-half or one-fourth of the original. These variations are often associated with similar, though less marked changes in the blood-flow in the opposite arm. The latter is also influenced by the room temperature and the chillness or warmth of the individual. A diminution of the contractile power of the vessels may occur after exposure to excessively hot water. General hot procedures cause a marked acceleration in the blood-flow through the arm, and general cold procedures without exercise, friction or drying decrease the blood-flow in the arm. When exercise, friction and drying are given with cold procedures, the slowing may be more or less neutralized and the rate may even be raised somewhat above the original. Acceleration of blood-flow in an arm not directly exposed to the hot procedure is due in the main to reflexes excited by thermic stimulation of the cutaneous sense organs. The rise of body temperature, however, tends to prevent an excessive contraction of the peripheral vessels when the individual is exposed to cold. If the body temperature is subnormal an immediate reaction may follow cold procedures which are accompanied by friction and exercise, but the individual is liable to become chilly later.

Reactions are usually, but not necessarily, accompanied by normal or moderately increased rates of flow.

139. **Depressor Action of Pituitary Extracts.**—McCord claims that the depressor action of pituitary extract elicited by repeated injections is not due to the fatigue of any peripheral mechanism, nervous or muscular. Perfusion experiments indicate that it constricts all the blood-vessels of the body by a direct action on the muscles of the arterioles, and often repeated injections show practically no decrease in the constrictor reaction. Organs removed from animals giving only a depressor reaction with pituitary extract show on perfusion with the extract in Locke's solution the typical constriction of their vessels. The depression of blood-pressure following numerous injections of pituitary extract is not due to an overbalancing of peripheral constriction by a central dilator influence. Such a counteracting dilator influence of central origin is always weak and no more pronounced after repeated than after the initial reaction, and moreover it does not come on until the fall of pressure is at its lowest. Sudden depression or slowing of the heart, though occasionally showing as a notch in the blood-pressure records, is not the cause of the typical drop in pressure obtained after repeated injections, for such depression is not similar either in conformation or in time to the depression obtained by the latter means, and may in fact exceptionally occur with a strengthened heart. Experiments indicate that when the blood becomes sufficiently saturated with pituitary extract, an interaction takes place which converts its constricting action on the peripheral vessels into a dilating one.

140. **Hemolytic Skin Test for Cancer.**—A total of all the injections made by Warfield shows that 67.6 per cent. were negative and 32.4 per cent. positive. In spite of the fact that tuberculous persons are said to possess more isohemolysins than normal persons, the figures of a few cases show 66.6 per cent. negative reactions. Leaving out the cases of malignant tumors, there are sixty-four cases with twenty positive and forty-four negative. This is quite different from the 94 per cent. negative reactions found in all other diseases by Elsberg, Neuhof and Geist. It seems evident that the same irregularities obtain in the hemolysis *in vivo* as that *in vitro*. The most evident point brought out by Warfield is that the test cannot be said to be of any great value in the diagnosis of early carcinoma.

141. **Typhoid Bacillus-Carrier.**—The patient in this case was a white child, female, aged 4½ years. Shortly after her attack of typhoid fever, her father and mother were infected. Typhoid organisms in pure culture were isolated from the child's urine. Hexamethylenamin had been administered to the patient during two weeks of convalescence from the typhoid attack. Practically the only treatment given was vaccination with autogenous vaccines. Nine doses were given, increasing from 25 to 1,500 million. The bacilli decreased gradually and disappeared after the ninth vaccination. Eleven successive urine cultures were positive for *B. typhosus* and then five successive cultures were negative. The total duration of the bacilluria, from the time of normal temperature, was about six months. The patient appeared to be a continuous carrier. It seems that the disappearance of the bacilli was not an intermission but a true recovery, brought about by the gradual healing of a chronic lesion under the influence of vaccination.

143. **Mitotic Figures in Cells of Serous Exudates.**—Very many cells undergoing mitotic division in serous exudates are almost diagnostic of malignant disease. Warren believes that this occurs more often in sarcoma than in carcinoma. A small number of mitotic figures is suggestive of malignant disease but is of no certain value in diagnosis. In the majority of the exudates associated with malignant disease no division figures are seen.

144. **Percussion Signs of Persistent or Enlarged Thymus.**—The differentiation of dulness in the mediastinum due to thymus enlargement from other masses in this region Boggs says will depend on several factors. The thymus is higher and more superficial than the mediastinal lymph-glands usually involved in tuberculous or other mediastinitis, or which may be the seat of primary or metastatic tumors. Thoracic aneurysms, tumors or inflammatory masses of the mediastinum are practically fixed in position and no considerable change in percussion is made out, when the head is retracted. Thymus dulness is almost constantly much more marked on the left of sternum than on the right. Thymus dulness can be made to shift by the following maneuver, viz.: The patient sits up; the back is supported by the nurse or assistant, if necessary. The chin is depressed toward the sternum. The dulness is outlined behind the manubrium and in the interspaces, then the head is retracted as far as possible toward the mid-line of the back and, on repeating the percussion, the lower border of dulness will be seen to have shifted upward, often as much as an interspace or more. On again depressing the chin, the dulness assumes its former position. In some cases of persistent or enlarged thymus, there may be no dulness in the first interspace, but only in the second and below it. Of the eighty children and five adults, thirty-five children and four adults showed positive signs of persistent or enlarged thymus. This number included twelve of the measles cases. All but three of the positive cases showed general lymphadenitis of varying grades; many had also hypertrophied tonsils. Of the hospital patients, fourteen in number, nine were between 8 and 18 years, and five between 22 and 47. Of the fourteen patients, only five were colored. The children were nearly all sick with acute infections, including typhoid, pneumonia, pleuritis, diphtheria, etc. Of the adults, two had exophthalmic

goiter and two diphtheria, though it is to be observed that these last have still the same signs of enlarged thymus, a year or more after the diphtheria. The extent of dulness varied from 2 to 7 cm. from the midsternal line, the average being about 2.5 to 3 cm. Only two patients could be examined with Roentgen ray. Both had very large glands and showed a shifting shadow in the thymus region to the left of the manubrium. One case of the series came to autopsy, when the percussion findings were amply confirmed by the presence of a gland measuring 9 cm. by 8 cm. by 2 cm.

145. **Nitrogen and Fat Metabolism and Other Functional Tests in Chronic Pancreatitis.**—The case described by Barbour was one of chronic insufficiency of the external secretion of the pancreas subsequent to acute cholecystitis. There was no diabetes at any time. While azotorrhea and steatorrhea were both marked features on admission, the fat absorption was over 95 per cent. during the metabolism observations. The nitrogen absorption during a period without therapy averaged 55.8 per cent. While hydrochloric acid was given, the average was 47.6 per cent. During the feeding of pancreatin (not rhenania) 54.2 per cent. of the ingested nitrogen was absorbed. The nitrogen balance was normal during the metabolism work. Rapid improvement followed the administration of pancreatin (rhenania) and calcium carbonate. None of the other functional tests applied to the case gave significant results. From 4 liters of urine atypical "Cammidge crystals" were isolated.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

November 4, CLXXXI, No. 4601, pp. 1247-1314

1 Acute Iritis. N. B. Harman.
2 Treatment of Diabetes Mellitus. E. I. Spriggs.
3 *Two Cases of Sarcoma of Thymus. W. Sheen, C. A. Griffiths and H. A. Schölberg.
4 *Operative Treatment of Badly United Fractures. W. A. Lane.
5 *Venesection. R. F. Fox.
6 *Prevention of Anthrax Infection Due to Imported Hides and Skins. C. W. Ponder.
7 Treatment of Bubonic Plague by Immediate Incision of Glands. V. B. Nesfield.
8 *Acetonuria in Childhood. R. S. Frew.
9 *Experiments on Causation of Beriberi. E. A. Cooper and C. Funk.
10 Carbolic Acid Coefficient of Disinfectants. F. T. Merchant.
11 Leishmania and Mosquitoes. G. Franchini.
12 Drill and Development: Plea for Universal Military Training. L. B. Crane.

3. **Sarcoma of Thymus.**—These are two cases of primary sarcoma of the thymus occurring in young males, in both of which the chief symptom that caused the patients to seek medical treatment was due to tracheal obstruction. In one, aged 7 years, relief was afforded by opening the superior mediastinum; in the second, aged 18 years, the conditions were more unfavorable and the patient died soon after being seen. In the first case the bilobate character of the growth as revealed at operation, coupled with microscopic examination of some of the pieces of growth then removed, allowed a probable diagnosis of sarcoma of the thymus to be made during life. Both cases were in young males and showed an acute onset; dyspnea, at first in attacks; dilated veins of the neck and thorax, swelling of the lower part of the neck and dulness over the manubrium. Direct laryngoscopic examination was of value in determining the site of the obstruction. Division of the manubrium sterni and the removal of portions of growth pressing on the trachea permanently relieved dyspnea. That these two cases were sarcomata arising primarily in the thymus is suggested by the fact that the main mass of the growth in the chest occupied the situation and had the shape of the thymus. The character of the growth in the neck likewise supported this interpretation, for both cases showed an asymmetric distribution in which the chief bulk of the tumor was on the right side in the position occupied by the thymus when it is found in the cervical region. The microscopic characters, too, were consonant with a sarcoma arising in the lymphoid tissue of the thymus and the malignant nature was established by the destructive infiltration of the surrounding structures and the distant metastases.

4. **Operative Treatment of Badly United Fractures.**—One of the cases reported by Lane represents a badly comminuted fracture of the femur which was operated on five months after the bone had been broken, and the other, multiple fractures of the tibia and fibula operated on twelve weeks after the injury. Both cases had been under the care of very eminent surgeons and in neither, apart from operation, was there the slightest prospect of restoring the patient to active usefulness. Both cases are illustrated by radiograms taken at intervals. They are of particular interest since they show the manner in which callus serves to render secure the junction of a broken and deformed bone in which it has been impossible to obtain any large area of bone apposition without shortening the limb very materially and so reducing its usefulness and the symmetry of the individual in a corresponding degree. They also show that the crystallization of lines of force takes place progressively in a marked manner later in life and for a long period after the union of the fractured ends has been effected. This entails the careful retention of the leg for a considerable time in an apparatus by means of which the weight of the body is transmitted from the tuberosity of the ischium to the foot. Such an apparatus enables the patient to get about at an early stage of convalescence, while the gorging of the limb with blood consequent on the dependent position of the leg during locomotion assists very materially in the formation of callus. Lane urges that great care should be taken to encourage this engorgement within reasonable limits and to avoid any direct pressure on the seat of fracture which is likely to reduce its blood-supply.

5. **Venesection.**—During the past twenty-seven years Fox has employed this treatment in various conditions, often with immediate and striking benefit, sometimes with temporary improvement and sometimes too late to be of any signal service. On no occasion has he found cause to regret the venesection and never has any ill-effect been noticed as a result of it. He has preserved records of eighteen cases and twenty-eight occasions in which he has had recourse to it. Venesection in some cases appears to influence in a favorable manner the progress of specific diseases, both acute and chronic, probably by heightening the natural resistance of the tissues; it helps to restore the balance of the circulation and the normal distribution of the blood by a dilator effect on the arterial system; a small venesection may have a powerful and apparently disproportionate influence, not only in quieting the circulation, but the nerve centers also. This is witnessed in uremic coma or convulsions and in the crises of pain and dyspnea in aneurysm. Excessive blood-pressures have been more or less permanently reduced by venesections far too small to produce such effects in a direct manner. Fox says that such facts as these suggest that the respiratory and vasomotor centers are concerned in these actions; and that there are morbid states of the circulation and the nervous system, both acute and chronic, which are in some unknown manner peculiarly sensitive to a slight reduction in the amount of the circulating blood.

6. **Prevention of Anthrax Infection.**—The process recommended by Ponder consists in placing the dry hides for twenty-four hours in a "soak" which is made up to contain 1 to 2 per cent. of formic acid and 0.02 per cent. of perchlorid of mercury and then "salting" them with sodium chlorid. The action of the "soak" is to swell up the fibers of the hide by causing them to absorb water, the result being that the hide returns to a condition closely resembling that in which it was when taken from the animal's carcass. This swelling action also effects the dry albuminous matter which may be supposed to protect the spores, the perchlorid of mercury therefore permeates the protecting material and its full action can be exerted. Moreover, as has long been known, the presence of the weak acid prevents the rapid deterioration of the germicide from the formation of insoluble albuminates. After the "soak," the "salting," by again abstracting water, converts the hides into a condition which differs very little from the "wet-salted" state of a hide which had been so treated immediately after flaying.

8. **Acetonuria in Childhood.**—Funk found that acetonuria occurs in childhood with great frequency. In the large majority of cases the carbohydrate starvation necessary for its production is caused by a temporary failure of digestion, brought about by change of diet. The condition is the more easily set up the younger the child and the digestive instability becomes less marked as age advances. About three days are required before the digestive processes can accommodate themselves to a change of diet. Disease, with few exceptions, has no influence on the production of acetonuria in childhood.

9. **Causation of Beri-Beri.**—It appears from Cooper and Funk's studies that the polyneuritis induced in birds by a diet of decorticated and polished rice is not due to the deficiency of phosphorus compounds, but to the absence of some substances not of protein nature, devoid of phosphorus, soluble in water and acidulated alcohol, dialysable and precipitated by phosphotungstic acid and the precise nature of which is being at present investigated by Funk.

British Medical Journal, London

November 4, No. 2653, pp. 1145-1240

13 Surgical Requirements of Narcosis and Available Methods. D. W. Buxton.
14 *Experimental Investigations on Pituitary Body. Handelsmann and V. Horsley.
15 Acute Poliomyelitis. A. B. Soltau.
16 Epidemic of Acute Poliomyelitis in Cornwall. A. Gregor and L. B. Hopper.
17 Epidemic Anterior Poliomyelitis in Huntingdonshire. C. B. Moss-Blundell.
18 Operative Treatment of Glaucoma. P. Smith, R. H. Elliot and J. G. Clegg.
19 Convergent Squint and Heterophoria. C. Worth.
20 Comparative Anatomy of Ciliary Region. T. Henderson.
21 Treatment of Chronic Dacryocystitis. W. B. I. Pollock.
22 Extraction of Lens in Capsule, with Special Reference to Smith Operation. A. Sheppard.
23 Use of Carbon Dioxid Snow in Ophthalmic Work. L. J. C. Mitchell.
24 Photometer for Use of School Physicians. N. B. Harman.
25 Anaphylaxis. W. d'E. Emery.
26 Pathogenic Effect of B. Coli. H. D. Rolleston.
27 Cirrhosis and Primary Carcinoma of Liver. E. Glynn.
28 Action of Radium on Tissues. P. Mills.
29 The Blind and Census of 1911. N. B. Harman.

14. **Pituitary Body.**—The authors have made experiments on fifty-four animals, namely, twenty cats, twenty-one dogs and thirteen monkeys, in which the pituitary gland was reached by either of two methods, (1) temporal, (2) palatal. The second method was employed only in the cat. In the temporal method the opening of the skull was made on one side only, the left. In some cases they did not remove the gland, but only separated it from the base of the brain; in some others they cauterized the infundibulum. In about half of all the experiments they observed cerebral symptoms, *mouvements de manége*, hemiparesis, hemianopia and in all monkeys temporary ophthalmoplegia on the side of the operation. All these symptoms gradually passed away. In all cases, with exception of animals dying from operative shock, they made a very careful microscopic examination of the sella turcica and of the base of the brain. Of the whole series of experiments, in fifteen (two cats, nine dogs and four monkeys) the gland, for example, pars anterior, pars posterior and pars intermedia fissuræ, was completely removed; that is, they could not find even cells of the pars intermedia infundibuli. They had also some animals in which there were some few cells of the pars infundibuli remaining; but these animals they do not count as having had a complete removal of the gland (contrary to Cushing) because sometimes in these remnants they found quite active cells with colloid in the lumen of the acini and so on. On the other hand, to show that after the so-called complete removal of the gland all the animals do not always die quickly with symptoms of cachexia, as Cushing and Paulesco claim, they present the following facts. Eight animals died within forty-eight hours, for example, from shock, hemorrhage or infection. Of the remainder, three died within four days with no symptoms regarded by Cushing as characteristic of a cachexia; but where not due to one of the above named causes were, in the opinion of the authors, attributable to edema cerebri. There remain four cases (all monkeys); in three of these death occurred naturally on the thirteenth, fourteenth and thirty-ninth days, and one animal was killed in good health on the one hundred and fifteenth day. In the three instances in which the animal died naturally no "characteristic" symptoms were observed and the animals became asthenic and died, as many monkeys do in captivity. It is clear, they conclude, that the whole question of the vital importance of the gland will require careful review.

Australasian Medical Gazette, Sidney

September 20, XXX, No. 9, pp. 485-546

30 Progress in Medicine. F. A. Pockley.
31 Recommendations of Melbourne Consumption Conference. C. Reissmann.
32 Splenectomy. H. C. Hinder.
33 Catching Cold. W. N. Robertson.
34 Initiation of School Medical Inspection in Queensland. E. E. Bourne.
35 Case of Tetanus Treated by Magnesium Sulphate. N. Markwell.
36 Volvulus of Intestine. A. M. Cudmore.
37 Case of Hemorrhage from Stomach in Newly Born. M. D. Nesbitt.
38 Congenital Color Blindness. G. H. Taylor.
39 Case of Tubercular Peritonitis Treated by Drainage and Marmorek's Serum. E. J. McDonnell.
40 Case of Cystitis Due to B. Coli Treated with Vaccine. H. B. Follit.

Journal of Obstetrics and Gynecology of British Empire, London

September, XX, No. 3, pp. 85-150

41 *Origin of Uterine Muscle in Relation to Blood-Vessels. H. R. Clarke.
42 Tuberculous Pyosalpinx. A. H. F. Barbour and B. P. Wattson.
43 Two Cases of Perithelioma: (1) of Uterus; (2) of Tube. A. H. F. Barbour and B. P. Watson.
44 Cervical Polyp Exhibiting Decidual Changes. J. H. Ferguson and J. Young.
45 Simple Papillomata Removed from Vaginal Vault After Vaginal Hysterectomy for Cervical Cancer. J. H. Ferguson and J. Young.
46 Exophthalmic Goiter and Pregnancy, Labor and Puerperium. C. White.

41. **Origin of Uterine Muscle.**—Clarke's research demonstrated that during fetal life the uterus has a trabecular arrangement, and the arteries appear to grow into the trabeculæ from the broad ligament. The venous spaces seem to arise *in situ*. There is extremely pronounced growth of the muscular tissue of the arteries in the uterus. This increase was computed at 28.57 per cent. during the latter five and a half months of fetal life and 15.55 per cent. from birth to the end of the period of childhood. During infancy a cavernous condition exists in the mesometrium and by arterial invasion of the venous spaces the condition of the adult uterus is attained. This process, which Clarke has called "Condensation," is completed by the end of the period of childhood, six to seven years. Cavernous tissue and condensation were observed in the wall of the Fallopian tube and to a slight extent in the vascular structures of the vaginal wall. The cavernous tissue of the mesometrium is similar to that which exists in erectile tissues, e. g., corpora cavernosa; also to the sponge-work in the fetal heart of man and the adult heart of some amphibians. The venous spaces in the cavernous tissue of the human uterus are not obliterated, but remain as potential rather than actual spaces. They have a delicate endothelial lining and external to this a fibrous connective tissue layer. They are concerned in erection of the uterus and in the formation of maternal blood-sinuses during pregnancy. The development of uterine muscle during fetal and infant life takes place in definite relation to vascular structures. In other words, it is in the development of muscular tissue in the trabeculæ of the meshwork of cavernous structures and the muscular growth in the walls of the arteries that the growth of the mesometrium takes place. Injected specimens show that the arteries communicate with the venous spaces and also serve to indicate the great vascularity of the uterus in animals.

Indian Medical Gazette, Calcutta

October, XLVI, No. 10, pp. 369-408

47 Staff Tours and Their Uses. P. Hehir.
48 Biology of Black Mycetoma. G. C. Chatterjee.
49 Case of Madura Foot. K. W. MacKenzie.
50 Salvarsan. R. Knowles.
51 Simple and Effectual Means of Administering Salvarsan. G. Fowler.
52 Case of Acute Delirious Malaria. A. Cochrane.

Annales de Gynécologie et d'Obstétrique, Paris

October, XXXVIII, No. 10, pp. 561-624

53 *Treatment of Acute Peritonitis. (Traitement des péritonites aigues.) H. Hartmann.
54 Porro Operation by Abdominal Route for Hemorrhage with Detached, Normally Localized Placenta. (Traitement chirurgical des hémorragies utéro-placentaires avec décollement du placenta normalement inséré.) A. Couvelaire.

53. **Treatment of Acute Peritonitis.**—Hartmann remarks that from being exclusively medical, the treatment of acute peritonitis has now become exclusively surgical, and he discusses the various factors which render the affection so serious, adding that the ability of the peritoneum to rally to defense of the organism has only recently been appreciated at its true value. The peritoneum is able to master conditions if the cause is removed and most of the toxic-infectious matter evacuated; the aim is to remove the focus with the least possible disturbance, draining through the pouch of Douglas, the patient's shoulders raised. He quotes from American surgeons and endorses their principle of early intervention regardless of the cause of the acute peritonitis, but insists that it is important to differentiate the cause in order to ensure its removal. He advocates also Murphy's technic for proctoclysis; he has had no experience with Westermann's method of siphoning out the stomach content by a retention stomach sound introduced through the nose, but Kappis has recently warned not to leave the tube in place more than twelve hours at a time, as he had an eschar develop in the esophagus in a case in which the retention stomach sound had been left in place for forty-eight hours.

Archives des Maladies de l'App. Digestif, Paris

September, V, No. 9, pp. 469-528

55 *Early Fatal Cancer of the Liver. (La mort rapide dans les cancers du foie.) M. Loeper.

55. **Early Fatal Cancer of the Liver.**—Loeper comments on the peculiar liability with cancer of the liver to complications of various kinds which hasten the fatal outcome. Besides infections in the parotid glands, lungs, pleura and peritoneum which are liable to develop as complications, there is a special tendency to local hemorrhage. He reports and quotes some typical cases of the latter, ascites developing early with cancer of the liver and hemorrhage. This combination occurs with adenocancers and with liver tumors with cancerous invasion of the portal vein or its simple obstruction. Early death with cancer of the liver may be due to a subacute jaundice from hepatitis with secondary, galloping local malignant disease. Or it may be the result of autogenic intoxication, acidosis and acetonemia. He reports some instructive cases of these three main types of early fatal malignant disease in the liver, urging the importance of measures to protect the patient against alimentary intoxication and untoward effects of drugs and against possibility of septic contamination. To ward off acidosis, he advises to increase the fats and carbohydrates in the diet while cutting out meat and albumin, permitting oatmeal and green vegetables, with sodium bicarbonate to neutralize an excess of acids. Diuretics may be useful, and the family should be instructed that traveling, fatigue, etc., are liable to bring on grave and rapidly fatal complications.

Bulletin de l'Académie de Médecine, Paris

October 17, LXXV, No. 33, pp. 150-175

56 *Operative Treatment of Pyloric Cancer. (Résultats immédiats éloignés de 168 résections partielles ou subtotales de l'estomac pour cancers de la region pylorique.) E. Schwartz.
57 Indirect Gastroscopy. (Recherches cliniques sur la gastroscopie par vision indirecte.) Roger.
58 Hereditary Transmission of Experimental Tuberculosis. (Etude expérimentale de l'hérédo-tuberculose.) L. Landouzy and L. Laederich.

56. **Gastric Cancer.**—Témoin has resected the stomach in 168 cases of cancer in or near the pylorus during the last eleven years. The operation was successful in 92.3 per cent. of the cases in the last three years. He does not ligate the blood-vessels, as he detaches them from the stomach held in the left hand by working a compress through between the stomach and its vessels, front and rear. The small ramifications which pierce the wall, break off without resistance, and the minute hemorrhages resulting stop spontaneously almost at once. After resecting the cancerous region he implants the jejunum in the rear wall of the stomach, making the orifice large and suturing the mesocolon to the posterior wall of the stomach. He refuses to operate as a rule unless the cancer is in the pyloric region, as at other points recurrence almost inevitably soon follows or the malignant disease becomes generalized. When the cancer is at the pylorus, the patient grows emaciated early but he retains his appetite and strength. With cancer elsewhere in the stomach, he has a disgust for all food, but he is liable to retain his fat, and be even corpulent; if the tumor is palpable it extends to the left of the median line. The first is the surgical cancer; an exploratory laparotomy is indicated for the other form and a palliative operation may relieve. Forty-seven of his 119 patients who survived the operation are still living, nineteen from five to thirteen years since the operation and twenty-eight from two to four years. The cancer was so extensive in one case in 1898 that he was not going to venture to resect it, but yielded to the pleading of the family physician and resected the stomach, and the patient has been in robust health during the thirteen years since, eating without restrictions.

Lyon Médical, Lyons

October 15, CXVII, No. 42, pp. 753-820

59 Isolated Enlargement of Middle Lobe of the Prostate. (Cas d'hypertrophie isolée du lobe médian. Hypertrophie prostatique dite en clapet:) J. Reynard.
60 Technic for Nerve Grafting. (Technique des greffes nerveuses.) Duroux.

October 22, No. 43, pp. 821-884

61 Gastro-Enterostomy Plus Exclusion of Duodenum. (Exclusion du duodénum.) R. Leriche.

Presse Médicale, Paris

October 25, XIX, No. 85, pp. 857-864

62 Unreliability of the New Methods of Tuberculin Diagnosis of Tuberculosis. (Sur la valeur clinique des réactions diagnostiques à la tuberculine.) R. Pia.

October 28, No. 86, pp. 865-880

63 Adrenal Cortex. (La portion corticale de la capsule surrénale; ses rélations physiologiques et pathologiques avec le cerveau et avec les glandes génitales.) M. Apert.
64 *Aphthous Fever. (Modalités cliniques de la fièvre aphteuse. Son traitement.) A. Lévy.
65 Subnormal Arterial Tension and the Viscosity of the Blood. (Hypotension artérielle et viscosité sanguine.) A. Martinet.

64. **Aphthous Fever.**—Lévy has encountered a number of cases of aphthous fever assuming various forms, and sometimes persisting for several months, although four or five days is the usual course. One attack does not confer immunity, and the diarrhea or hemorrhage may be threateningly severe. The more common symptoms are headache, pain in the throat, dizziness, gastro-intestinal trouble and swelling of lymph-nodes, but there may also be pain in the muscles and spine and earache. Last summer ten patients applied for relief from painful urination, explained by presence of aphthæ on some mucosa; four others had conjunctivitis from this cause. Other patients had symptoms suggesting meningitis; another, delirium for several days. One patient had symptoms suggesting kidney calculus, colic and pleurisy, all subsiding in ten days, four days after discovery of aphthæ in the mouth. In some cases the thyroid suddenly swelled, but the swelling subsided after two or three weeks. His treatment is with diphtheria antitoxin and sodium salicylate; he gives the serum by the mouth, 10 c.c. of antitoxin in 50 c.c. of syrup of orange flowers, and follows this with a tonic containing sodium salicylate. His experience with this treatment in fifty cases has been strikingly favorable, he says, adding that antitoxin by the mouth may have a future in treatment of infectious diarrheas in general. In conclusion Lévy protests against classing aphthous fever as a stomatitis. Any mucosa may be involved and the disease may be serious and protracted, and it may be the explanation of the high infant mortality in some places.

Semaine Médicale, Paris

November 1, XXXI, No. 44, pp. 517-528

66 *Flap Laparotomy Without Buried Sutures. (Laparotomie de Rapin élargie, fermeture de l'abdomen sans fils perdus.) R. De Bovis.

66. **Curving Transverse Abdominal Section.**—De Bovis claims all the advantages of the Pfannenstiel transverse incision for the technic he describes, while it is far simpler and easier, he declares. The transverse incision curves up at both ends and is about 15 cm. long, while no sunken threads are required to close the opening. The semicircular flap of abdominal wall left by this incision is lifted and detached from the soft parts below which can easily be done upward almost to the umbilicus, while the rectus muscles beneath are readily pushed apart along the median line. By this means an opening is made into the abdominal cavity large enough for nine-tenths of the current gynecologic and obstetric operations. The soft parts are brought together again on the median line, the flap drawn down into place and a row of wire sutures introduced, passing the needle through the abdominal wall flap near the umbilicus and out again on the other side of the median line, lifting the flap again each time to be sure that the parts are accurately coaptated. Seven wire sutures are taken in this way, one below the crescentic incision. None is tied until all are in place and then the incision in the skin is sutured with silk. There is thus no dead space left and no buried sutures to suppurate, while there is no predisposition to hernia. His experience with this technic during the last few years has been very favorable. It is based on the Küstner and Rapin methods for abdominal section, but he thinks it is an improvement over both.

Beiträge zur klinischen Chirurgie, Tübingen

September, LXXV, No. 3, pp. 475-811

67 *Operative Treatment of Injuries of the Heart. (21 operativ behandelte Herzverletzungen.) E. Hesse.
68 Fibroma in the Neck. (Ueber ein verstecktes Fibrom des Halses.) E. Fabian.
69 Diverticulum in the Bladder. (Zur Operation der kongenitalen Blasendivertikel.) J. H. Zaaijer.
70 *Ossification of Laparotomy Cicatrix. (Ossifikation von Laparotomienarben.) E. Benelli.
71 Bacteriologic Research on Infectious Venous Thrombosis. (Experimentelle Untersuchungen über die Beziehungen des Staphylococcus pyogenes aureus zur infektiösen Venenthrombose.) R. Rubesch.
72 Operative Treatment of Fracture of the Elbow. (Zur operativen Behandlung der Ellenbogengeleukfrakturen.) MacLean.
73 *Metal Disks to Reenforce Suture. (Die Bleiplattennaht.) W. Jankowski.
74 *Electric Cauterization for Cancer. (Ueber Operationen mit elektrischem Lichtbogen und Elektrokaustik bei malignen Geschwülsten.) O. Hirschberg.
75 Chronic Deforming Fibrous Ostitis. (Die klinischen Formen der Ostitis chronica deformans fibrosa.) W. Klestadt.
76 *Surgery of the Stomach. (Unsere Erfahrungen über die Chirurgie des Magens.) H. Hoffmann.
77 Plastic Operations for Large Hernias. (Die Radikaloperation grosser Hernien, bes. der Bauchbrüche, unter Verlötung mit frei verplanzten Periostlappen.) F. König.

67. **Operative Treatment of Stab and Gunshot Wounds of the Heart.**—Hesse was unable to save eighteen of the twenty-five patients on whom he operated for this cause; he discusses this material from various standpoints. The injury was a stab-wound in nineteen and a gunshot wound in the others. The patients who recovered show no ill effects from the injury, having full earning capacity from three to over seven years since. Hesse has compiled 219 cases of operative treatment of heart wounds; 103 of the patients recovered. His list includes nine cases from America, with recovery of six of the patients. He urges prompt intervention as under expectant treatment the most favorable moment for operation may pass.

70. **Ossification in Laparotomy Cicatrix.**—Benelli has encountered two cases of actual bone formation in the cicatrix after a laparotomy and reports a similar local ossification in the scar left from castration of a female pig. He cites further ten clinical cases from the literature. The majority of the patients were men and nearly all were over the age of 40.

73. **Metal Disks for Suturing.**—Jankowski thinks that the old method of tying a suture thread over a lead bead after the thread has been passed through a small metal disk, permits better coaptation of the lips of the wound, as greater force can be exerted. One bead can be added after another to increase the tension. He describes over a dozen cases to show the advantages of this old method, especially for abdominal hernias and defects in the abdominal wall, plastic operations with flaps, and certain fractures. Defects in the soft parts heal finely with this technic.

74. **Electrocautery for Cancer.**—Hirschberg reports experimental and clinical experience in fifty cases with various modes of the application of the electric current to eat out cancer. The outcome was very good in a few and extremely successful in some isolated cases in which there has been no sign of recurrence for over a year to date. On the whole, he thinks the field for the method, especially with the de Forest needle, is in removal of tumors elsewhere than in the skull, thorax or peritoneum; it obviates the danger of dissemination of cancer germs. Local inoperable cancers should be removed in this way or electrocauterized if the vicinity of large vessels does not forbid this. A combined method of treatment enables us to relieve, he says, even in advanced cases.

76. **Surgery of the Stomach.**—Hoffmann reviews the 597 operations on the stomach, performed by Kümmell in the last fifteen years, and summarizes the details of a large number of typical cases from each group. Of the 270 cases of gastric cancer, 160 of the patients were men; the youngest patient was 26. The lesion was inoperable in thirty-five patients who had had symptoms for only three months, for six months in thirty-four, for nine months in seven, and for a year in forty-three cases. In fifty-three cases the cancer was diffuse, no focus being discoverable. In only ninety cases was the outlook favorable for a radical operation. A number of instructive radiograms of callous ulcer and cancer are appended, showing conditions before and years after the operation. Recent reexamination of sixty-six patients with non-malignant disease operated on before 1909 showed excellent ultimate results in fifty-six of the cases; ten patients had some subjective disturbances, including six with objective findings, but three of this latter group were insane. Two of the four patients treated by resection were in permanent good health; the impression on the whole is very favorable to gastroenterostomy. Three of the patients succumbed later to cancer of the stomach; in one case the cancer was at another point in the stomach, the part of the stomach with the ulcer having been resected. The experience in this case is not very encouraging in regard to resecting a benign tumor for the express purpose of warding off cancer later. Before 1909, 270 patients were operated on for gastric cancer and 29 per cent. of those who survived the operation and its effects have had no recurrence for more than three years. The interval since has been from five to fifteen years in six; four years in nine; three years in thirteen and two years in eighteen. The primary mortality was 52 per cent. of the ninety-four patients whose stomachs were resected for cancer before 1909. The average survival was three years and five months, while it was only five months after gastroenterostomy. The remnant of the stomach seems to answer all purposes in the surviving cancer patients; they have resumed their business and social life, the stomach stretching and adapting itself until a nearly normal stomach cavity has resulted, especially after extensive resection by the Kocher technic.

Berliner klinische Wochenschrift

October 30, XLVIII, No. 44, pp. 1961-2008

78 *Roentgenotherapy in Surgical Tuberculosis. (Behandlung der chirurgischen Tuberkulose, insbes. der tuberkulösen Lymphome, mit Röntgenstrahlen.) B. Baisch.
79 Bacillus Coli Infection of Urinary Passages. (Coliinfektion der Harnwege.) C. Franke.
80 Cancer of the Thyroid. (Ein sarkomatöses Hämangioendotheliom der Schilddrüse.) T. Usui.
81 Chemotherapy of Pneumoccus Infection. II. (Chemotherapie der Pneumokokkeninfektion.) J. Morgenroth and R. Levy.
82 Diverticulum in Appendix. (Appendixdivertikel und Perityphlitis.) M. Zondek.
83 *Cancer of the Prostate. (Prostatacarcinome und ihre chirurgische Behandlung.) H. L. Posner.

78. **Roentgen Rays in Treatment of Surgical Tuberculosis.**—Baisch reports experiences which confirm the value of this treatment, especially in all fungous joint lesions and for tuberculous lymph-nodes. He has thus treated twenty-eight patients with tuberculous lymph-nodes, lymphomas, and expatiates on the efficacy of radiotherapy in the different stages, the simple enlargement, the softening phase and the phase with fistulas. The Roentgen rays act on even the minutest

odes which so easily are overlooked in operating and yet are he source of relapses. With relapses after radiotherapy, its enewed application cures them also. Its principal advan-age is the absence of disfiguring scars. In the second and hird stages, radiotherapy, supplementing an insignificant peration, gives excellent cosmetic results, far surpassing hose with extensive surgical treatment. With deeper lesions he effect of the Roentgen rays is less pronounced, but in ungous tuberculous lesions in the wrist and ankle the action s more thorough than surgical measures can possibly be, s it reaches all the tissues involved. Especially fine results re obtained with tuberculous lesions in the hand; even with he large joints radiotherapy with resection is promising, pecially for recurrences after operations and as an adjuvant n management of fistulas. A few sittings may cure a tuber-ulous lesion with a fistula in the region of the ribs, pelvis r spine, lesions which so often resist all surgical measures. aisch writes from the surgical clinic at Heidelberg in charge f Wilms, and adds that tuberculous peritonitis has yielded n some cases to the Roentgen rays. Wilms has recently alled attention to the advantages of combining tuberculin reatment with radiotherapy.

83. **Cancer of the Prostate.**—Posner reiterates that when he prostate or part of it is unusually hard and the surface nobby, cancer may be suspected, as also when the tumor nnot be moved around or the rectal mucosa moved on the mor. Another sign is edema in the anus region. He warns at encapsulated carcinomas are rare, and that the floor of e bladder is generally already involved, as also the lymph odes—Pasteau found the regional lymph nodes involved n seventy of seventy-one cases examined post mortem. With ncer it is important to obtain ample access to the prostate, nd for this Wilms' incision is the best, Posner declares. It ns parallel to the ascending ramus of the pubic bone and xposes amply the posterior pole of the prostate and from this oint permits the seminal vesicles to be easily reached. If ecessary it can be supplemented by a prerectal incision. his technic proved excellent for four patients with cancer the prostate removed by the Wilms incision, combined in e case with the prerectal, during the last few months, the eration restoring good functioning, confirming the ease d feasibility of this technic and the good results. No tempt was made to resect the bladder in these cases as ere seemed to be no indication for this, but it could have en readily done at need through the Wilms incision.

Correspondenz-Blatt für Schweizer Aerzte, Basel

October 10, XLI, No. 29, pp. 993-1024

4 The Wassermann Reaction in the Cadaver. (Ueber die Wassermann'sche Reaktion an der Leiche.) F. v. Werdt.

Deutsche medizinische Wochenschrift, Berlin

October 26, XXXVII, No. 43, pp. 1969-2016

5 *Treatment of Uterine Hemorrhage. (Behandlung der Gebärmutterblutungen.) J. Veit.
6 *Bovine Tuberculosis and Pulmonary Tuberculosis in Man. (Tierische Tuberkulose und menschliche Lungenschwindsucht.) H. Kossel.
7 Diagnostic Insufflation of the Stomach. (Einige Worte über Magenaufblähung.) B. Stiller.
8 Operative Treatment of Chronic Rigidity of the Spine. (Beitrag zur operativen Behandlung der Bechterewschen Krankheit.) K. Stern.
9 Azoospermia and Syphilis. O. Scheuer.
0 Sexual Abstinence. (Zur Frage der sexuellen Abstinenz.) P. Näcke.

85. **Treatment of Uterine Hemorrhage.**—In concluding this scussion of the general principles of treatment of uterine morrhage, Veit says that slight hemorrhage due to the esence of a myoma should be treated expectantly if possible, sisting on repose during menstruation, intake of large nounts of fluid, avoidance of local injury, and plenty of ercise during the intervals. Interstitial myomas should be posed to the Roentgen rays; if this fails or the growths large, he advocates hysterectomy, but all hemorrhages to polypous or submucous myomas should be treated by section, retaining if possible the body of the uterus. He rns that an inflammatory process in a tube contra-indites active local measures on the uterus as severe conseences are liable to follow unless time is left for the declining of the virulence of the contents of the tube. He declares that much can be done in prophylaxis. Protracted menstrual hemorrhage in girls suggests the possibility of abnormal irritation of the sexual organs; the increasing use of measures to prevent conception may be responsible, he adds, for the increasing number of climacteric hemorrhages of ovarian origin.

86. **Human Versus Bovine Tuberculosis.**—Kossel reports examination of the sputum from forty-six consumptives and states that, adding these to the number already on record in which the human or bovine type of infection was determined, we have 709 consumptives with tubercle bacilli of the bovine type in only two cases and both types in only one. All the others had human tubercle bacilli alone.

Deutsche Zeitschrift für Chirurgie, Leipsic

October, CXII, Nos. 1-3, pp. 1-263

91 *Surgery of Blood Vessels. (Ueber die zirkulären Gefässnähte und Arterienvenenanastomosen, sowie über die Gefässtransplantationen.) H. Yamanouchi.
92 Lipoid Substances in Tumors. (Die lipoïden Substanzen in den Geschwülsten.) M. Dominici.
93 *Sunlight in Treatment of Tuberculosis of Bones and Joints. (Die heliotropische Behandlung der peripheren Tuberkulosis, bes. der Knochen und Gelenke.) B. Bardenheuer.
94 *Sacral Anesthesia. (Erfahrungen über Sakralanästhesie.) K. Siebert.
95 *Three Cases of Fat Embolism with Punctate Hemorrhages in the Skin. (Drei Fälle von Fettembolie mit punktförmigen Blutungen in der Haut.) G. Benestad.
96 Three Cases of Deformity of Hands and Feet. P. Scheffen.
97 Dislocation of the Astragalus-Scaphoid Joint. (Luxationen im Talo-Naviculare-Gelenk.) T. Gümbel.
98 *Treatment of Ruptured Extra-Uterine Pregnancy. (Zur Behandlung der geplatzten Extrauteringravidität.) E. Schultze.
99 Chronic Inflammatory Tumor After a Laparotomy. (Zwei Fälle von chronischentzündlichen Tumor nach Bauchdeckenschnitt.) F. Kroiss.

91. **Blood-Vessel Surgery.**—Yamanouchi reports from Japan experiments on dogs, a total of 161 operations on arteries or veins, and discusses the outcome months afterward, with the literature on blood-vessel surgery.

93. **Sunlight in the Revolution in Treatment of Surgical Tuberculosis.**—Bardenheuer has been one of the leaders in and most successful exponents of surgical treatment of tuberculosis of bones and joints, but he had occasion not long ago to examine the effects of systematic sunlight treatment of such tuberculous lesions in thirty-nine cases, including eighteen adults, and comparing them with the records of 371, all from the practice of Rollier at Leysin near Geneva, Switzerland. This experience has convinced him that far better ultimate results can be obtained with sunlight, without mutilating operations. Rollier restricts surgical measures to puncture of abscesses, although he was trained in surgery under Kocher. The joints heal without stiffness under the action of the sunlight and stiff joints become supple. Although only the severest cases are sent to Rollier, yet 284 of his total 371 patients were cured, that is, 78 per cent.; 13 per cent. improved; 6 per cent. are still under treatment, and 4 per cent. have died. The list includes sixty-one with tuberculous spondylitis, twenty-seven with peritonitis or enteritis, and sixteen with kidney or bladder tuberculosis, including five after nephrectomy. Bardenheuer now declares that operative treatment can generally be entirely avoided if the patients can have the benefit of mountain sunshine. He was so impressed with the amazing benefit from the sunlight treatment, even in apparently the most hopeless cases, that he applied it in thirty-five cases after his return home to Cologne, and states that he has been delighted with the results. One of Rollier's patients was a woman of 42 with an inherited taint. She came to Leysin in March, 1909, with a tuberculous affection of both sacro-iliac joints with numerous abscesses and involvement of the ilium on both sides. In the course of the year 2 liters of pus were evacuated by puncture repeated forty-five times. Bardenheuer tried to cure in two cases of this kind by extensive resection of the bones, but failed in both cases. In Rollier's case above mentioned, however, the patient was completely cured by July, 1911, and then returned home weighing over 37 pounds more than when she arrived. The children run around very lightly clad, even in winter, or lie

almost naked, on a balcony. In Cologne Bardenheuer had the lesions on his patients exposed to the sunlight for fifteen minutes three times a day, rapidly increasing to two or three hours, morning and afternoon or all day long, except in midsummer. As he had no facilities for sun baths he simply had the patients placed at an open window where the sun could reach the lesions. The patients enjoy the exposures and laud the sunlight treatment to their friends. He adds that it may prove a useful adjuvant to operative measures, hastening healing, and he thinks that sanatoriums might advantageously introduce local exposures of the chest in cases of pulmonary tuberculosis. He calls it the heliotrope method, from the Greek roots meaning to turn to the sun.

94. **Sacral Anesthesia.**—Siebert followed Läwen's technic and tabulates the details of sixty cases in which a major operation on the rectum, anus, vagina or vicinity was done by this epidural mode of anesthesia with great success. The relaxation of the sphincters and floor of the pelvis is the main feature of the anesthesia induced, and this renders it particularly advantageous in operations in this region. The secret of success is to inject large amounts of a concentrated solution of the anesthetic, by Cathelin's technic, keeping the pelvis much lower than the head, and waiting patiently for from ten to twenty-five minutes until the anesthetic has had time to permeate through the tough dura and reach the nerve trunks. The anesthesia lasts for about an hour.

95. **Fat Embolism.**—Benestad's three patients recovered, but all presented after a trauma great agitation with somnolency and inability to pay attention. The pulse was very weak in all, and each complained at once of difficulty in breathing, but none of pain in the side. There was slight, moderate or violent coughing but slight expectoration, with numerous pinpoint to pin-head symmetrical hemorrhages in the skin, especially on the neck and chest. The subjective initial dyspnea was the first sign of trouble in one case, coming on fifteen minutes after an iron plate had fallen on the right calf, causing a compound fracture. The punctate hemorrhages were noticed nearly five days later as the general condition improved. The symptoms suggested pneumonia except for lack of expectoration and of physical findings, and the fact that they came on fifteen minutes after the trauma. The second patient was kicked in the right calf by a horse, and the third had the femur fractured in a motorcycle accident. All were conscious that their mental condition had not been quite normal during the three weeks after their fracture. The cases teach the importance of weighing both the cerebral and pulmonary symptoms in such cases. Careful examination of the chest may reveal some abnormal sounds as in one of these cases, although there was scarcely any cough.

98. **Ruptured Tubal Pregnancy.**—Schultze concludes from his experience in fifty-two cases with five deaths that it is better to operate in every case of recent rupture of an extrauterine pregnancy, and by the abdominal route. If an encapsulated retro-uterine hemorrhage shows no signs of being absorbed in two or three weeks, laparotomy should be deferred no longer.

Medizinische Klinik, Berlin

October 29, VII, No. 44, pp. 1683-1720 and Supplement

100 Treatment of Retention of Urine. (Die Therapie der Harnverhaltung.) E. Portner.
101 Ileus. C. Ritter. Commenced in No. 42.
102 *The Spit-Cup Delusion. (Die Spuckflasche eine Illusion.) G. Liebe.
103 Dispensary Treatment with Tuberculin. H. Ulrici.
104 Polycythemia with Cerebral Paralysis. (Ueber Erythrocytose bei cerebralen Lähmungen.) F. Lange.
105 Ovaries in Determination of Sex. (Bedeutung der Eierstöcke für die Entstehung des Geschlechts.) J. Linke.
106 Bacterial Flora of the Skin and Means to Influence It. (Experimentelle Untersuchungen über den Bakterienreichtum der Haut Gesunder und Hautkranker und die Beeinflussung desselben durch einige physikalische und chemische Prozeduren.) S. Hidaka.
107 Cerebral Defects in Speech. (Ueber Apraxie.) K. Goldstein.

102. **The Spit-Cup a Delusion.**—Liebe refers to the way in which the tuberculous, supposed to use spit-cups, avoid their use when they think they are not observed, especially after return home from a course at a sanatorium. He thinks that washable handkerchiefs, or better yet, Japanese paper napkins or pieces of them, would really answer the purpose more effectually than the present spit-cup, and he urges that children should be trained to use them and to take care of them in the proper way afterward. A washable lining for the pocket to hold the handkerchief is also desirable, and cuspidors of convenient height installed in all public places, etc

Monatsschrift für Kinderheilkunde, Leipsic

X, No. 6, pp. 281-324

108 Fermentation of Flour and Oatmeal. (Weitere Untersuchungen über die Gärung von Weizen- und Hafermehl.) M Klotz.
109 A Motor Neurosis Probably Responsible for Rumination in Infants. (Zur Pathogenese der Rumination im Säuglingsalter.) F. Leist.

No. 7, pp. 325-390

110 Prevalence of Helminthiasis in Children. (Studien über die Häufigkeit der Darmparasiten, namentlich des Oxyuris vermicularis, bei Kindern.) A. Routsalainen (Helsingfors Finland).
111 Action of Pilocarpin on the Blood. (Einwirkung von Pilocarpin auf das Blut, insbes. auf die Eosinophilen.) S Aschenheim and Tomono.
112 Influenzal Pyothorax. (Fall von Pyothorax verursacht durch Micrococcus catarrhalis und Influenzabacillen.) M Lateiner.
113 Tube-Casts in Urine. (Zur Pathologie der Zylindrurie.) J Peiser.
114 Physiologic Fluctuations in Refracting Power and Viscosity of Infants' Blood. (Die physiologische Schwankungen der Refraktion und der Viskosität des Säuglingsblutes.) Reuss.
115 The Lime Metabolism in Rachitis. (Kalkstoffwechsel bei Rachitis.) A. Orgler.
116 *Participation of the Sympathetic Nervous System in the Pathology of Infants. (Anteilnahme des sympathetischen Nervensystems an den Erkrankungen des Säuglings.) N Berend and E. Tezner.

116. **Participation of the Sympathetic Nervous System in the Pathology of Infants.**—Berend and Tezner applied to infants Loewy's test for abnormal excitability of the sympathetic system, namely, the pronounced mydriasis which follows instillation of a drop of a 1 per thousand solution of epinephrin; the normal dilatator pupillæ is not affected by epinephrin. Extensive experiments on infants showed that there is no reaction to the epinephrin in normal and in chronically ill infants, but pronounced mydriasis followed in all the severe toxic conditions. Recent research has shown that a deficit in lime enhances the sensitiveness of the sympathetic system to epinephrin. Cobliner has also recently stated that in severe toxicosis there are always large losses of lime from the blood. The assumption of abnormal irritability of the sympathetic system explains the pallor and meteorism, the livid tint and cold extremities and the congestion in brain and meninges in sick infants, the red tongue blood-shot eyes and the regional limitation of these symptoms With all this, the condition of the heart may be clinically quite good, showing that the disturbances are not signs of weakness of the heart but of mischief in the sympathetic system.

Münchener medizinische Wochenschrift

October 24, LVIII, No. 43, pp. 2257-2312

117 Serologic Research on Isolysins. (Untersuchungen über Isolyse.) E. Grafe and D. A. L. Graham. Continued.
118 Test Injection of Salvarsan in Dubious Cases. (Die Ziele einer ausreichenden Syphilisbehandlung und die provokatorische Salvarsaninjektion bei zweifelhafter Syphilis.) W Gennerich.
119 Secretion in Infant's Breasts as Index of Capacity for Lacteal Secretion in Mother. (Die Brustdrüsensekretion des Kindes als Masstab der Stillfähigkeit der Mutter.) K Basch.
120 Cerebral Influenza. (Ueber Hirninfluenza.) R. Stepp.
121 Sepsis After Chicken-Pox. (Fall von Streptokokkensepsis mit purulentem Oedem nach Varizellen.) K. Blühdorn.
122 Lessons from History of Hygiene. (Wege und Aufgaben der Geschichte der Hygiene.) K. Sudhoff.

Virchows Archiv, Berlin

October, CCVI, No. 1, pp. 1-160

123 Thyroid Changes in Purpura in the New-Born. (Eigentümliche herdförmige Degenerationen der Thyreoidea-Epithelien bei Purpura eines Neonatus.) C. A. Pettavel.
124 Diverticulum in Bladder. (Zur Kenntnis des echten Divertikels an der Seitenwand der Harnblase mit bes. Berucksichtigung seiner Entstehung.) S. Sugimura.
125 Destruction of Red Corpuscles in Spleen and Liver. (Zerstörung der roten Blutkörperchen in der Milz und der Leber unter normalen und pathologischen Verhältnissen.) J. Lintwarew.
126 Involvement of Ureters in Cystitis. (Beteiligung der Ureteren an den akuten Blasenentzündungen nebst Bemerkungen über ihre Fortleitung durch die Lymphbahnen der Ureteren.) S. Sugimura.
127 Histology of Hypophysis. (Zur Histologie der Neurohypophyse.) Stumpf.

128 Research on Water Elimination, Heat Regulation, etc., in Three Men Lacking Sweat and Sebaceous Glands. (Zur Physiologie und Pathologie des Wasserwechsels und der Wärmeregulation seitens des Hautorganes.) A. Loewy and W. Wechselmann.
129 Diverticulum in Duodenum. (Zur Untersuchung der Duodenaldivertikel.) G. Buschl.
130 Cancer in the Thymus. . (Eine bösartige Thymusgeschwulst.) S. Rubaschow.

Wiener klinische Wochenschrift, Vienna

October 26, XXIV, No. 43, pp. 1487-1518

131 Chvostek's Sign and Neuropathies in the Young. (Fazialisphänomen und jugendliche Neuropathie.) K. Hochsinger.
132 Experimental Anaphylaxis to Inhaled Albumin. (Ueber Eiweissanaphylaxie von den Luftwegen aus.) B. Busson.
133 Puncture in Diagnosis of Intra-Abdominal Injuries. (Diagnostischer Wert der Punktion bei intraabdominellen Verletzungen.) E. G. Oser.

Zeitschrift für Geburtshülfe, Stuttgart

LXIX, No. 1, pp. 1-296. Last indexed October 21, p. 1414

34 *No Premonitory Pulse or Temperature Sign of Thrombosis and Embolism. (Es gibt kein prämonitorisches Puls- oder Temperatursymptom der Thrombose und Embolie.) H. Küster.
35 Lack of Sensibility of Abdominal Organs of Laboratory Animals. (Zur Frage der Sensibilität der Bauchorgane.) E. Engelhorn.
36 Cyst-Formation in Uterus with Adenomyometritis. (Cystenbildung und Synechie im Uterus bei Adenomyometritis.) R. T. Jaschke.
37 Origin of Amniotic Fluid. (Zwanzig Betrachtungen über die Herkunft des Fruchtwassers.) F. Ahlfeld.
38 Case of Fetal Membranes' Growing to Head. (Fall von Verwachsung der Eihäute mit dem kindlichen Kopf unter bes. Berücksichtigung der histologischen Verhältnisse der Verwachsungstelle.) R. Roemer.
39 Determination of Age of Fetus. (Die Altersbestimmung des Fötus nach graphischer Methode.) W. Zangemeister.
40 *Eclampsia Without Convulsions and Without Loss of Consciousness. (Eclampsie ohne Krämpfe und ohne Bewusslosigkeit.) H. H. Schmid.
41 The Blood with Jaundice in the New-Born. (Zur Lehre des Icterus neonatorum.) F. Heimann.
42 Eclampsia as an Anaphylaxis Phenomenon. (Zur Klärung der Eklampsiefrage.) G. Lockemann and J. Thies.
43 Sugar Content of Blood in Pregnancy and Childbirth. (Der Blutzuckergehalt in der Schwangerschaft, in der Geburt, im Wochenbett und bei Eklampsie.) W. Benthin.
44 *Childbirth Between the Ages of 14 and 17. (Die Geburt in den Entwicklungsjahren.) O. Bondy.

134. **No Warning Pulse or Temperature Sign of Thrombosis.**—Küster deplores that the percentage of cases of postperative thrombosis does not seem to have been reduced with ie progress of surgery in other ways. His careful study of fty-four cases of thrombosis and embolism in the gynecologic inic at Breslau in the last five years has failed to show any aracteristic premonitory symptoms on the part of the pulse nd temperature. He summarizes his cases, and devotes velve pages to tabulation of the various details, urging ager search for signs and symptoms that have escaped notice therto. At present, he declares, we have no means of knowg which of our patients are threatened with embolism until develops.

140. **Eclampsia without Convulsions or Loss of Consciousess.**—Schmid reports what he says is the twenty-fourth case record of eclampsia without convulsions, confirmed by ecropsy. The diagnosis was made only after death, from the aracteristic pathologic anatomic changes, in some of the ses. In twelve other fatal cases there was no necropsy and twelve others the women recovered. The liver shows tches of typical hemorrhagic and anemic necrosis, the brain imerous hemorrhages in cortex, central ganglia or meninges. one case hemorrhage in the fourth ventricle was the direct use of death. Degenerative changes in kidney and heart e less constant. These necropsy findings may be very portant from a medicolegal point of view in certain puzing cases of eclampsia without convulsions.

144. **Childbirth Under Eighteen.**—At the Breslau maternity, 5 girls of 17 or under were delivered in the last eighteen ars among a total of 13,000 deliveries. Five of the 255 rls bore a second child before their eighteenth year. Conditions in regard to mother and child seem to be at their best the ages from 18 to 20. After 23 the conditions grow pidly less favorable. Under 18, the experiences related con m Mauriceau's dictum over 200 years ago, that "after the e of 15, girls are delivered more easily the younger they e." The deliveries in girls of 14 to 17 were by no means low the average in regard to favorable conditions. The average of non-viable infants (3.2 per cent.) was no greater than at the age of 18 to 20, and less than that between 21 and 23, and only half of the percentage between 24 and 27.

Zentralblatt für Chirurgie, Leipsic

October 28, XXXVIII, No. 43, pp. 1425-1448

145 Plastic Operation on Liver with Peritoneal Investment of Gall-Bladder After Cholecystectomy. (Zur Technik der Verlötung und Ueberbrückung.) P. Clairmont.

Zentralblatt für Gynäkologie, Leipsic

October 28, XXXV, No. 43, pp. 1481-1520

146 Self-Infection in Obstetrics and Gynecology. (Ueber Selbstinfektion.) G. Winter.
147 Care of Stump of Umbilical Cord. (Abnabelung und Nabelschnurversorgung.) F. Ahlfeld.
148 Outline for Eclampsia Statistics. (Zur Eklampsiestatistik.) E. Rossa.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 26, XXXII, No. 129, pp. 1363-1370

149 Technic for Determination of Fats and Lipoids in the Blood. (Sopra un metodo practico per la determinazione dei grassi e dei lipoidi del sangue nell'uomo.) G. Garin.

October 29, No. 130, pp. 1371-1386

150 Pneumonic Plague. (Intorno al perche delle epidemie di polmonite pestosa.) E. Bertarelli.
151 Hernia of the Bladder. (Contributo allo studio clinico delle ernie vescicali.) M. Augusto.

Policlinico, Rome

October 22, XVIII, No. 43, pp. 1353-1384

152 Conditions Favoring Proliferation of Cholera Germs in Water, etc. (Le scarse esigenze nutritive del vibrione colerico.) M. Pergola.

October, Medical Section No. 10, pp. 429-476

153 Metabolic Findings in Case of Kala-Azar. (Prime ricerche sul ricambio materiale in un caso di Kala-Azar.) F. Scordo.
154 Sterility of the Blood in Pellagra. (Ricerche ematologiche e batteriologiche sulla pellagra.) D. C. Bianchi and B. Agazzi.
155 The Functioning of the Stomach in Pellagra. (Ricerche sulla funzionalita gastrica dei pellagrosi.) P. Masserini.

Riforma Medica, Naples

October 23, XXVII, No. 43, pp. 1177-1204

156 Resisting Powers of the Leukocytes in Leukemia and Leukopenia. (La resistenza dei leucociti nella leucemia e nella leucopenia.) G. Lucibelli.

Ugeskrift for Læger, Copenhagen

October 26, LXXIII, No. 43, pp. 1579-1616

157 *Neurolysis for Sciatica. (Neurolysis ved Ischias.) A. Pers.
158 Public Sanatoriums for Nervous Disease. (Om Folkesanatorier for Nervesvage.) K. Malling.

157. **Neurolysis for Sciatica.**—Pers is convinced that relics of perineuritis are responsible for persisting sciatica, and his success in treatment based on this assumption testifies to the correctness of his view. He has applied his method of neurolysis in seventy cases and in fifty-eight recently examined after a considerable interval, forty-seven patients were found to have been permanently cured as also two others after a second neurolysis. Other Scandinavian physicians have applied the method also in twenty cases; of the fifteen patients recently reexamined twelve were found cured and one improved. Pers' experience has shown that the method succeeds in uncomplicated, typical sciatica without too much atrophy, developing primarily in connection with pain in the lumbar region. The prognosis with neurolysis is good under these conditions, and he applies it with confidence when the ordinary measures have failed to cure. If the sciatica, however, is associated with pain in adjoining regions, especially along the crural nerve and upward in the lumbar region, the trouble evidently involves the plexus or the nerve itself, and no relief can be expected from neurolysis. He aims to free the sciatic nerve from all adhesions that may have developed as the result of a perineuritis. For this he incises along the back of the femur, incising from the lower margin of the gluteus maximus down to and below the middle of the thigh. The sciatic nerve is then sought between the vastus externus and the biceps, and with the finger it is detached from its bed, working always from below upward, with extreme care not to tear any of the small branches of the nerve. The nerve sheath is thus released from adhesions from the popliteal space below to the sciatic foramen above, if necessary making a supplementary incision in the lower margin of the gluteus maximus. Extreme care is necessary to avoid mistaking a branch of the nerve for an adhesion. After the sheath of

the nerve has thus been freed along the entire stretch involved, the incision is sutured, first making sure that hemostasis is complete. A postoperative hematoma is a highly undesirable and unnecessary complication; he had to contend with it in two of his earlier cases. Baracz' method is different; he works his finger through the gluteus maximus fibers down to the nerve where it enters the notch and breaks any adhesions binding it down to the bone. Pers has found this method useful in a few cases in which the sciatica persisted after his neurolysis, the combination of the two technics finally curing the patient. The Baracz technic alone is not sufficient and as the Pers technic is usually all that is needed, he reserves the combined method for the cases refractory to the latter alone. Pers has observed recurrence in a few cases even after the combined method. In four of his nine failures (out of the total fifty-eight cases) the sciatica was evidently only a part of a plexus affection; in one other case the pain returned after a year of freedom, and there is evidence that the nerve itself is involved. In the five other cases the failure of the operation to relieve seems inexplicable as everything suggested a simple sciatica of peripheral origin. It is possible that the sciatica may have been a sympathetic or reflex affection from inflammation elsewhere, possibly on the other side. The value of examination with the Roentgen rays with a dubious diagnosis is instructively shown in some of his cases in which the failure of years of treatment of the "sciatica" was explained by discovery of an old fracture or arthritis of the lowest lumbar vertebra; in another case a sarcoma in the ischium was thus detected. In still another case a man of 46 had had pain in the sciatic region for eighteen months, rebellious to systematic medical measures; then Roentgen examination revealed an unsuspected lesion in the sacro-iliac articulation on the side of the supposed sciatica which proved to be a pus pocket containing pneumococci. The patient was permanently cured of his "sciatica" from the moment of the evacuation of the pus.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Text-Book of Meat Hygiene. With Special Consideration of Ante-Mortem and Post-Mortem Inspection of Food-Producing Animals. By Richard Edelmann, Ph.D., Medical Counsellor, Royal State Veterinarian of Saxony. Authorized Translation Revised for America by John R. Mohler, A.M., V.M.D., Chief of Pathological Division, United States Bureau of Animal Industry, and Adolph Eichhorn, D.V.S., Senior Bacteriologist, Pathological Division, United States Bureau of Animal Industry. Cloth. Price, $4.50 net. Pp. 392, with 157 illustrations. Philadelphia: Lea & Febiger, 1911.

Pain. Its Causation and Diagnostic Significance in Internal Diseases. By Dr. Rudolph Schmidt, Physician to the Royal Empress Elizabeth Hospital, Vienna. Translated and Edited from the Second Enlarged and Revised German Edition by Karl M. Vogel, M.D., Assistant Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, and Hans Zinsser, A.M., M.D., Profesor of Bacteriology, Leland Stanford Junior University. Second Edition. Cloth. Price, $3. Pp. 358. Philadelphia: J. B. Lippincott Co., 1911.

Diseases of the Digestive Canal (Esophagus, Stomach, Intestines). By Dr. Paul Cohnheim, Specialist in Diseases of the Stomach and Intestines in Berlin. From the Second German Edition. Edited and Translated by Dudley Fulton, M.D., Assistant Professor of Principles and Practice of Medicine, University of California College of Medicine, Los Angeles Department. Second Edition. Cloth. Price, $4. Pp. 383, with 431 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

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SPECIAL CONSIDERATIONS IN SURGICAL TREATMENT OF THE FEMALE PELVIC ORGANS*

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It is not my purpose, in a brief presentation of the subject, either to discuss the merits and accomplishments of the brilliant leaders, past and present, whose skill and judgment have brought honor to this department of medicine, or to deplore the mistakes that have been made in the name of surgical gynecology by some enthusiasts whose greatest handicap is inexperience, and others whose place is not properly in gynecology and to whom the science appears as a pseudospecialty.

It is enough to say in passing that not to know the relation of cause and effect in pelvic lesions, not to be familiar by long training with the therapeutic probabilities, the anatomy, pathology and complex functional activities of this region, is to be disqualified by both reason and conscience for surgical undertakings on the organs involved.

While this is true of plastic or minor surgery where function is to be restored and normal contours and relations reestablished, it has its special application in major surgery involving the radical removal of functionating organs like the uterus, tubes and ovaries.

The ease and comparative safety with which such operations on the pelvic organs may be accomplished has invited their far too frequent removal in cases in which neither the symptomatology nor the gravity of the conditions would justify such procedure. Were surgery of such extent and involving the same mutilation of the sexual system to be as commonly applied to the male organs, or were one called on to decide the matter in reference to his own person, the real import of the subject would be apparent.

Then, too, we have begun to question the formerly accepted opinion that the female reproductive organs are of use to the human economy only in so far as they contribute to the perpetuation of the species and that their removal involves nothing more serious than sterility to the individual deprived of them. Later studies are tending toward a wider view of the significance of organs which mark the fundamental distinction between sexes whose mental and physical characteristics diverge so radically.

The probability is strong that there is an internal ovarian secretion as yet unclassified, which has a high relative importance in general metabolism, as significant as the rôle now attributed to the secretion of the so-called vascular or ductless glands. And aside from the subtler considerations of cell activities and the physical and psychic effects of interference with the established internal order, the removal of the gross mass of any organ is an acknowledgment in itself that we cannot meet the indications or cope with the diseased condition except by removing the affected structure. True, in many instances the only honest course is admission of this inadequacy of medical achievement, and prompt recourse to such means as we have, but it should be the steadfast aim of our science to promote prophylaxis, to popularize preventive measures, to preserve organs and to restore function.

Beyond what may be called emergency measures, then, for the saving of life in malignant disease, acute septic or inflammatory involvement, hemorrhage from ruptured extra-uterine pregnancy, and the like, and the removal of various neoplasms, the province of operative gynecology should be to recognize what pelvic structures can be preserved and how they may best be restored to their functional activity and made to conserve such vital energies as may depend on such function. Also, we should aim, even in extirpative surgery, to preserve, as far as possible, the rhythmical action of the pelvic diaphragm and its sustaining structures as well as that of the pelvic floor, too often seriously injured through the results of injudicious methods. In some instances an unrecognized trauma or an abrasion about the stump of the severed broad ligament may give rise to a pernicious immobility which interferes with free circulation and causes passive congestion, blood stasis, and concurrent evils. I regard this rhythmical action and mobility of the pelvic diaphragm as a most important factor in the ultimate cure of the patient. The bloodvessels in the pelvic tissues, being without valves, are dependent to a greater or less degree on the diaphragmatic action of the muscle groups of this region, and it is my practice to reunite, as far as possible, the severed tissues of peritoneum, broad ligament and vaginal vault so as to insure their normal stability and relations. Where plastic work is undertaken for the relief of chronic conditions we have fuller scope and ampler opportunity for needed reforms, and as a means of demonstration I shall refer briefly to some of the more important procedures.

The classical trachelorrhaphies are rarely, if ever, indicated to-day, except in recent injuries and tears of the cervix uteri. A decade or more ago, Emmet himself conceded that his original operation for pathologic conditions following laceration had had its day, and suggested for it honorable retirement to a few well-selected cases.

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TRACHELOPLASTY

In recommending tracheloplasty as a substitute I claim for it that it best fills the requirements of plastic work. It requires the least preparatory and after-treatment; it exacts the least in the way of time and patience from patient and physician. It has a wide range of usefulness, being applicable in cases of laceration and erosion of the cervix, hypertrophy, elongation, stenosis and deformities, cystic degenerations, neoplasms and all adventitious growths — except cancer, which demands radical removal. As its name implies, it is a plastic operation on the cervix and it may embrace all degrees of work from the repair of a simple tear, having pathologic involvement, to the more extensive amputations or entire removal of the organ. Its technic is briefly as follows.

Technic.—The patient being surgically prepared and placed in the lithotomy position, the cervix is drawn down with a vulsellum forceps, bringing the uterus well into view. The cervix is dilated and the uterus curetted if indications for curettage exist. These are, however, so nearly constant as to make it practically the rule. The blades of the bullet forceps or double tenaculum, with which the cervix is held, may be reversed and placed within the cervix so that their points are directed laterally from within outward, but I prefer to use a specially designed instrument by which traction is made on the inner area of the cervix, leaving the anterior and posterior walls free for making the flaps. The cervix is now transfixed by a special knife and a clean cut made from above downward, first in the posterior lip. The anterior lip is transfixed in a similar manner about 1 or 1.5 cm. in front of the other and cut in the same way. The intervening plug of diseased tissue is now removed by a single cut or two of the curved scissors, the bullet forceps having been moved to a lower position to allow it. The flaps thus made will now fall together and inward so as to assume the appearance of a normal cervix, and will require only the simplest suturing to keep them in this position. The first suture is passed through the center of the anterior flap, a centimeter or more from its cut edge, and brought out about 0.75 cm. within the cervical canal. Two parallel stitches are now placed at each angle of the cervical canal. Silkworm gut or catgut is the suture material commonly used and the employment of a fixed needle and holder renders an otherwise difficult procedure quite easy. The posterior lip is treated in the same manner, except that here it is easier to pass the sutures from within outward, while the reverse is true in sewing the anterior lip. Two sutures are now passed, as in trachelorrhaphy, through the outer angles of the wound, which gape slightly after the turning in of the flaps. For nice adjustment of the stitches, and for ease in removal, I am in the habit of treating them in this way: in tying the sutures, one end of each is left long and these long ends are grouped by tying them together according to their location. The three anterior sutures form one group, the three posterior one group, and the two lateral sutures are tied together, a pair at each side, making four groups in all. A uterine tampon of iodoform gauze or wicking is now inserted by means of a forceps and tampon carrier, a projecting strand being attached to the vaginal gauze tampon in order that both may be removed without undue disturbance of the parts.

If no accessory operation is to be done, the usual perineal dressings are applied and the patient put to bed. The external genitals are bathed with antiseptic solution after micturition, but no douching or disturbance of the vagina is allowed until the second or third day, when the entire tampon is removed and not replaced. Vaginal douches of 1 to 4,000 mercuric chlorid are then used twice daily. The sutures are removed at the end of two weeks, unless absorbable material is used and the patient can be up.

The advantages of this method are, in brief, as follow:

1. Quickness and ease of operating by the knife here presented, the manner of making the flaps transcending in certainty and safety the ordinary methods of excision.
2. The fact that clean, smooth-cut surfaces are obtained without haggling of tissues.
3. The easy approximation of flaps and the fact that all hemorrhage beneath them is avoided by deep placing of sutures and compression of the flaps. There is accurate approximation of mucous membrane to mucous membrane, thus avoiding granulating surfaces, formation of cicatrix and constricting of canal. The certainty of obtaining a permanently patulous canal and a well-formed cervix with pronounced reduction of a hyperplastic uterus, and the simplicity of the after-treatment, are of themselves enough to recommend this method to careful operators.

OPERATIONS ON THE PELVIC FLOOR

In operating on the pelvic floor, the indications are to correct the pathology and restore function in the involved structures. In nearly all long-standing cases, we have not only the presence of hyperplastic and scar tissue, with disturbed function of the parts, but changed relations of the different organs, and often veritable hernias. It is now many years since I suggested a classification of hernias which should include, besides cephalic, thoracic and abdominal, the group comprising cystocele, rectocele and prolapse of uterus and vaginal walls. This group should be known as pelvic hernias. A hernia is a surgical disease and calls for surgical treatment, which term admits of wide interpretation and includes all mechanical means, from simple air-pressure and gravitation in postural treatment, to the radical procedure of removal of the offending organs. The latter, however, is rarely necessary except for unusual pathologic conditions, or in advanced age, but colpoperineorrhaphy, a modification of the flap-splitting perineal section and of the operations of Emmet and Schroeder, is indicated whenever any considerable tear or a weakened pelvic floor exists.

Technic.—It consists of a simple extension of the lateral perineal incision of Tait, deep into the vaginal sulci, so as to expose the torn and retracted ends of the levator ani and transverse perinei muscles. These, the proximal ends of the muscles and fascia, are then encircled with a curved needle carrying a strong silkworm-gut suture, threaded at both ends, which, when crossed and brought out through the skin on opposite sides, forms a figure-of-eight suture. A second suture may be introduced in the same manner, about a centimeter distant, for further coaptation and strengthening of the muscular floor. Before tying these sutures, a crown, or puckering string suture is passed around the upper part of the wound, just along the under surface of the vaginal flap, approximating and shutting off the vaginal part of the wound.

With the parts now fully brought together, sutures tied, and their ends left long and fastened in one strand to prevent their irritating or pricking the surrounding surface, the operation is complete, and it only remains to guard against contamination in the after-care. Should the sphincter ani muscle be torn or weakened, the same cuts that are made anteriorly at the sides of the vaginal orifice are made posteriorly at either side of the rectum, exposing the torn and retracted ends of the sphincter ani muscle. It is then easy to catch up their proximal ends and bring them together just in front of the anus with the curved needle and silkworm-gut suture. The figure-of-eight will hardly be necessary in this instance as the sutures are so superficial. Should rectocele or cystocele exist, the former is effectually taken care of by colpoperineorrhaphy; the latter may be entirely remedied, or in case there should be an amount of redundant tissue not taken up by operation, it is a simple matter to remove an elliptical or conical section of the vaginal mucous membrane and unite the edges by a purse-string or running catgut, or by the interrupted suture.

CORRECTING DISPLACEMENTS

With the pelvic floor intact, it is now highly important to correct any backward displacement of the uterus and adnexa. This should be accomplished by first removing the cause, and then securing proper support from beneath, aided by erect carriage, postural treatment, and shortening of the round ligaments. The last-named procedure, when done externally through the inguinal canal or external inguinal ring, will effectually hold the fundus forward over the bladder, and prevent further tendency to prolapse or retrodisplacement. The operation given to the profession years ago, which I called, in reference to its technic, the "direct method," is still applicable to all cases in which the uterus is movable and in which there are no complications which require opening of the abdomen. If section is necessary for adhesions or other complications, the internal method is to be preferred. The proceeding is simple in the extreme and when properly executed should lead to no unpleasant consequences in subsequent labors. In uncomplicated cases, in which the direct method is chosen, I proceed as follows:

Technic.—Under full aseptic and antiseptic precautions, I begin by making an incision 1½ inches or more in length, parallel with Poupart's ligament, and directly over the canal of Nuck, which is midway between the spine of the pubis and the anteriorsuperior spinous process of the ilium. No dissections are necessary, this initial step exposing the glistening aponeurosis of the transversalis muscle. (In the subcutaneous fat, near the middle of the wound, will be found the epigastric vein, which may be ligated or picked up with artery forceps, cut across, and used as a guide, lying as it does, directly over the canal of Nuck.) Through a single nick in the separated fibers of the aponeurosis, the blunt hook may now be passed into the canal and the round ligament, which will be seen as a whitish, slightly flattened, cord-like structure, pulled out in less time than it takes to tell it. In a case in which the operator may not be confident of his ground, the identity of the ligament may be established by lengthening the incision so as to expose it along the canal in its entirety; or, if further confirmation is needed, an assistant should be directed to draw the uterus backward by the sound or finger, when the tension on the ligament can be seen or felt in the wound, and will sufficiently distinguish it from the surrounding tissues. When the ligament of one side is secured, proceed in like manner on the other, and drawing on both ligaments, expose, in the canal of Nuck, a reflection of the peritoneum surrounding the ligaments like a gloved finger. This should be stripped back until the ligament can be drawn well out and the uterus anteverted. This gives a loop of ligament on either side about 4 inches in length, to be disposed of by stitching the proximal ends together and anchoring them firmly to the aponeurosis and walls of the canal by buried animal sutures, care being exercised to avoid strangulation of the ligament or disturbance of its nutrition. The wound is closed with one series of silkworm-gut sutures, made to include the walls of the canal, the aponeurosis of the external oblique and the superficial covering. Permanent dressings are applied and are only removed in case of special indications. Patients are kept in bed three weeks or more, until firm union of the incised structures has taken place, and precautions against overexertion or straining of the parts are insisted on for as many months.

The advantages of this method of shortening the ligaments are essentially as follows, and are mainly due to the situation of the wound:

1. The short time necessary to recognize and secure the ligaments does away with the risks of prolonged anesthesia and the liability to wound or destroy their fibers in protracted search, since at this point, where there are few or no adhesions, there should be absolutely no teasing of the tissues.

2. The force used in pulling out the ligament is brought to bear on it at its strongest point and is in a direct line with its intra-abdominal course. This is in strong contrast to the old mode of pulling on its frayed terminal fibers at nearly a right angle with its inner and stronger portion, and over the sharp, resisting surface of the ring.

3. Aided by the sense of sight, and seizing the ligament above the inguinal canal, one feels sure that one is drawing on the abdominal portion of the ligament and not merely stretching its inguinal section.

4. Having avoided all teasing and bruising of tissues, with proper attention to aseptic measures, there should always be healing by first intention; drainage is unnecessary, and the after-treatment is relatively simplified.

5. If the ligament is strong and fully developed, as in its upper portion, it can be more securely anchored and made fast to the surrounding tissues.

6. Hernia is guarded against by the deep sutures constricting the canal about the internal ring, insuring firm union where most needed.

7. The intercolumnar fibers and tissues about the external ring are not interfered with in any way, and this effectually prevents those distressing sensations of tension and severe pain which sometimes continued for some time afterward, when the wound was situated lower down, as in the old operation.

GENERAL CONSIDERATIONS

In abdominal sections, too great attention cannot be paid to the matter of effective closure of the wound, to insure subsequent stability of the walls, for on this depends their retentive and supporting power. As I have emphasized earlier, proper carriage, postural treatment and physical exercises are essential to the permanent maintenance of structure, and without this stability, the individual can never be said to be well. Setting aside, then, those capital operations performed for conditions whose gravity admits of no discussion, the question of gynecic surgery resolves itself into one of expediency and adequacy in cases of ordinary pathology. He who does not realize this will perhaps never know why he has so many failures with such good and time-honored methods. It is because he has been content with doing something—a repair of the perineum, resection of an ovary, amputation of the cervix, stitching up of a fistulous opening—without calling on all his reserve of experienced judgment to weigh the indications. And this experienced judgment, which should aid him in making his diagnosis, deciding his treatment, and determining his prognosis, is what constitutes the gynecologic aspect of his science. Just as the artisan, habituated to the work, sees in the worn or broken article given him to mend, the story of its accident or misuse, the faults in its construction or composition, and thereby is able to judge how far, and by what means, he can hope to restore its integrity and usefulness, so the operator, confronted with a pathologic condition, searches back in the life of the patient for the productive factors in childbirth, in puberty, in the prenatal period—and adds this history to his knowledge of the present habit and temperament of the patient, before undertaking measures for her relief.

It is but crude surgery to say on examination of the patient: "Here we have a torn perineum; we will proceed to repair by the most approved method of perineorrhaphy"; or, "We have here a lacerated cervix—trachcloplasty." It would be gynecic science to say: "This perineum has been torn for years, throwing out of gear a whole set of delicately balanced organs, producing local pathologic conditions more serious than the original lesion, and a resulting disturbance of function in the system generally. The woman is abnormal, invalid, unhealthy, and it is the secondary affections which have driven her to seek relief. We have here not only a bit of local surgery to do, but a general remodeling of the organism. Our plastic work will not be finished with the hour's use of the knife; we must literally remold the woman."

If this seems fanciful, quixotic, think for a moment what is concerned in the profession of medical science. Toward each patient the physician assumes the rôle of dictator infallible in all that concerns bodily health, and in this age of complicated living when we have artificialized, as far as possible, all natural processes, it is worth the best man's untiring study to attempt to reconcile Nature with modern modes of life. In dividing our profession into specialties, we have need of keeping intact the saving characteristic of the old family doctor—close personal association with his patients. This individual confidence and intimate trust is necessary to the specialist and consultant, and his work will be correspondingly valuable as he cultivates it. Disease in the human body has the power of compelling and absorbing the interest of the patient to an exclusive degree; nothing else, for the moment, is of the least importance, and he is ready to meet professional advances more than half-way. It is a sufficiently weighty responsibility and nowhere else more weighty or more significant than in the department of gynecic surgery. Those men who tried some years back to create a new specialty called "orificial surgery," founded their misguided zeal on one very tenable argument: that the orifices of the body are of extreme significance in the animal economy. It is vital to remember this in work on the pelvic outlet. In choosing an existing method, or attempting some original procedure, the function and uses of the tissues under consideration must be kept in mind. The continuous demands on these organs, the tireless bodily activity which culminates here, the complexity of the eliminative processes, the rich vascular and nerve-supply —nowhere else is there such a complication of difficulties to enlist the skill of the operator.

There is another point of view from which the relative importance of pelvic surgery is vast. Work undertaken to correct defects or malformations in other parts of the body is mainly for cosmetic purpose, and while requiring skill and judgment, rarely touches the question of general health; whereas, in restorative operations on the pelvic organs, the correction of defects almost always means the reestablishment of function or the restoring of muscular integrity. Much of the failure of pelvic plastic work is due to the fact that this special difference is not taken into account, and operations are undertaken with the view simply of restoring surface conditions, as it were; witness the mere superficial skin union we find after some perineorrhaphies. In such cases, only the outer integuments are restored, and all the under fascia and muscular structures are left as they were to continue their hopeless inadequacy and the long train of evils already established in the patient. And it is this sequence of evils which will call for aid, the initial lesion assuming secondary importance in the case.

MULTIPLE OPERATIONS

This brings out another suggestion and one to which I attach the greatest importance—multiple operating at a single sitting. Instead of operating on the cervix, perineum, vagina, or other organ alone, according to the most apparent lesion, and then waiting for results, perhaps having to subject the patient to a tedious suite of surgical procedures, during which time she is in bondage to the gynecologic chair, and the habit of invalidism grows on her to a desperate degree. I make a practice of doing at one and the same time all the different operations which the pathologic conditions will justify—colpoperineorrhaphy, tracheloplasty, excision of the tubes and ovaries, currettement, shortening of the round ligaments, rectal or urethral work. This putting all the parts at once into, as nearly as may be, normal anatomic relations, gives Nature the best possible opportunity to do what is required of her, practically the whole process of cure being in her hands, for surgery can only remove obstacles to her work.

From the patient's point of view the proposition is admirable. It requires but little longer convalescence to get up from six or eight simultaneous operations than from one, and then they are done, and one has nothing to do but get well. The operator, too, has everything to gain. He can assure his patient that she is now as nearly normal, structurally, as mechanical science can make her, and that she has only to follow instructions and a rational course of life to return to vigorous health.

Of course, it may be a long road to restored vigor, but it is materially shortened by this manner of operating. Parts that have been subjected to long disturbance of circulation, infiltration and connective tissue formation, have undergone changes which are hard to overcome; functions that have been disordered for a long time are difficult to restore, and there may be an atrophy from disuse and malnutrition which it will require the best efforts of Nature to remove.

CONCLUSIONS

The indications for major surgery on the pelvic organs are obvious. Given the present state of our therapeutic knowledge, the removal of organs from the human body is a confession of our limitations. We remove them because, up to the present, we know of no other way either to prevent or correct the pathologic conditions which face us, but we are in duty bound to relegate such radical procedures to the domain of emergency work which justifies itself only in extremity. As for plastic gynecic surgery, there are practically no limitations when it is determined that the local defects interfere with the nutrition and circulation in the genital organs, thus giving rise to disturbance of function and tending to organic disease.

In the choice of methods, one is not limited to original devising. The operator has an extended program already mapped out for him, but he will do the best work, nevertheless, who can select intelligently and adapt skilfully the operation to the patient and not the patient to the operation.

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ABSTRACT OF DISCUSSION

Dr. H. O. White, Chicago: In Dr. Newman's excellent paper he stated that in shortening the round ligaments the patient occasionally experienced pain for a certain time. This is due to the fact—and it cannot be anything else—that a nerve is impacted in the sutures. There are two nerves passing through this opening—if we may call it an opening—and if one or both of these nerves are impacted, naturally enough there will be pain until these nerves are, so to speak, paralyzed, and therefore the pain will cease after the expiration of a certain amount of time. I believe, from an anatomic standpoint, that if the surgeon or gynecologist would take particular care to locate these nerves and exclude them from the sutures, no pain need be experienced by the patient.

DR. H. P. NEWMAN, San Diego: The muscles and structures converge at the pubic spine. By making the incision high up one does not disturb any of these important structures. Around the external inguinal ring there are converging muscular fibers, and when these are injured any subsequent movement of the body causes pain and distress. This is obviated by the high incision.

UTEROVAGINAL PROLAPSE IN ELDERLY WOMEN

THE OPERATION OF CHOICE [*]

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SAN FRANCISCO

The severest and most unmanageable forms of prolapse are found in elderly women who have borne many children. The repeated injuries and strains on the vaginal outlet not only destroy the supports of the uterus, but dislocate and disarrange the surrounding pelvic structures. This may occur to such an extent that the injury and prolapse of the adjacent structures is of greater practical importance than the descent of the uterus itself.

The problems connected with the treatment of severe prolapse are complicated. Not only are the mechanical difficulties great, but often the loss of tone and the atrophic condition of the tissues make them thin, friable, and difficult to operate on. On the other hand, after the menopause, the operator has a certain advantage in that he is free to manipulate the tissues in any way he sees fit. He is no longer restricted by the need of providing for the possibilities of childbirth, or the physiologic action of the pelvic organs. The uterus, tubes and ovaries may be preserved or removed, regardless of function.

In the presence of the conditions described, what is the operation of choice? Shall the uterus be removed or shall it be preserved?

In looking over the literature of 1910, it will be observed that the majority of the Continental authors who have written on the subject favor preserving the uterus, according to the Wertheim-Schauta procedure. In our country, during the past year, a long list of men placed themselves on record as favoring hysterectomy. Jewett, Baldy, Cullen, Goffe, Carstens, Cleveland and several others, have distinctly stated, either in discussions or in papers, that the uterus should be removed in the operative treatment of extreme cases of procidentia in elderly women.

Consensus of opinion among our prominent medical men has an enormous influence in directing the practice of the profession at large. Any suggestion from them is seized with avidity, and followed without question. Even in the absence of clear and logical explanations, the profession is content, as a rule, to follow an eminent name, letting authority take the place of reason. Great, then, is the responsibility resting on those who speak as authorities. We look to them as the embodiment of clearness, logic and knowledge. When they give advice, we presume that back of it are experience, careful thought and good reason, though they may not think it necessary to impart all this to their humble followers

In hunting for reasons why hysterectomy is advocated as a cure for prolapse, I have failed to find the answer, except from Goffe. Carstens points to the absurdity of preserving a useless organ. Others leave it to be inferred that the question requires no answer because the proposition is self-evident, viz., if the uterus is removed it cannot again prolapse.

The clearest explanation of why the uterus should be removed and how it may be done, so as to meet the conditions surrounding a complete prolapse, is given by Goffe. In an article read before the American Gynecological Society, May, 1910, on the relief of extreme cases of procidentia, cystocele, and rectocele, he says:

> This, as I am sure you will all recognize, has been a most difficult condition to relieve, and while many of the best minds in our specialty have given much time and serious attention to it, no procedure has emanated from their hands that has given permanent or satisfactory results. As one of our number, after sitting at my elbow, two or three years ago, and witnessing two of my operations, remarked, "I have long felt that about all the problems in gynecology have been satisfactorily solved by us, except this one of cystocele and procidentia. I am convinced now that you have hit on the right principle and solved the problem."

Further on he says, "In cases which occur in women at or near the menopause, there is such a relaxation and complete lack of support in the tissue that the normal sustaining qualities of the tissues are hopelessly lost." Again, "All methods that have been previously resorted to, to retain the uterus in these cases, have proved unavailing." Finally, "It is my custom, therefore, in all these cases to remove the uterus."

In addition to Goffe's attitude it may easily be shown that the weight of authority in recent literature is in favor of hysterectomy. In view of these facts I wish to enter my feeble protest against the general acceptance of this judgment. A large number of careful men consider that satisfactory results are obtained by preserving the uterus, and are firmly convinced that its removal entails a distinct disadvantage. The question, then, is still an open one, and we are still at liberty to discuss which is the operation of choice in cases of severe prolapse.

PRELIMINARY CONSIDERATIONS

Recurrence.—The universal complaint of operators who have had much experience with treating genital prolapse is recurrence after operation. It is found, however, that in the great majority of cases, it is the cystocele alone that recurs. Dickinson calls attention to this point, and remarks that such results call for an overhauling of our methods of operating.

Importance of the Cystocele.—To fasten the uterus so that it cannot again protrude is comparatively easy; witness Harris' operation of imbedding the uterus in the abdominal wall. But to prevent the bladder from again coming down is a very difficult problem. It appears to me that failure to recognize the relative importance of the cystocele as a complication of genital prolapse has obscured the true principles of operative treatment. Undue prominence has always been given the uterus. All measures have centered about this organ, while the support of the bladder has been overlooked or deemed a minor consideration. Practical experience shows that the order of importance should be reversed. The problem becomes, then, "How can we prevent the recurrence of cystocele in operating on severe forms of procidentia?"

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[*] Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Prolapse a Hernia.—A casual examination of a complete prolapse shows that it presents all the characteristics of a hernia. Uterus, bladder and rectum have pushed through the pelvic floor. It is quite evident that the opening through the levator ani is abnormally large. It needs no argument to show that restoration of the pelvic floor is necessary to any successful operation. This means, however, not an ordinary perineorrhaphy, but an actual exposure and direct union of the edges of the levator ani. The rectocele is sufficiently cared for by this repair, because by the approximation of the edges of the levator the rectum is pushed back and held back.

Hernia of Bladder.—The cystocele (Fig. 1) complicating procidentia uteri is also a hernia, viz., of the bladder into the vagina. When we examine the bladder support we find that the base corresponds to a portion of the anterior vaginal wall. This structure (Fig. 2) consists practically of three layers — vaginal mucosa, bladder wall, and a thin layer of fascia between. Neither bladder wall nor vaginal wall is designed to act as a supporting structure because they easily stretch or distend. There remains, then, only the thin layer of fascia as the true support of the base of the bladder. When once this fascia becomes overstretched or split and a severe cystocele occurs, it becomes impossible to restore its full integrity.

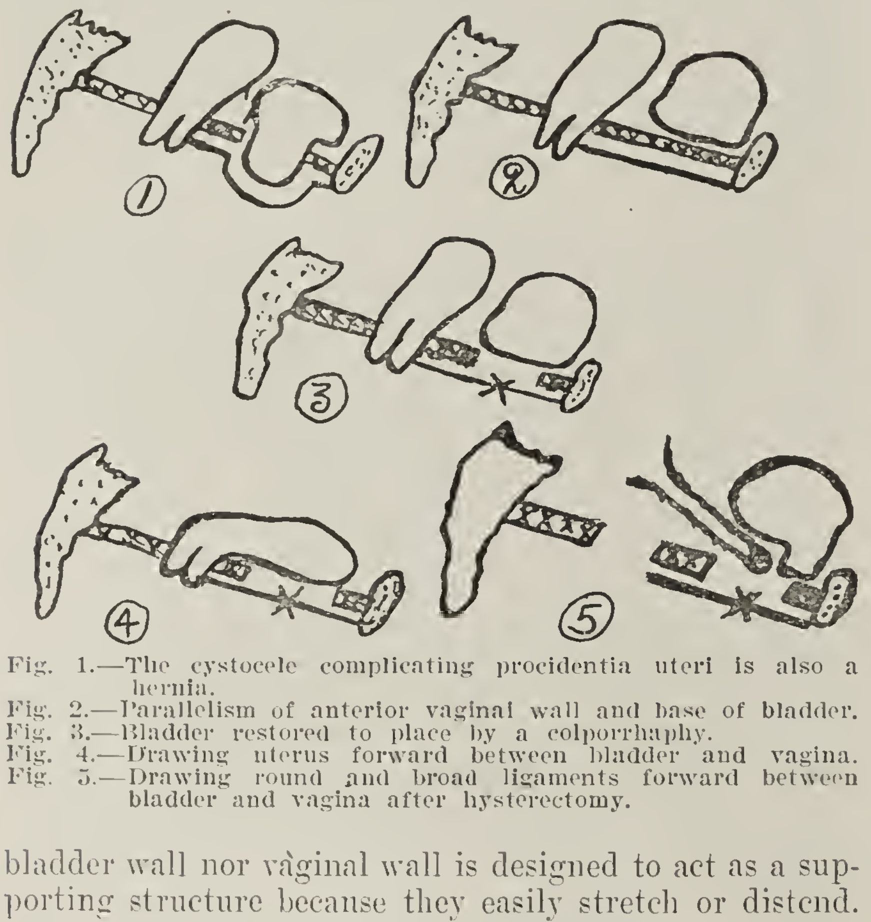

Fig. 1.—The cystocele complicating procidentia uteri is also a hernia.
Fig. 2.—Parallelism of anterior vaginal wall and base of bladder.
Fig. 3.—Bladder restored to place by a colporrhaphy.
Fig. 4.—Drawing uterus forward between bladder and vagina.
Fig. 5.—Drawing round and broad ligaments forward between bladder and vagina after hysterectomy.

SIMPLE COLPORRHAPHY INADEQUATE

In the operation of anterior colporrhaphy, no operator pretends to identify the fascia and unite it. At best, he makes a wide denudation, pushes the bladder back, takes up all the slack possible in the anterior wall, and unites the edges of the vaginal mucosa by rather deep sutures.

We have, then, as a result of an ordinary colporrhaphy (Fig. 3), the bladder restored to place but supported only by a layer of vaginal mucosa. When we consider that the bladder is a "shifting water bag jounced when full and often overfull," as Dickinson expresses it; that it is constantly pressed on by weight of organs above, by the pressure of corsets, and the straining of constipation, it becomes plain that recurrence of a cystocele after an ordinary colporrhaphy is almost inevitable.

REENFORCEMENT OF VAGINAL WALL NECESSARY

In order to prevent recurrence, something must be supplied to take the place of the injured fascia. In other words, in order to provide an efficient support to the bladder, the anterior vaginal wall must be reenforced.

If we examine the various operations for prolapse, we find that few of them make any mention of the cystocele problem. Philander Harris, for instance, proposes to bury the uterus within the abdominal wall. It is true, the uterus cannot again prolapse, but how about the cystocele? M. L. Harris proposes to dissect out the psoas parvus and attach it to the cervix, but leaves the cystocele to take care of itself. Kelly's standard operation is nothing more than a colporrhaphy for the support of the bladder.

METHODS OF STRENGTHENING THE SUPPORT OF THE BLADDER

There are two obvious and comparatively simple methods of supplying the necessary reenforcement:

1. The uterus may be drawn forward and placed between the bladder and vagina (Fig. 4) or,

2. After a hysterectomy, the remaining round and broad ligaments may be drawn forward beneath the bladder and united so as to give the necessary support (Fig. 5).

The former method represents the old operation of interposition or vagino-fixation, as elaborated by Dührssen, Mackenrodt, Wertheim, Schauta, and whose technic has been illustrated beautifully by Watkins. The latter operation is due to Goffe.

How other surgeons provide for an adequate support of the bladder is not a matter of common knowledge. As far as I can see, the operation for prolapse in elderly women and under ordinary circumstances is narrowed down to a choice between these two procedures. Each recognizes the necessity of supporting the bladder and each provides an adequate means. It is not necessary to give the technic of either operation. The basic principles are clear and the operations are well known.

WHY REMOVE THE UTERUS?

Granting, then, that there is no special indication for hysterectomy, which should be the operation of choice?

As preservation of the uterus is more conservative, the burden of argument for removal of the organ at once falls on those who favor hysterectomy. It is for them to demonstrate its superiority before advocating the radical and more difficult procedure. But, on general principles, the choice may be made by comparing relative results, simplicity and safety.

The implication in Goffe's statement quoted above, that interposition of the uterus is not satisfactory, is disproved daily by the testimony of many operators. It is hardly necessary to show that interposition is widely and successfully practiced, but it may be mentioned that according to Watkins the Mayos have done about 100 of these operations and report excellent results.

In interposition of the uterus a broad solid support is provided for the bladder without a large amount of cutting and sewing. The ligaments assist in the support and certainly are more secure in their normal relations to the uterus than when detached and sewed to each other.

Hysterectomy with union of the ligaments is technically difficult. The support provided is chiefly the united round ligaments and these by comparison with the broad surface of the uterus form merely a clothesline on which to hang the bladder.

With the water-bag hanging on the line the point of union of the round ligaments is subjected to considerable tension. When we remember that vaginal sections are attended by profuse bleeding, extensive opening of connective tissue spaces and imperfect asepsis and that suppuration and separation of united tissues are quite common, we must realize that risk of failure in getting the ligaments to unite is considerable.

CONCLUSIONS

1. Recurrence of cystocele after operations for prolapse is very common.
2. Anterior colporrhaphy is not an efficient remedy.
3. In order to prevent recurrence the two prime requirements are reenforcement of the anterior vaginal wall and functional restoration of the levator ani.
4. Reenforcement by interposition of the uterus is easy, safe, conservative and altogether a satisfactory procedure.
5. Unless specially indicated, hysterectomy for the cure of prolapse is unnecessary, complicated and entails distinct disadvantages.

Why then remove the uterus when good results are obtained by preserving it?

ABSTRACT OF DISCUSSION

Dr. Philander A. Harris, Paterson, N. J.: Operation for the cure of cystocele has too often been unsatisfactory. We should also know that removal of the uterus for the cure of cystocele and partial descent of the uterus is a most unwise procedure; inversion of the vagina and cystocele too often recur after removal of the uterus. For the cure of inversion of the vagina following vaginal hysterectomy, I, a few years since, devised and put into practice an operation which consisted in transfixing the vagina with the round ligaments. This operation relieved or cured all of the patients with cystocele and prolapse of the vagina. In advising against removal of the womb for cystocele Dr. Somers has undoubtedly repeated correct advice in this relation. To what extent one may succeed through the operation described by Dr. Somers, I do not know. Every new measure must be well tried out in order that its value may be determined. It will be interesting to know the later results of the operation which he advocates. I never intended that the operation which I described for the cure of prolapse of the uterus, and which Dr. Somers has demonstrated on the screen from one of my drawings, should cure cystocele, although it did cure this condition in a number of cases; that is, I performed my operation, which is termed "intramural sequestration and fixation for the cure of prolapse of the uterus," and incidentally I found that cystocele was either relieved or cured in all of these cases.

Dr. S. M. D. Clark, New Orleans: I always conserve the uterus in curing these patients with prolapse and believe that it serves splendidly as a plug for the hernia. It is especially valuable in obliterating the hernia of the bladder, which we know is one of the most difficult phases to handle successfully in these cases. I had one of these interesting cases twelve months ago, in which there was complete prolapse, not only of the uterus, but also of the anterior and posterior vaginal walls. In this case I followed the so-called Watkins idea, going even further in bringing the base of the broad ligaments in front of the uterus on a level with the internal os; also suturing the round ligaments strongly across the fundus of the uterus. A strong posterior colporraphy was built up in conjunction with the Watkins, but to my disappointment I had a letter from the patient's physician after four months, saying that there was evidence of a recurrence. When the patient returned, I found at the examination that the cervix was beginning to protrude from the vaginal orifice, as well as the posterior vaginal wall, and I could only say that the cystocele had been cured. It was a problem for me to determine the best procedure to follow, but I decided on opening the abdomen and lifting the posterior cul-de-sac with the cervix up to the abdominal wall, where it was anchored firmly to the muscles of the abdomen. This, so far, has cured the patient, and I think it was the best procedure to follow in this instance, from the fact that I would have had great difficulty in extricating the fundus of the uterus from beneath the bladder, and furthermore, it would have removed that which gave the latter organ support. I have never seen a case handled in a similar manner.

Dr. L. G. Bowers, Dayton, O.: Mutilation to correct a displacement of the uterus is not a good procedure. One thing which we overlook in the cure of cystocele is the long anterior wall. In this case if one denudes and puts in sutures one corrects the size but does not change the length. My habit is to do as in ordinary hernia: make a long incision and raise the edge with knife and forceps, catch the raised edge with dry gauze and strip the bladder away from the uterus for nearly an inch above its normal attachment to the uterus. One gets thus a hernial sac. A diamond-shaped piece is removed and stitched up in such a manner as to give a plus-shaped suture line. The lower stitch is so placed that it catches the uterus under the bladder. Most of these cases require an amputation of the cervix. All require some suspension of the uterus. I use either the external Alexander or the Gilman operation.

Dr. Frank P. Topping, San Francisco: I believe that in the restoration of the pelvic floor, any of the recognized operations are good and that in any repair temporary relief is obtained. The test is made only by time. Patients come back three to five years afterward for relaxed vaginal outlet and for cystocele. You will find that in cases in which the plastic result looked so well at the time of and following the operation, there has been a great relaxation when the levator ani muscles have not been brought into apposition. Although healing has been perfect, the anterior bladder wall has stretched. I think it is mainly in the large clinics that one can follow the cases. In the Cooper College Clinic we have a number of these cases. It is true that when the uterus has been removed patients are rid of the procidentia, but they come back with persistent cystocele, which is as troublesome as the original cause of the complaint—prolapse of the uterus. Were it possible to suspend the bladder as one can suspend the uterus in Kelly's ventrosuspension, it would be all right. But this being impossible, that by getting a wedge from below and by inverting the uterus and sewing it below the posterior bladder wall one comes nearer to it than by any other operation.

Dr. H. O. White, Chicago: From an anatomic standpoint, I do not believe it is correct to say "pelvic hernia," for there is a great deal of difference between hernia and prolapse. A hernia is a protrusion of a viscus through an abnormal opening. The vaginal opening is not an abnormal opening. We have inguinal hernia where a viscus is protruding through an external or internal abdominal ring, but really there are no such things. It is when the viscus forms an opening that we call it a hernia. Hence, all these prolapses through the vaginal openings I would simply call prolapses and not hernias.

Dr. G. B. Somers, San Francisco: You will notice that I have been very careful not to discuss technic. The paper was simply a consideration of the broad question as to which is the better procedure—removal of the uterus or preservation of the uterus. I have tried to show that I favor preservation of the uterus, when possible, on the ground that it gives good and sufficient support. I do not wish it to be understood that I regard interposition as a perfect operation. Some operators have failed with it. Those who do the operation may at times notice that the uterus has a tendency to double on itself, throwing the cervix downward and forward. The fault here is technical. The trouble is that we have not paid sufficient attention to taking up the slack in the anterior vaginal wall in the neighborhood of the cervix. Again, all the points along the neck of the uterus as well as the fundus should be sutured to the anterior vaginal wall. I do not care to discuss technic further except to reply to the speaker who suggested a way of shortening the vagina. The anterior vaginal wall should not be shortened from before backward for such a procedure will result in a presentation of the cervix at the vaginal outlet. One of the principles we must carry out is to have the fundus low and keep the cervix high. To shorten the vagina drags the cervix down. It appears to me, however, that if we can first determine what should be the operation of choice, then these points in technic are capable of solution later.

TUBERCULIN AS A DIAGNOSTIC AND THERAPEUTIC AGENT IN THE TREATMENT OF CONJUNCTIVITIS ECZEMATOSA (PHLYCTENULAR CONJUNCTIVITIS AND KERATITIS)

BASED ON THE STUDY OF FIFTY CASES

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Phlyctenular conjunctivitis and keratitis (conjunctivitis eczematosis, phlyctenulosis) constitute one of the most frequent ocular maladies of childhood. The dominant characteristics of the disease are, first, its chronicity and, second, its tendency to recurrences. Usually it is not reckoned as a serious ocular malady, either in its clinical course or in its sequelæ. An extended experience, however, and a careful analysis of the clinical course and sequelæ of phlyctenular trouble neither justify this assumption nor satisfy the conscientious scientist with the results obtained by present methods of treatment. When there is taken into account the suffering experienced by many such patients, the prolonged invalidism they must undergo, the unheralded acute attacks of frequent occurrence which they must accept, the inroads on their visual acuity to which each new attack subjects them, the anxieties of parents as to the outcome of the attacks, the educational loss incident to the patient being compelled to remain out of school, the economic loss to the child, to the parents and to the state, the physical retardation and interference with physical and mental development—when all these factors, which are not the unusual, but on the contrary, the common concomitants of a phlyctenular affection, are weighed and measured, the consideration of this disease then assumes a more serious aspect than a mere superficial consideration would lead one to expect. The full force of the hardships, incident to an attack or recurrence of the disease, is better appreciated when one considers that even the mildest attacks require from eight to fourteen days for complete recovery, while in those not unusual cases, where outbreaks rapidly follow each other with slight intermission, the period of invalidism may be prolonged into months or even years. The present recognized treatment of an acute attack of phlyctenular trouble, while far from ideal, might fairly be said to be satisfactory in results, compared to the extremely unsatisfactory results usually obtained by present-day methods in preventing recurrences of the disease. The prevention of these recurrences is the crux of the question, the pressing, insistent problem which confronts the clinician. Each recurrence subjects the patient to additional hazard in the possible limitation of his vision, besides producing and accentuating the manifold ill effects previously alluded to. The largest opportunity and the broadest possibility lie in the prevention of the recurrences. When this phase of the management of such cases has been definitely overcome, the application of the new therapeutic management will necessarily prove equally satisfactory in managing acute attacks of the disease. While the etiology has not been specifically established, phlyctenular disease has, by common consent, been considered to be due to a strumous constitution, a scrofulous diathesis, which, translated into modern scientific language, is interpreted as meaning an active or latent tuberculosis. The attacks were observed in connection with some lowering of the general body resistance and a minus resistance of the patient; almost always in association with the "adenoid syndrome"; frequently encountered with tuberculosis of bones and joints and common accompaniments or sequelæ of the exanthemata, measles, scarlatina, whooping-cough, or some debilitating illness. In the past, scrofula, or what was termed a "scrofulous diathesis," was held largely accountable for the production of the disease. Modern observers have established what might be termed the "pathologic kinship" existing between scrofula and tuberculosis. This kinship, while perhaps not positively established, has been so well recognized that the Germans speak of those exhibiting the scrofulous diathesis as "candidates for tuberculosis." Investigators have directed their attention especially to tuberculosis as an etiologic factor in the production of the disease.

Mr. Stephenson[1] states: "While nobody asserts that the phlyctenule itself is of tuberculous histologic structure, or that it contains tubercle bacilli, nevertheless it is most ordinarily believed that practically speaking the characteristic lesion occurs only in those who are subjects of tuberculosis, latent or otherwise."

Since Koch's discovery of the specific pathogenic microorganism of tuberculosis and his advocacy of tuberculin as a diagnostic and therapeutic agent, increased impetus has been given the investigation of the subject. The diagnostic measures now available, together with the improved technic for the recognition of tuberculosis, as well as the enlightened public opinion on the subject of tuberculosis, which insures a cooperation on the part of patients hitherto unknown, has been of incalculable advantage in conducting such an investigation.

The announcement of the discovery of tuberculin by Robert Koch created a furore among scientists and laymen. For a considerable period, notwithstanding the earnest protest of its discoverer, it was hailed as the long-looked-for specific in the treatment of tuberculosis. Disappointment in the results obtained by its indiscriminate use soon gave place to ridicule, and ridicule to abuse, and soon both the discoverer and his discovery were enveloped in a maelstrom of unseemly criticism. A small but earnest band of scientific workers, who were neither carried heavenward by the gale of enthusiasm following Koch's announcement, nor precipitated to the bottom of the scientific sea by the wave of criticism which superseded the first enthusiasm, continued to carry on their observations with the new agent. To the dignified insistent attitude of the great master, Koch, during these trying periods, and to the work of his faithful following, suffering humanity and the scientific world is indebted for a revival of the use of tuberculin along the lines first advocated by the great discoverer. "Koch's intention[2] was to create antitoxins by carefully introducing tubercle toxin into the body of the patient and through introduction of dead, specifically prepared tubercle bacilli in the newer preparation, to produce defensive substances against the morbid agent itself, to 'actively immunize' the patient, as the bacteriologists term it." While probably the therapeutic successes of tuberculin might at this time provoke an animated discussion, the same unsettled opinion does not obtain concerning its diagnostic efficacy. No less an authority

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1. Stephenson: Brit. Med. Jour., April 16, 1910.
2. Junius: Ophthalmology, Seattle, 1910, vi, 200.

han Wolff-Eisner[3] uses the following emphatic language
n discussing its diagnostic value: "Contrary to what
as been said concerning its therapeutic value, its diag-
ostic importance is not to be doubted, and it is hardly
n exaggeration to maintain that this discovery stands
t the beginning of the diagnostic science of tuberculosis,
nd our clinical knowledge concerning the distribution
f this disease. It seems to have been the mission of
uberculin completely to fill up the gap caused by the
ss of the value of the tubercle bacilli for purposes of
arly diagnosis, and to constitute an extremely fine bio-
gic method by which to discover even the very first
tages of tuberculosis."

The various tuberculin tests for the specific diagnosis
f tuberculosis are four in number: .

1. The cutaneous (von Pirquet).
2. The percutaneous (Moro, Doganoff, Lignières).
3. The conjunctival (Calmette, Wolff-Eisner).
4. The subcutaneous (hypodermic).

An extended consideration of the relative value of
ese four tests, with their modifications, is not within
e scope of this paper. In the selection of a test
itable for the observations which formed the basis of
is report, the limitations of and adaptability to the
inical material utilized became a matter of major im-
rtance. The hypodermic (subcutaneous) test was not
plicable, principally because of the fact that with this
bulatory clinical material it was found impossible to
rry out with precision the important details, such as
eping the temperature records, etc., which this test
quires. The conjunctival test (Calmette, Wolff-Eisner)
as not applicable because it is contra-indicated in any
flammation of the eye or lid; other hazards, such as a
olonged conjunctivitis and ulceration of the cornea,
ve also been reported from its use. The percutaneous
st (Moro, Doganoff, Lignières) is said to be not so
pendable as the von Pirquet test, principally because
the variable quality of absorption and the irritability
the skin differing in the different individuals. The
taneous diagnostic tuberculin test of Pirquet was
lected because it lends itself admirably to the investi-
tions of the tuberculous ocular maladies of childhood.
on Pirquet states that the cutaneous test which bears
s name is of value chiefly in children. In addition to
special application to suspicious tuberculous ocular
seases of childhood the test commends itself, first, for
comparative freedom from dangers; second, its sim-
icity of application; third, its freedom from unpleas-
t and disturbing reactions, focal, constitutional and
al; fourth, elimination of prolonged and frequent
riods of observation for confirmation; fifth, its relia-
ity of results. Von Pirquet[4] thus explains the origin
the test:

> I had found that in vaccination against small-pox only those
> sons show local symptoms within twenty-four hours who
> ve formerly been vaccinated. One may therefore conclude,
> any early reaction is obtained, that the person has been
> viously vaccinated. In applying the method of vaccination
> tuberculosis, I found that, in the same way, an early reaction
> the point of vaccination with Koch's tuberculin proves a
> vious infection with tuberculosis, and that this cutaneous
> ction corresponds to Koch's fever reaction after injection
> h tuberculin.

The value of the cutaneous reaction as a diagnostic
asure has been definitely established not only by
tensive clinical observation, but by the post-mortem findings of von Pirquet. Two hundred of his cases, which had previously undergone the cutaneous test, came to autopsy. In these 200 cases were 109 children with no tuberculosis. In eighty-nine cases tuberculosis was found post mortem, and of these eighty-nine cases, sixty-five had given a positive reaction. No reaction had followed in twenty-four of the eighty-nine. Von Pirquet explained this negative result in the twenty-four, by the statement that no reaction occurs in the terminal stage of the disease, in the last stages of meningitis, in generalized tuberculosis, in miliary tuberculosis, in certain stages of measles, and also that the reaction ceases as the child gets older. The twenty-four negative reactions were explained by their being classed in one or the other of these groups. All the children who had given a negative reaction were found on autopsy to be free from tubercle. Von Pirquet's conclusion[5] is that "the positive result of the reaction indicates with certainty the presence of active or inactive tuberculous changes." A negative result, when tuberculosis is present, is explained by von Pirquet on the premises previously alluded to. Adults react positively much more frequently than children, on account, it is alleged, of the greater frequency of tuberculosis in the adult. The test is, therefore, more useful in early childhood. Von Pirquet states that a negative result in the adult, after three attempts, proves with certainty that the patient is free from tuberculosis.

In the series which I studied, a careful record was kept of the cases and every essential detail thought to be necessary was carried out faithfully and energetically. The period of observation approximates six months, and the cases studied numbered fifty. A systematic plan of observation was adopted and included:

1. Age of the patient.
2. Type of disease.
3. Duration of disease, with particular reference to frequency of "recurrences," and association with other diseases.
4. Family history, with particular reference to tuberculosis and syphilis.
5. Personal history, with particular reference to tuberculosis and syphilis.
6. General condition of patient.
7. Lymphoid complications, adenoids, enlarged tonsils, adenitis, etc.
8. Results of von Pirquet tests.
9. The local, focal and constitutional effects of the test.
10. Therapeutic administration of tuberculin.
11. The local, focal and constitutional effects of the therapeutic injection.
12. Results of the therapeutic injection on the ocular disease.

In addition to the therapeutic use of tuberculin, the patients were given the usual local ocular treatment of conjunctivitis eczematosa (boric solution, yellow oxid of mercury, calomel, atropin, warm compresses, etc., as indicated) and constitutional measures such as regulation of diet, hygienic conditions, systematic life, exercise, fresh air, tonics, etc., and where complications, such as hypertrophied tonsils, nasal obstructions, adenoids or other diseased conditions existed, these were corrected or treated. The von Pirquet cutaneous reaction test was first applied in all cases, and in the event of a positive reaction ensuing, the therapeutic injections were instituted, after the local reaction and all other untoward developments had subsided completely.

Three negative tests were elicited before the patient was considered free from suspicion of tuberculosis. The

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3. Wolff-Eisner: The Ophthalmic and Cutaneous Diagnosis of
erculosis, p. 11.
4. Von Pirquet: Cleveland Med. Jour., vii, No. 11.
5. Von Pirquet: Wien. klin. Wchnschr., 1907, No. 38.

RESULTS OF THE USE OF TUBERCULIN (DIAGNOSTIC AND THERAPEUTIC) IN OCULAR DISEASE

Case No.	Age of Patient, Years	Type of Ocular Disease	Duration of Disease	Glandular Complications†	Tub. Family History, Syphilis	Personal Hist., Active Inactive Tub. Syphilis	Von Pirquet Positive-Negative	Ocular Reaction with v. Pirquet Test	Temp. with v. Pirquet	Therapeutic Duration of Treatment ‡	Temp. Following First Therapeutic Injection	Result on Ocular Disease of Injection
1	10	Phlyct. Conj. O. D.	Off and on* one year.	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Negative...	Negative...	March 15....	100	Cured
2	9	Phlyct. Kerat. O. D.	Since 4 years, off and on.*	Ad. T. Gl.....	Father and mother died of consumption.	Negative......	Negative (3 tests).	Negative...	Negative...	....	.....	Cured
3	3	Phlyct. Conj. O. D.	2 weeks.............	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Negative...	Negative...	March 20....	99.6	Improved
4	3	Phlyct. Kerat. O. U.	Since 5 years old, off and on.*	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Negative...	Negative...	February 27..	99	Cured
5	12	Double Phlyct. Kerat. O. U.	4 months (typhoid)..	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Slight	Negative...	January 25...	100.2	Marked improvement
6	1	Phlyct. Kerat. O. D.	Since 2 days........	Ad. T. Gl.....	Negative......	Negative......	Negative (3 tests).	Negative...	Negative...	....	.....	Improved
7	18	Phlyct. Kerat. O. D. Epi. Scleritis.	Since 5 years........	Ad. T. Gl.....	Negative......	Negative......	Positive.....	Negative...	Negative...	March 1.....	99.4	Improved
8	11	Phlyct. Conj. O. D.	Past 3 years, off and on.*	Ad. T. Gl.....	2 sisters died of pul. tub.	Negative......	Positive ...	Negative...	100.......	No treatment.	.....	Unknown
9	42	Keratitis O. D.....	2 years.............	Gl...........	Negative......	Negative......	Positive ...	Negative...	Negative...	March 1.....	99	Improved
10	4	Phlyct. Kerat. O. D.	Since 2 years, off and on* (typhoid).	Ad. T. Gl.....	1st cousin died of pul. tub. (paternal).	Negative......	Positive ...	Negative...	Negative...	March 15....	100	Improved
11	22	Phlyct. Conj. O. D.	1 year..............	Gl...........	Negative......	Negative......	Positive ...	Negative...	Negative...	February 27..	Negative	Cured
12	6	Phlyct. Kerat. O. D.	2 yrs. (scarlet fever).	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Negative...	Negative...	January	99	Cured
13	9	Phlyct. Kerat. O. U.	1½ years, off and on.*	Ad. T. Gl.....	Negative......	Negative......	Negative (3 tests).	Negative...	99 (after third test).	....	.....	Improved
14	7	Phlyct. Kerat. O. S.	6 months, off and on.*	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Negative...	Negative...	February 6...	99.2	Cured
15	8	Phlyct. Kerat. O. D.	Since 3 years, off and on* (measles).	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Slight	Negative...	February 27..	100.2	Improved
16	3	Phlyct. Kerat. O. S.	1 year, off and on.*..	Ad. T. Gl.....	Negative......	Negative......	1st neg.; 2d pos.	Negative...	Negative...	February 27..	99.2	Cured
17	13	Phlyct. Kerat. O. U.	3 months...........	Gl...........	Negative......	Negative......	Positive ...	Negative...	Negative...	October	99	Improved
18	56	Phlyct. Kerat. O. D.	6 months (whooping-cough).	Gl...........	Negative......	Negative......	Positive ...	Negative...	Negative...	October	99.4	Cured
19	6	Phlyct. Kerat. O. D.	6 months...........	Gl...........	Negative......	Negative......	Positive ...	Negative...	Negative...	October	99	Cured
20	2	Phlyct. Kerat. O. D.	1 year (tonsillitis)...	Ad. T. Gl.....	Negative......	Negative......	Negative (3 tests).	Negative...	Negative...	....	.....	Cured
21	4	Phlyct. Kerat. O. S.	2 months (measles)..	Ad. T. Gl.....	Negative......	Negative......	Positive	Negative...	Negative...	January	99.4	Cured
22	10	Phlyct. Conj. O. U.	2 months...........	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Negative...	Negative...	February 27..	99	Cured
23	26	Phlyct. Conj. O. D.	2 years............	Tonsils and adenoids removed; operation for tub. gl. neck.	Mother and father also operated; tub. gl. neck.	Tub. gl. neck was operated.	Positive ... (strong).	Negative...	Negative...	February 20..	99.3	Cured
24	8	Phlyct. Conj. O. U.	Off and on* for 3 yrs. (bronchitis).	Ad. T. Gl.....	Negative......	Negative......	1st neg.; 2d pos.	Negative...	Negative...	March 29....	99	Cured
25	22	Phlyct. Kerat. O. D.	3 months...........	Gl...........	Negative......	Negative......	1st neg.; 2d pos.	Negative...	Negative...	March 27....	99.2	Improved
26	31	Phlyct. Kerat. O. D.	2 months...........	Gl...........	Negative......	Negative......	Positive ...	Negative...	Negative...	March 27....	99.1	Improvement marked
27	41	Phlyct. Kerat. O. D.	6 weeks............	T. Gl.........	1 son died of pul tub.	Negative......	Positive ...	Slightly reddened.	100.......	March 1.....	100.2	Improved
28	23	Phlyct. Conj. O. S.	1 year..............	T. Gl.........	Negative......	Negative......	Positive ...	Negative...	Negative...	January 28...	99.4	Cured
29	4	Phlyct. Conj. O. U.	5 months, off and on.*	Ad. T. Gl.....	Uncle and aunt died of pul. tub. (paternal).	Negative......	Positive (strong).	Negative...	Negative...	March 31....	100	Cured
30	21	Phlyct. Conj. O. D.	1 month...........	Gl. T.........	Uncle died of tub. (pat.); Another uncle now has tub. pul. (pat.).	Negative......	Positive (strong).	Other eye showed phlyct.; affected eye reddened.	99.2.......	February 27..	99.2	Cured
31	40	Phlyct. Conj. O. D.	6 months, off and on.*	Gl...........	Negative......	Negative......	Positive ...	Negative...	99........	March 1.....	99	Cured
32	2	Phlyct. Conj. O. U.	1 year (scarlet fever).	Ad. T. Gl.....	Negative......	Negative......	Positive ...	Negative...	Negative...	February 1...	99	Cured
33	40	Phlyct. Conj. O. D.	6 months...........	Gl...........	Negative......	Negative......	Positive ...	Negative...	Negative	February 1	[illegible]	Cured

						neck.					
36	5	Phlyct. Conj. O. U.	4 years, off and on* (measles).	Ad. T. Gl.....	Mother died of pul. tub.	Negative......	Positive...	Negative...	Negative...	March 5.....	99.3	Cured
37	6	Phlyct. Conj. O. U.	2 years, off and on* (pneumonia).	Ad. T. Gl.....	Negative......	Sup. glands of neck.	Positive...	Negative...	Negative...	October	99	Improved
38	30	Phlyct. Kerat. O. U.	1 year, off and on*...	T. Gl.........	1 brother died of pul. tub.	Right lung affected slightly.	Positive (marked).	Negative...	Negative...	October	100	Cured
39	19	Phlyct. Conj. O. U.	4 years, off and on*..	T. Gl.........	Negative......	Negative......	Positive...	Negative...	Negative...	October	99.3	Cured
40	30	Phlyct. Conj. O. S.	1 year, off and on*...	T. Gl.........	Negative......	Negative......	Positive...	Negative...	Negative...	November ...	99	Cured
41	3	Phlyct. Conj. O. S.	1 year, off and on*...	Ad. T. Gl.....	Negative......	Negative......	Positive...	Negative...	Negative...	January	99.3	Cured
42	1	Phlyct. Conj. O. U.	2 months..........	Ad. T. Gl.....	Negative......	Negative......	Positive...	Negative...	Negative...	January	99	Cured
43	2	Phlyct. Conj. O. D.	6 mos. (chicken-pox).	Ad. T. Gl.....	Negative......	Negative......	Positive...	Negative...	Negative...	January	99	Cured
44	6	Phlyct. Conj. O. D.	2 years, off and on*..	Ad. T. Gl.....	Negative......	Negative......	Positive...	Negative...	Negative...	November ...	99.3	Cured
45	51	Phlyct. Kerat. O. D.	2 years, off and on*..	T. Gl.........	Negative......	Abscess of rectum (tub.) not healed; operated 1 year ago.	Positive (marked).	Negative...	Negative...	November ...	100.1	Improved
46	4	Phlyct. Conj. O. D.	1 year, off and on*...	Ad. T. Gl.....	Negative......	Negative......	Positive...	Negative...	Negative...	December ...	99.2	Cured
47	2	Phlyct. Conj. O. S.	6 months, off and on.*	Ad. T. Gl.....	Negative......	Negative......	Positive...	Negative...	Negative...	January	99	Cured
48	1	Phlyct. Kerat. O. D.	2 months, off and on.*	Ad. T. Gl.....	Negative......	Negative......	Positive...	Negative...	Negative...	December ...	99.3	Cured
49	6	Phlyct. Kerat. O. U.	2 years, off and on* (bronchitis).	Ad. T. Gl.....	Negative......	Sup. gland operated	Positive...	Negative...	Negative...	December ...	100	Cured
50	8	Phlyct. Kerat. O. D.	1 year, off and on*...	Ad. T. Gl.....	1 brother died of pul. tub. at 19 years.	Negative......	Positive...	Negative...	Negative...	November ...	100.2	Improved

* The phrase "off and on" is the usual form of expression used by the patient to describe the "recurrences" or attacks of the disease. The disease which appears in parenthesis beneath the duration periods signifies that the first attack of the phlyctenulosis accompanied or followed the designated disease.

‡ The letters "Ad" refer to the presence of adenoids as a complication; the letter "T" to enlarged or diseased tonsils as a complication, and the letters "Gl" to the presence of a cervical adenitis.

‡ The dates refer to the time the therapeutic injections were begun.

technic of the von Pirquet test was as follows: The inner side of the forearm, at the point selected, was cleansed with ether, and two drops of Koch's Old Tuberculin, undiluted, were placed on the skin about four inches apart. The special scarifier, previously sterilized, which is supplied with the tuberculin, was applied vertically first to a point midway between the drops and with a circular movement; a very superficial, bloodless scarification was accomplished—this constituted the "control." Next, the scarifier was applied to the first drop and a similar scarification performed; and finally it was applied to the other drop.

A drop of 1 per cent. phenol in glycerin was placed in the "control." A light sterile dressing, secured by adhesive strips was applied, and the patient directed to report within forty-eight hours for inspection.

Following Wolff-Eisner's suggestion the local reactions were divided into three degrees:

1. Distinct reaction.
2. Strong reaction.
3. Very strong reaction.

These terms are self-explanatory, and after limited observation no difficulty is encountered in assigning the reaction to its proper class or degree. A reaction was characterized as positive when, within forty-eight hours, the appearance at the site of the inoculation exhibited a papule surrounded by a hyperemic zone. The size of the papule and hyperemic zone varies, though neither the size nor the intensity is held to be a measure of the extent of the tuberculous process. The reaction of the "control" is, as a rule, very slight and easily differentiated from the inoculation scarifications. The behavior of the reaction, the time of its appearance, the duration of its existence, its intensity and size have each been the subject of much speculation. At the present time, however, no sufficiently positive corroborative conclusions are available covering the theories advanced. The Tuberculin Bacillen Emulsion (B.E.) human type, serial dilutions (Mulford) was used for the therapeutic injections. This product is marketed in six vials, known as Serial Dilutions No. 1 to No. 6, inclusive. Each two minims of Dilution No. 1 contains 1/10,000 milligram; each two minims of the succeeding dilutions is ten times stronger than the preceding solution; for example, two minims of Dilution No. 2 contains 1/1,000 milligram; two minims of Dilution No. 3 contains 1/100 milligram.

The proper administration of tuberculin is emphasized by all observers of large experience. Koch[6] advises that "the best way of guarding against the misapplication of tuberculin is to use it in cases in which the temperature of the body does not exceed 37 C. (98.6 F.)." Apropos of the faults of administration, Trudeau[7] writes as follows:

> I quite agree with Denys that the principal faults in treatment—faults which may lead to failure and even seriously endanger the patient's chances—are: beginning the treatment with too large amounts; raising the dose too rapidly, or at too short intervals; injecting again before all effects of the reaction, both constitutional and local, have passed away; increasing the dose after a reaction has occurred; neglecting to consider malaise, headache, loss of appetite, and increased cough, as evidence that the limit of the patient's tolerance has been reached and calls for an interval of rest and a reduction of the dose. The physician who disregards, as of no importance, an increase of a minute fraction of a milligram of tuberculin or a rise of a few tenths of a degree of temperature will meet with disappointment and disaster in the use of tuberculin treatment.

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6. Koch: Pulmonary Tuberculosis, Philadelphia, 1907.
7. Trudeau: Am. Jour. Med. Sc., cxxxii, 175.

In the question of administration the main factor is the dosage. Each case must be individualized, there being *no average dose;* 1/10,000 milligram, for instance, might be too large a dose for one individual, and one milligram too small a dose for another. In harmony with these observations I followed the plan of beginning, in most cases, with an injection of 2 minims of Bacillen Emulsion, Dilution 1, 1/10,000 milligram; in infants and young children only 1 minim of Dilution 1 was used. If no elevation of temperature occurred about twenty-four hours afterward, or other evidences of reaction, such as marked reaction at the site of injection, nausea, headache, general malaise, etc., appeared, the injection was repeated, usually twice a week, each dose being increased by 2 minims until 20 minims of that dilution was injected; after which Dilution 2 was begun and proceeded with in the same manner. When 20 minims of Dilution 2 was reached, Dilution 3 was taken up and so on, in like manner, the entire series of dilutions were, if possible, exhausted. Any evidence of intolerance, which was exhibited by the development of the symptoms above described, was a signal for reducing the dose, omitting it entirely, or extending the interval of injection; in any event the conduct of the administration was governed entirely by the reaction or toleration exhibited by the patient.

The majority of observers agree that haste in the administration is responsible for much disappointment in the use of tuberculin, and most of them suggest carrying the patient along slowly and cautiously, over a period of at least six months and better still, of one year.

ANALYSIS OF CASES STUDIED

An analysis of the cases studied, shown in the accompanying table, discloses the following facts:

1. *Age of Patients.*—The youngest patient was 1 year old; the oldest, 56; the average age 12¼ years, approximately.

2. *Type of Ocular Disease.*—There were twenty-four cases of phlyctenular conjunctivitis (48 per cent.). The right eye was involved in eleven of the twenty-four cases (45.8 per cent.). The left eye was involved in five of the twenty-four cases (20.8 per cent.). Both eyes were involved in eight of the twenty-four cases (33⅓ per cent.). There were twenty-six cases of phlyctenular keratitis (52 per cent.). The right eye was involved in seventeen of the twenty-six cases (65.3 per cent.). The left eye was involved in three of the twenty-six cases (11.5 per cent.). Both eyes were involved in six of the twenty-six cases (23 per cent.).

3. *Duration of Disease.*—The shortest period, since first attack, was two days. The longest period, since first attack, was five years.

4. *Lymphoid Complications.*—In thirty-two of the cases enlarged or diseased tonsils, adenoids and cervical adenitis were found coexisting (64 per cent.). In nine of the cases cervical adenitis was found alone (18 per cent.). In eight of the cases enlarged or diseased tonsils and cervical adenitis were found (16 per cent.). In one of the cases, the tonsils and cervical glands had been removed.

5. *Tuberculous Family History, Syphilis, etc.*—In ten of the cases a positive family history of tuberculosis was obtained (20 per cent.). In none of the cases was a family history suspicious of syphilis elicited.

6. *Personal History of Active or Latent Tuberculosis, Syphilis, etc.*—In six of the cases a personal history of active or latent tuberculosis was obtained (12 per cent.). In no case were evidences or history of syphilis obtainable.

7. *Von Pirquet Cutaneous Diagnostic Test.*—In forty-six cases a positive cutaneous reaction to the test was obtained (92 per cent.).

8. *Ocular Reaction Accompanying the von Pirquet Test.*—In four cases a varying reaction was obtained following the diagnostic test (8 per cent.).

9. *Temperature Accompanying the von Pirquet Diagnostic Test.*—In five cases an elevation of temperature following the test was observed (10 per cent.).

10. *Therapeutic Duration of Treatment.*—The longest period of treatment was six months; the shortest period about three weeks.

11. *Temperature Following the First Therapeutic Injection.*—In forty-four cases there was a rise in temperature following the first therapeutic injection (88 per cent.). The highest elevation recorded was 100.2 F.; the lowest elevation recorded 99 F.

12. *Result on Ocular Disease of Therapeutic Injection.*—In thirty-two cases the ocular disease had cleared up completely and there had been no further recurrences up to date; these patients were tabulated as "cured" (64 per cent.). In thirteen cases the ocular disease had "improved" but still required treatment (26 per cent.). In two cases the ocular disease had cleared up completely and the diagnostic test proving negative no therapeutic injections were used (4 per cent.). In two cases the ocular disease had "improved" but still required treatment; a negative von Pirquet being obtained no therapeutic injection was used (4 per cent.). In one case patient did not return for treatment.

In the study of the foregoing cases two main points were to be determined; first, the etiologic relationship existing between tuberculosis and conjunctivitis eczematosa; second, the value of tuberculin as a diagnostic and therapeutic agent in the treatment of conjunctivitis eczematosa. After a careful consideration, I am convinced that conjunctivitis eczematosa should be regarded as a manifestation of constitutional tuberculosis. It is impossible longer to ignore the evidences which point unmistakably to the scientific correctness of this view. A careful study of the symptom-complex this class of cases exhibit, with every stigma of a tuberculous process accentuated and occurring with startling constancy in each individual case, and these evidences supported and corroborated in unmistakable manner by the investigations of numerous observers leads to but one positive conclusion, and that is that conjunctivitis eczematosa is an ocular manifestation of a constitutional tuberculosis, and that tuberculin is the appropriate and especial agent for its proper treatment..

The clinical course of the malady, with its chronicity and tendency to recurrences; its predilection for the poorly nourished and those with a minus résistance; its glandular complications; its response to the tuberculin diagnostic and therapeutic measures, all confirm and emphasize this belief and forces on us a definite line of therapeusis—the proper administration of tuberculin. The preponderance of the rapidly accumulating mass of evidence collected by numerous observers adds weight and undoubtedly will persist in substantiating the correctness of this conclusion. I am convinced, from a careful survey of the investigations of others as well as from a study of my own cases, that conjunctivitis eczematosa is an ocular manifestation of constitutional tuberculosis and that its proper management must include not only the usual ocular or local treatment, but more particularly the general or constitutional measures appropriate to the treatment of tuberculosis. At the head of the constitutional agents advised in the treatment of tuberculosis I would unhesitatingly place tuberculin. The favorable results experienced from its use by a large number of observers cannot be denied; the theoretical correctness of the remedy is undoubted and the increasing favor its discriminate and painstaking employment evokes recommends it as a remedial agent of especial value and dependability in the treatment of diseases of tubercular origin.

CONCLUSIONS

The results obtained from the study of the cases form-ng the basis of this report justify the following con-lusions:

1. The tuberculous nature of conjunctivitis eczematosa s established and this opinion is supported by the results btained in the cases subjected to tuberculin, both diag-ostically and therapeutically, and by the majority of he other essential clinical findings.

2. The cutaneous diagnostic tuberculin test of von 'irquet is a dependable method for the recognition of uberculosis, particularly in children.

3. Tuberculin as a therapeutic agent in the treatment f conjunctivitis eczematosa is an agent of distinct and pecial value and should be employed faithfully, judici-usly and perseveringly in this class of cases.

I wish to express my indebtedness to Dr. J. B. Murphy for uggesting to me the use of tuberculin in this class of cases; Dr. H. Woodruff, surgeon to the Illinois Charitable Eye and ar Infirmary, and chief of our clinic, for permission to con-uct the major part of these observations; also to Doctors chenck, Hoffman and Smith, of the house staff of the infir-ary for valuable assistance in carrying on the observa-ons.

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HE EXCITING CAUSES, MEANS OF PREVENTION AND EARLY TREATMENT OF CANCER OF THE UTERUS [*]

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The cancer problem is unquestionably the most impor-nt one before the medical profession to-day. Cancer as always been dreaded by every human being. Owing the public belief in the incurability of cancer, and the pparent failure, up to the present time, of the surgeon demonstrate the contrary, there has been a lack of ooperation between public and physician in the endeavor wipe out this disease. Little progress, therefore, has een made.

There has been a steady increase in the number of ncer victims. According to statistics of the Aetna ife Insurance Co. from 1870 to 1906, of the total aths in 1870, 426, or 2.6 per cent., were caused by ncer; while in 1906, of 1,514 deaths, 111, or 7.3 per nt., were caused by cancer.

Southgate Leigh reports that there were about 70 per nt. of deaths from cancer to 100,000 people in the nited States in 1906. The rate of increase according Coley since 1868 has been 22 per cent. for males and per cent. for females. In England, in 1909, there ere 34,053 deaths from cancer, this being within 2,000 as many as from tuberculosis.

It is estimated that there are 80,000 cases of cancer in e United States and 40,000 deaths annually from this sease. Cancer causes more deaths in women at the esent time than tuberculosis. Of 10,000 women in ngland and Wales dying during a certain period, 2,209 ed of cancer of the uterus. In Japan, according to e report of K. Sato, of 6,430 patients, 33.53 per cent., ad cancer of the uterus.

CAUSES

Coley, Pagent, Bilroth, Magraw and many others believe that a large percentage of cancer cases are due to local irritation. It is noted that the working class and those exposed to traumatism are more subject to cancer than the idle or those working indoors. Coley makes the statement, based on over 1,200 personal observations, that "local trauma of any kind from chronic irritation to a single local contusion is not infrequently the direct cause of malignant tumors of all types." Physiologists have been reluctant to acknowledge or to accept injury or irritation as the exciting cause of cancer, but there are enough authentic cases to establish this fact quite well.

Various causes, such as anemia, hard work, uncleanliness, etc., prevent healing of raw surfaces in lacerations of the uterus and of ulcers. If such an ulcer existed elsewhere on the body, the patient would not rest until it was cured. These ulcers remain on the cervix for months and years, although much more dangerous than on the outside of the body. E. E. Montgomery says, "Everyone recognizes the fact that a damaged and lacerated cervix is a factor in the development of cancer which is to be heeded, and that such injury is to be treated and cured." The segregation of epithelial cells in the healing of cervical ulcers or lacerations has been offered as an important factor in the cause of cancer of this portion of the uterus.

Dr. Victor Bonney says, that out of 1,876 patients investigated at the Middlesex Hospital Cancer Research Laboratory, 1,796 had been married. Only 9 per cent. had not borne children, and clinically a case in an undoubted virgin was almost unknown. "Every case seemed to be founded on a chronic cervicitis." This belief is shared by many.

The relationship between malignant disease of the cervix, marriage and child-bearing is extremely important from the social standpoint, and in fact is an unjust penalty on the natural function of woman.

PREVENTION

Mayo Robson says, "The arrest or relief of known causes as well as the abolition of discoverable precancerous conditions wherever or however occurring constitute the true preventive treatment."

The most important and efficient means of preventing this disease is to educate the public and the general practitioners. Women should understand that the cervix should be as clean and as free from ulcers, lacerations or abrasions as any other mucous membrane, as a means of preventing local disease. Leukorrhea, menorrhagia and metrorrhagia are abnormal conditions, and medical advice should be obtained at the earliest possible time by women suffering with these complaints. The very location of the uterus makes infection and disease more possible, especially in women who have borne children with a resulting lacerated perineum, gaping vulva and a torn cervix.

When a lacerated perineum is present, it should be repaired so as to make a closed canal below the uterus, thereby preventing infection from the bladder or bowel. The lacerated cervix should be repaired directly after the child is born. This is a condition that has been too long neglected by the profession. In most instances, unless a post-partum hemorrhage or some positive indication of serious uterine trauma calls attention to this organ, the cervix is not inspected after childbirth.

Polypi should be removed as well as fibroids that are degenerating, causing bleeding or enlargement of the uterus. Acute, semi-acute or chronic inflammation of the uterus or adnexa, as well as any displacement or enlargement of the uterus, should be investigated thoroughly and corrected, if possible, as any disease of any or all of the pelvic organs may lower the vitality and interfere with the proper function of the uterus and thereby lead to ulceration or the development of carcinoma later.

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[*] Read in the Section on Obstetrics and Gynecology of the nerican Medical Association, at the Sixty-Second Annual Session. ld at Los Angeles, June, 1911

The American Medical Association should take immediate steps to inaugurate a movement similar to the one that has been started in Germany by Professor Winter. The aim should be to enlighten the public, as well as physicians, in general on this subject, and in plain, but comprehensive language, bring before the people the subject in its true light. The laity, as well as the physicians, should be encouraged to fight and overthrow this malady with the methods of cure and means of prevention at our disposal.

The public should be acquainted with the cause of cancer. Confidence in the physician should be restored; the people should be taught to shun quacks, who by encouraging their patients in the promise of a cure, postpone the day when help might be secured to the sufferer. Pamphlets should be sent to every citizen of the United States, through the boards of health, and I am inclined to think that every physician in the United States should also receive one, as many of them ought to be enlightened on this subject or at least reminded of their responsibility in this matter.

Without a doubt in time a serum will be discovered which will have a specific effect on cancer. In the meantime, the disease is steadily increasing, and a multitude of lives are being sacrificed that might be saved if a proper understanding of the subject existed in the minds of the people and the physicians in general. Every family doctor should acquaint himself with the known means of prevention and cure of cancer. There are comparatively few who understand that about 90 per cent. of cancer patients die of the disease, and that fully 80 per cent. of the cases are either preventable or curable Nevertheless, this is the fact obtained from authentic sources. Physicians should urge local examination in every suspicious case, and refuse to take any responsibility if the patient does not follow his advice.

DIAGNOSIS

Leigh Watson says, "As a rule, a cancer of the uterus that can be diagnosed by the history of profuse or bloody flow for several weeks, or if a tumor can be felt, has progressed beyond the border-line between possibility and impossibility of cure."

Cervical cancer is about five times as frequent as that of the body and runs a more rapid course. It soon involves the lymphatics and extends into adjacent tissue. Especially is this the case when it is of the adenocarcinoma type. The size of the growth does not always indicate the amount of involvement of the lymph-nodes. The growth may appear to be quite recent and yet metastases may be present. The growth may seem quite extensive, yet remain local. When induration is felt in the parametrium it may be due to an inflammatory process.

THE EARLY TREATMENT

At first it would seem unnecessary to advise in strong terms the treatment of this disease in the early stage. Nevertheless, at the present time, surgeons have experiences which indicate that the general practitioner, as well as many of the patients, are not cognizant of the importance of this matter. Surgeons have patients come to them on whom no local examination has been made, and in whom the disease has progressed so far that no assurance of a cure by an operation can be given.

This state of affairs may not be due to the lack of concern or interest on the part of the patient herself, but to the failure of the attending physician to attach importance to the symptoms complained of. Patients are dismissed daily by doctors without an examination or investigation into the real cause of their trouble.

A woman is often told that the symptoms arise in her particular case from a "cold," "congestion" or "menopause," etc. The patient, being assured that her fears are groundless, is mentally relieved and returns home. In time local symptoms and her general appearance urge the woman to seek the counsel of the physician again, with the result that he makes the long-delayed investigation and finds it necessary to turn her over to the surgeon, who in many instances has to declare it a "non-operative case."

When the disease is local it may cause very little discomfort and no loss of weight, or produce symptoms which seem not to be at all serious. The severe symptoms seldom appear before the case is inoperable. Andrews says, "The risk of recurrence in malignant cases increases in the ratio of the square of the growth."

OPERATIVE TECHNIC

The operative technic for uterine cancer is becoming so perfect and the results so good in the early stages that very little can be added along this line. I would suggest, however, that a radical operation should not be performed in cases in which we are certain of a poor result or serious outcome.

Every death or lack of cure deters many from seeking the advice of the surgeon, if they suspect cancer in their particular case, until it is too late to do any good. Not being able to differentiate in individual cases, they naturally fear operations.

The operability of a case depends as much on the skill of the surgeon as on the condition of the patient. In cases that are not operable, the use of acetone, calcium carbid or cautery, antiseptics and caustics have been of much temporary benefit, and in the slow-growing squamous-celled variety, with the aid of self-established immunity, some have remained free from recurrence from one to twenty years.

In half of the cases seen at the present time, the disease has extended beyond the uterus; therefore, it is imperative that when an operation is undertaken it should be a thorough one, and in my opinion a complete hysterectomy should be performed when there is any suspicion of cancer, as there are numerous cases on record in which cancer had developed in the cervical stump subsequent to the partial hysterectomy.

OPERATIVE MORTALITY

According to the Johns Hopkins statistics for fifteen years prior to 1904, 19 per cent. of all patients operated on by hysterectomy for cancer were reported well five years or longer after operation, and about 20 to 30 per cent. are operable when first seen. No doubt many patients recorded as cured five years after the operation die later from a recurrence.

The object of this paper is to point out the ravages of this disease and to awaken a more profound interest on the part of the profession and the laity in the cancer problem. Physicians in general can help solve some certainties by making a thorough investigation in ery case coming under their observation. They should cord every symptom and condition arising in each se. and preserve these records for future reference in mming up all the etiologic factors and preventive eans in relation to this disease. Pathologists cannot ttle this question alone, but the laboratory studies, gether with clinical data, will finally clear up a number questions.

The laity, if once aroused to the importance of this sease, will, as they have in tuberculosis, lend its pport by giving freely for the endowment of research boratories, and will cooperate with physicians and tional boards of health in wiping out this almost olly preventable disease.

ABSTRACT OF DISCUSSION

Dr. J. S. **Baer**, Camden, N. J.: I believe I am not exagger- ing when I say that of 400 cases of cancer of the uterus at I have seen, only six patients are alive. That speaks, rhaps, against my ability to deal with them. But only six re seen at a time when the disease was amenable to cure d in four the disease was in the fundus in women who had ver borne children. All of the 400 cases of cancer except e four which occurred in the fundus had had a previous ceration of the cervix. Primary repair of the cervix, if e has aseptic surroundings and good assistance, should be ne. I have operated many times for palliation, but have used to undertake to operate on a patient whose case can readily diagnosed clinically. The microscopic stage of the sease is the time to get hold of it, and therefore I make a ea for the close investigation of any irregular discharge om the uterus, especially near the menopause. A man should t be satisfied with the clinical manifestations entirely, but section of the cervix in every doubtful case should be cured and the diagnosis made in that way. I especially nt to emphasize the necessity for the education of the blic, as has been suggested in the paper, and not only of the blic, but of the profession at large. The words "It is only e change of life" have been responsible for innumerable aths, and I believe that every case of cancer can be saved we get it when it is local, for in the beginning it is a purely al disease. Two years ago I read a paper similar to the e read to-day in which I pleaded for the early recognition d investigation of all cases in which there is an irregular charge from the vagina.

Dr. **Arthur E. Hertzler**, Kansas City, Mo.: Nearly all the tients who present themselves for examination have been ding for months and even for years before the general actitioner awakens to the fact that perhaps something ought be done. The last patient I saw before starting for this eting was one who gave the history of bleeding for a year d a half and of having been treated locally for a year, a se in which a fungous mass filled the vagina and the poste- r wall down to the perineum. I fully agree with Dr. Ben- nin that something ought to be done in the way of publicity. is easy enough in a broad general statement, but when we ne to consider what we would present in such a pamphlet is much more difficult to come to any conclusion. The laity s been taught that hemorrhage, pain, etc., are symptoms of ncer of the uterus. These conditions ought to be reserved the post-mortem protocol and ought to have no place in clinical discussion of cancer of the uterus.

What shall we teach the laity? Any unusual discharge out the menopause, particularly bloody, should lead to an mination. That is about as far back as we will be able go in a pamphlet. Where a carcinoma produces active dis- rge the extent of the growth is already considerable, press- very closely the problem of a possible cure. So that it ikes me that in this question of operative cure of uterine ncer we are limited almost to those that we stumble on. ave never yet seen in practice a uterine cancer that could be diagnosed clinically that could be diagnosed with the croscope. I have seen many uteri in which carcinoma was diagnosed microscopically and removed, which after all were not carcinoma. While I agree with Dr. Benjamin that publicity is necessary, yet I believe the outcome is nothing like as hopeful, or that it does not have the broad possibilities that the pamphlet of Winter might lead us to believe.

Dr. **John Osborn Polak**, Brooklyn: The question of publicity is one that interests us very much in New York. In the Obstetrical Society, some months ago, working on the plan suggested by the Prussian government, we appointed a committee to draw up a leaflet which should be distributed broadcast. It was headed "What Every Woman Should Know to Prevent Death from Cancer of the Uterus." With the cooperation of the Board of Health of the city of New York this pamphlet is to be distributed just as the tuberculosis pamphlets were, and we are even now beginning to see earlier cases of cancer than we saw a few years ago. Fifteen years ago we sent out to physicians in the greater city of New York 10,000 postal cards, repeated weekly and monthly, asking them to send to our clinics cases of operable and inoperable cancer, stating on these cards some of the very early symptoms; and it was surprising, even after that amount of labor, how few physicians sent us really operable cases. My own experience is almost like that of Dr. Baer. I have four patients alive who were operated on for cancer, after fifteen years of active surgery. Three of these were operated on after the method of the late Dr. Byrne. One was a fundal carcinoma. While the acetone method is of some value, it is inferior to the cautery. Few of you appreciate what can be done by the use of the Byrne method even in the so-called inoperable cases. I have a patient under my observation at the present time in whom we sacrificed most of the floor of the bladder to get beyond the limits of the growth over three and a half years ago. I subsequently operated for the vesicovaginal fistula and the woman is comfortable and as yet there is no recurrence. Even in the so-called inoperable cases, if we follow out the galvanocautery method as it should be carried out, we will be surprised to find occasional cure. I am in accord with the point which Dr. Benjamin has brought out, that it has brought great discredit on our surgery to operate on inoperable cases with the possible promise of cure. I believe that operability is largely a personal element. The gynecologic surgeon of to-day who is doing a large amount of work is capable of doing an extensive operation. It is the selection of the case and the adaptability of the individual operation to that case which we must decide. I find few cases in which I can say, this is a patient who is operable and can be cured. It is only in these cases that we will do hysterectomy.

Dr. **Laura H. Branson**, Iowa City, Iowa: During the earlier years of my practice I was brought face to face with a number of cases of cancer which had become inoperable and I decided to do my little toward prevention. I was interested in the strong advice the speaker gave us in regard to operating for lacerations of the cervix immediately following labor. There has always been some question in my mind whether to operate at that time or later, so I am glad that his advice was so positive. I have followed the routine in my practice of not only operating immediately after labor when it seemed advisable, but also of examining every patient thoroughly, whether operating or not, about two months after labor, in order to see, in case of operation, if the results were all right, or if anything had been overlooked. This is to me a very satisfactory method in regard to prevention.

Dr. **Charles D. Lockwood**, Pasadena, Cal.: I think it is wise advice that operation be done on lacerations immediately after labor if the case is in the hands of a competent surgeon. As a general surgeon I have seen many patients who have been operated on after labor with the most disastrous results. I have seen the worst cases of sepsis following attempts to repair these lacerations after labor by incompetent men. I think it is unwise advice to give the average obstetrician unless he is skilled in the best aseptic technic. Moreover, to repair these cervices gives at a subsequent pregnancy much worse laceration than at the first. In the end there is more scar tissue and more likelihood of the productive factors of carcinoma than if we had not operated or had left the operation until after the child-bearing period.

Dr. T. Mitchell Burns, Denver: The advising of immediate repair of laceration of the cervix is the only objection I have to the paper. I have had some little experience with repair of lacerations of the cervix, both primary and secondary. I do not believe it is good practice to examine the cervix in every patient. The cervix should be examined after the use of the forceps, after manual dilatation, when the cervix is prolapsed and when there is hemorrhage which is not easily checked. Furthermore, it is not always an easy operation to repair the cervix, especially when the cervix is very thin. I have had excellent results in immediate repair when the cervix was thick. Probably it is much better to wait four or six weeks after labor and then, if the laceration has not healed, to repair it.

Dr. James T. Reddick, Paducah, Ky.: I think it is not good advice to give the obstetrician, that he shall repair the cervix immediately after labor. There is too much danger of sepsis; and again, the cervix is frequently in an edematous condition and one cannot get the results that are possible later on. It is true that those who do more or less surgery—and a good many general practitioners do more or less surgery—and understand surgical technic are capable of giving their patients such attention as to asepsis that they get good results. But to the general practitioner, to the country doctor, I do not believe should be given the advice to repair a lacerated cervix immediately after labor. I do believe, however, that every one doing obstetric work should make it a routine practice to examine his patients two, three or four months after labor to see whether or not there is laceration.

Dr. Titian Coffey, Los Angeles: I make it a routine practice to examine all of my patients at the end of the eighth or ninth day to ascertain if there has been any laceration of the cervix. In 50 per cent. of my cases, especially in primiparæ, I find that more or less damage has been done. I do not believe in immediate repair of the cervix after delivery, except in cases of hemorrhage. But as a matter of routine, I think it is a good idea to examine all patients at the eighth or ninth day and make repair at that time. It is astonishing if this method is carried out routinely to see the changes that have taken place in the involution of the cervix. Under 10 per cent. cocain it is possible to freshen the surfaces and apply sutures and the results are very remarkable indeed. The parts are practically insensible and the placing of the sutures gives the patient little or no discomfort. Only in cases of extreme nervousness have I found it necessary to administer a general anesthetic.

Dr. Henry Parker Newman, San Diego, Cal.: It is good surgery to repair lacerations of the cervix immediately following labor but not always practicable to do so with safety to the woman. With hospital facilities it certainly ought to be done. You thus save the woman weeks and months of delayed involution of the uterus and that means much. But if it must be done under unfavorable conditions it had better be left undone. Granulation tissue will cover and protect the torn surfaces for the time and the repair can be made later.

The subject of cancer of the uterus is of much interest to all of us and particularly the prophylactic handling of cancer. It goes without saying that of all our methods of treating cancer the most reliable is surgery, done early, even prophylactic surgery, correcting long-standing irritation and erosion of the cervix. In these cases, if operation is done early and done properly, it will save many. The torn cervix with its continued irritation is what might be called a cancer-bearing area and it should be better protected. Early operative work means saving a large number of these women. Delayed operation means only palliation at best.

Dr. W. P. Burke, Redlands, Cal.: In a meeting of this kind we should arrive at a definite conclusion with regard to any subject that is under discussion. We all have individual customs that work out very well in our own way, but I believe that under the general conditions that surround obstetric practice as a whole we should discourage the immediate repair of the cervix and follow the suggestion of Dr. Coffey to examine and operate if necessary on the eighth or ninth day. With regard to education along carcinoma lines, I believe that the ordinary physician is many times at fault in not realizing the necessity of operation. I have seen a patient refuse operation when four well-known and prominent men had advised operation for carcinoma of the cervix, because one man in her own town—a general practitioner—advised against it. People do not want operations, and if they can get one man to say it is not a good thing, they will take that man's advice. I believe that if the propaganda were spread abroad, educating people of the many signs of cancer, we would have a more intelligent treatment of these conditions.

Dr. W. B. Dorsett, St. Louis: I never have yet put a needle in the cervix immediately after labor, except for checking hemorrhage. I do not believe it is a proper thing to do, first, because we cannot always tell what involution is going to do for the cervix. Some bad lacerations heal very kindly, and again some of them do not. The majority, however, do. In the second place, we cannot with any degree of certainty approximate the edges of the tear immediately after labor as we can subsequently. A third reason is that the patient has already gone through a terrible ordeal and to subject her to an additional strain, even if the operation is done under cocain, is hardly justifiable, inasmuch as it can be done later and to better advantage.

As to the curettage or scraping out of the crater of an old carcinoma, I might mention two cases which were instructive to me. One was a case in which the patient was brought to me from southeast Missouri. I mention the locality to emphasize the fact that a great many of my patients with carcinoma of the cervix come from swampy districts. Just what bearing this may have on carcinoma of the uterus I am not able to say. I simply know that the majority of my patients who come from a certain neighborhood along the swamps of the Mississippi Valley have carcinoma of the uterus. Two of these cases were examined and pronounced carcinoma by a competent pathologist. In my effort in one case to scrape out the crater, the whole uterus came out. We simply had a ring-like margin which was cauterized with the actual cautery, the soldering iron used by Charles Mayo in his work. I told the physician that probably the only thing to do was to let the patient die under the use of morphin. To-day, twelve years later, the woman is absolutely well. In another case from the same neighborhood in which the pathologic report was carcinoma I scraped with the sharp curet, leaving the body of the uterus, and used the actual cautery. I told the doctor to bring the patient back within a year. One morning he called me up as he came from the train and said he would like me to operate that morning. I went down to the hospital not knowing that it was the same patient and found her there looking and feeling well. She said she came back to have the other operation. She was put on the table and examination showed complete healing. With thorough curettage and the actual cautery we sometimes see patients entirely recover.

Dr. A. E. Benjamin, Minneapolis: I had two objects in writing the paper: (1) To bring out a few statistics on carcinoma to show how prevalent it is and what percentage of cases die, and (2) the percentage that can be prevented or cured. When we realize that between 80 and 90 per cent.—so estimated by good authorities—can be either prevented or cured, there is something wrong, for cancer is increasing. If we know as practitioners of medicine or surgery that cancer is preventable and curable to that extent, there is something wrong, either with us as a profession or with the laity. It has been my sincere desire and the object of the paper to offer something which will so arouse this Section and the American Medical Association that something may be presented to the public and to the profession tending to wipe out this unnecessary percentage of deaths. I would say that it would be just and right if this Section would forward to the House of Delegates some resolution which will bring about the publication of pamphlets which can be circulated widely among the physicians who do not attend these meetings. I know physicians who send me patients who do not know how cancer can be prevented or cured. Those are the physicians whom we should reach. I am glad to hear reports on the operation on cancer by the curet and cautery by Dr. Dorsett who has exactly expressed my view, that the curet and cautery can do great good in certain cases instead of doing hysterectomy. I have seen reputable surgeons try to do vaginal hysterectomy with a cancer spread out all over the vaginal wall. The curet and cautery in such a case would have done some good.

Now about operation for prevention. It will be some time before the light will break on the profession in general, but I prophesy that in five years you can nearly all be with me on laceration of the cervix. I do not contend that every case of lacerated cervix shall be operated on by any and every practitioner. I mean to say that it should be operated on every time if you get a competent man to do it. It has been the practice of a few physicians in our town who realize the importance of laceration of the cervix to call in a surgeon. The average obstetrician or general practitioner is not capable of doing these operations correctly. It is an easy operation if you do it as a routine measure. I maintain that every tear, no matter in what part of the body, should be sewed up, provided it is not already infected. Why not the cervix? If you approximate clean-cut edges you do no harm if it is done under aseptic precautions and with plenty of help. You do not need to give an anesthetic for any length of time. I claim that it is the right thing to do provided you have the facilities and are capable of doing it.

PREVENTIVE MEDICINE SECTION COMMITTEE REPORTS

REPORT OF COMMITTEE ON HOUSES FOR WORKING PEOPLE [*]

The Committee on Houses for Working People undertook to secure data by writing to the secretaries of the state boards of health, the health officers of the larger cities, the U. S. Public Health and Marine-Hospital Service, the National Housing Association, the Bureau of Labor, the National Association for the Study and Prevention of Tuberculosis, the Russell Sage Foundation, city housing associations, and other civic and philanthropic organizations, besides a number of industrial organizations and individuals whom we had reason to believe were interested in this work.

From these reports, it is apparent that the interest in this subject is wide-spread and that many movements are in contemplation regarding the best housing conditions for working people, others are being inaugurated, while a few places have done active work.

It appears from the reports received that the tenement-house plan, even the so-called model tenement-house, has not proved satisfactory, the consensus of opinion apparently being in favor of houses for individual families, or approaching this as nearly as possible. The houses must be adapted to climatic conditions where they are to be used. They should be located conveniently near occupation, or cheap and satisfactory transportation should be available.

All buildings should be of good sanitary construction and equipped with modern conveniences. To encourage the occupants to take advantage of such provision, they should be educated to the proper care of these houses and the proper use of the provisions for their welfare. To this end, the entire system should be placed under the jurisdiction of competent, tactful health authorities, with sufficient funds and authority to carry these provisions into effect. These health authorities should be chosen so as to be as free as possible from political domination. If such conditions can be brought about, men will be encouraged to make public sanitation a specialty, as they may then hope to follow this branch of medicine and at the same time be provided with a living. The work must be practicable and adapted to the conditions to be met. Where bad conditions exist which cannot at once be eradicated, they should as far as possible be improved. Where new work is to be undertaken, the best should be demanded.

Throughout the civilized world, people are awakening to the fact that responsibility for much of the crime, disease, poverty, industrial inefficiency and political degradation is to be attributed to the wretched housing conditions of the poor, especially of the larger cities. While these conditions are most urgent, on account of the large number of people affected in our larger centers of population, the smaller cities, villages and country districts are by no means free from these evils. It has been said: "It is more important to have adequate sanitary inspection than to provide homes and clothing; instructive nursing may be better than grocery tickets; the city may better spend money in the health department than supply outdoor relief."

The agitation for the prevention of tuberculosis, together with its kindred topic, the lessening of infant mortality, have been important factors in awakening general interest in public sanitation.

With the passing of the idea that this question could be solved by the model tenement house, emphasis is being placed on laws which will control the situation by the more normal plan—laws providing for more careful and thorough sanitary inspection; providing for garden cities and small houses; one house for one family, as nearly as possible; instructive visitation and teaching of the elements of hygiene in the school, with teaching and practical demonstrations in the home.

The problem involves:

1. Municipal planning and plotting, where new territory is to be occupied or alteration and reconstruction of undesirable sections undertaken.
2. Regulation by proper authorities of the construction of buildings.
3. Transportation.

For city planning, it may be necessary to have legislative enactment, granting cities the privilege of purchasing and disposing of real estate, and possibly in some instances providing loans for the erection of improvements, as has been done in some instances.

Land should be plotted with reference to model houses for the homes of wage-earners, certain districts being set aside for manufacturing and industrial purposes, other districts for commercial interests, while still other districts may be reserved for residence only.

Land should be so plotted that every dwelling will have sunlight in every room and that there will be a garden and lawn. Factories and commercial establishments should also be properly lighted and ventilated.

The plans of the buildings should be submitted to a building commission, which should be selected from or by the health authorities, for their approval in regard to sanitary construction.

In addition to sanitary measures, as ordinarily understood, the buildings should be fire-proof, at least as far as their exterior is concerned, so that fire would not spread from building to building. The building material will differ in different communities. Brick has long been a favorite in many sections; hollow tile has its advantages, and concrete is receiving much attention where material for making the concrete is easily obtainable. It is claimed that buildings may be erected of one or the other of these materials in many places at a cost not to exceed 10 or 20 per cent. above the cost of construction with wood. The plan of Thomas Edison has been so thoroughly discussed by the public press that it needs only to be mentioned. It may be possible that under certain conditions it may prove to be of service at a low cost. Some of the objections which have been urged are the expense of the molds and the expense of moving them; also the difficulties of pouring the concrete into the large molds and getting perfect cohesion. Many other suggestions have been made for the use of concrete by means of concrete blocks molded and built together.

Mr. Thomas Fellows of Los Angeles has recently developed a plan which is worthy of more than passing notice, which has been described in several publications recently, among others the *Southwest Contractor and Manufacturer*, of April 15, 1911, from which we quote a brief description of the first house constructed on this plan:

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[*] Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[*] Owing to limitations of space, there have been omitted from this article a somewhat extensive bibliography, and a number of illustrations showing plans for model houses. These all appear, however, in the Transactions of the Section and in the authors' reprints.

> The house is shown in various stages of construction in the accompanying illustrations (Figs. 1 and 2). In designing the house, classical lines were followed, because they are most readily adapted to concerete construction, but this should not by any means be considered the limitation in the matter of architectural style. In construction, Mr. Fellows has chosen the unit system as tending to greatest economy, but he has so assembled the various parts as to make them practically a monolithic structure. . . . The house as planned and constructed is one-story, 25 by 26 feet, and contains four rooms, bathroom, pantry and large closet. There is a concrete terrace across the front. The cost, computed at market rates for both labor and material, is about $1,200, or about 10 per cent. greater than the cost of a frame house of the same size and design. The foundation was cast in wooden forms in the ordinary way. The walls and partitions are made up of slabs cast on the ground and set in place by means of a derrick, after being thoroughly cured. It is in the casting of these slabs that the greatest economy is secured, for it saves the cost of a large amount of lumber and labor used in making forms. The foundations are 8 inches thick, the outside walls 4 inches, partitions 2½ inches and the roof slab 4 inches. All these members are reinforced with No. 24 American steel wire fabric. . . . The wall and partition slabs were cast on the ground at the side of the house, the method being very simple and inexpensive. First, the ground was made level and rolled to a hard surface. The only forms used were surfaced timbers, 2½ inches square for partitions, and 4 inches square for bearing walls. These timbers were either afterward removed or remained attached to the slabs, forming the jams of door and window frames. Strips were nailed on the insides of these forms to make a channel in the edges of the slabs. Lag screws were inserted in the frames 2 feet on centers. These held the timbers used for frames in place; otherwise the lag screws were removed and eye-bolts set in their place, to make connections between the slabs and at the corners, steel rods being dropped down through the rings and thoroughly grouted in. This connection makes a practically monolithic structure. . . . In casting the wall slabs a mixture of one part of cement to five parts of river gravel was used. First, a layer of 2½ inches of wet concrete was poured, then the steel fabric reinforcement was set and the form filled with concrete to within one-fourth inch of the top. The finished surface, composed of one part of cement to three parts of fine texture material, was then laid. In this case crushed dark granite was the texture material, making an attractive surface that rendered a plaster finish unnecessary. This texture method makes possible a varied treatment of the exterior of the house. A similar method was followed in casting the partition slabs, omitting the texture mixture. Sixteen days in summer and three weeks in damp weather is sufficient to cure the concrete slabs before setting them in place. The roof slab is a monolithic cast, the flooring, shored up by the ceiling joists, being used for a form. The wire fabric was also used as reinforcement. The roof slab is supported by the outer walls and a partition through the center of the building. The advantages of this system of construction are that the cost of labor is reduced to a minimum, most of the work being done by unskilled workmen; uniform strength of walls is easily procured when they are horizontally poured; the cost of the outside plastering amounting to 6 cents per square foot is saved, and the cost of forms reduced at least 4 cents per square foot over the ordinary method.

With the general plan of buildings for the locality determined and the regulation regarding the buildings provided for, a form of lease may be given by which a workingman may be able to secure a plot of ground and a house. There should be provided easy term payments and a surrender value, so that he may be able to get back the money he has invested, less a reasonable rental. This has been undertaken in different places for a sufficient length of time to demonstrate its practicability.

Whatever is undertaken, whether by state, municipality or private enterprise, must be on a business basis; philanthropy must not enter into it, the object being always to help the laborers, by giving them opportunities and educating them to take advantage of their opportunities, to help themselves. If this is accomplished, we shall not need laws requiring 400 or 600 cubic feet of air space to each occupant, but it is still to be kept in mind and by no means neglected.

This method of leasing has proved successful in both municipalities and rural districts, as examples of which may be cited the work done in Philadelphia and other cities of this country and Europe, and the great improvement in Ireland by the work which is being pushed with most satisfactory results, for the benefit of the farm laborers. It has been shown, according to Mr. Aldrige of England, that in Great Britain the cost per room, including cost of the site, in the cottage for one family is less than the cost per room alone in the block buildings.

To show that this is considered financially practicable by business men, we quote as an instance, Alfred L. Aiken, in the *Survey*, May 27, 1911, p. 331:

> Alfred L. Aiken, president of the Worcester County Institution for Savings, at Worcester, Mass., has given notice to persons who want to make building loans that the bank will not encourage the further development of the three-decker or three-family frame tenement house. The bank will refuse to lend money on such houses and will encourage loans on single dwellings. . . . If similar action were taken by savings banks generally, it would mean nothing short of a revolution in the housing development of small and medium-sized cities. In an advertisement in local papers, under the caption 'Notice to Home Builders,' the bank announces that: 'For the benefit of those who are interested in owning their own homes, the Worcester County Institution for Savings has made an extensive collection of drawings and plans of inexpensive detached houses that should cost from $1,500 to $3,000 to build.[1] Persons interested in building attractive detached houses for a home for themselves and their families are invited to avail themselves of these plans at any time. While the bank is prepared to make mortgage loans at any time on houses of the above description, it should be understood that the use of the plans implies no obligation whatever toward the Institution. These plans have been collected and are offered to the public for the sole purpose of encouraging better conditions by which it is believed that the whole community will benefit."
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> In an interview in the Worcester *Post*, Mr. Aiken speaks of the alarm with which he has watched the rapid spread of the three-family tenement in Worcester. He estimates that this type of house has injured real estate values there by hundreds of thousands of dollars. While the bank's motive in the matter is primarily financial, he points out that one of the results of the movement will be to increase the building of inexpensive detached houses in which "a man can bring up his family in attractive surroundings and in decent privacy," which will mean "a better physical development as well as a better social development for the city."

Helen L. Parrish, in the *Survey*, May 6, 1911, gives some interesting figures regarding the cost of small houses in Philadelphia.

> To-day within twenty-five or thirty minutes of the city hall building land with street and municipal improvements can be bought for from $14,000 to $16,000 an acre. If the maximum number of forty houses be allowed on this space, built on lots of 14 to 15 by 50 to 60 feet each, the price would be about $400 for each of these lots. . . . The contracting builder, when an operation in small houses is to be undertaken, usually buys the land by a small cash payment, arranging for the balance of its value by mortgages or ground-rents. The money for these operations is largely obtained through the trust companies. First mortgages on real estate are by the law of Pennsylvania a legal security, and as trust funds can only be invested in such securities, these mortgages are greatly in demand. The companies will advance from 60 per cent. to 66⅔ per cent. of the cost of the complete operation. The rate charged is usually 5.4 per cent. They make collateral loans—contingent on the advance of the work. The builder must give bonds, and the trust company often employs an inspector of its own, in addition to the city inspectors, to watch the building. Sometimes the mortgage is placed on the operation as a whole, and when the work is done this is separated and made to apply to the individual house. These operations have been so successful financially that they are considered safe and profitable investments, and a builder who has proved himself conservative and intelligent in the use of capital has no difficulty in obtaining it. The financial institutions have been amply justified in taking the risks and have profited greatly by the results. The loans are considered so secure that sometimes in transferring its interests in a mortgage to a client the company will guarantee against possible loss, the client agreeing to accept 5 per cent. on the loan and the company reserving 0.4 per cent. as a bonus for the guarantee. . . . The desire for home owning has been encouraged and reinforced by the building and loan associations. It has been said both that these associations have made the small house in Philadelphia, and that the small house-seeker has made these associations. From whichever standpoint they are considered, their influence has been of immense social value, not only in the acquisition of houses, but also in the encouragement of thrift and the training that they give their members in cooperative business enterprise. Thus the development of the small house has developed also the desire for the small investment in real estate, the attainment of which is made possible by the advantageous terms by which sales are made. . . . Some years ago it was found that the number of speculations discovered among the employees in a large department store in New York were greatly in excess of those in a similar establishment in Philadelphia. After investigation, it was concluded that the cause of this lay in the fact that in Philadelphia each employee, outside of his relation with the store, had a distinct position to sustain. He owned or rented a house or his family did; he had church and neighborhood connections; his character was subject to comment; and if he moved it was with the knowledge and interest of his neighbors. In New York, on the other hand, the man's identity was lost in a crowded tenement district. As he was known to but few people, he could move to another district of the great city and be completely lost again.

Transportation must be cheap and quick. This will probably have to be regulated by the municipality, but as most cities do regulate, to a greater or less degree, the street railway service, this will be no new departure, except it be in degree. If it be made a business proposition, the companies can in most instances probably be induced to make reasonable terms, especially in view of the fact that their franchises must be derived from the cities.

So far, we have presupposed the laborers were men of families. This makes it incumbent on us to provide for the rearing of the children, which is so nearly related to the housing problem that we feel justified in calling attention to the advantages of the open-air school for the benefit of weakly children, which has received much attention of late. We wish to urge the consideration of their adoption for all children, as we believe thereby much illness may be prevented. The establishment of adequate playgrounds is also urged.

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[1] Fifteen hundred dollars is not above the reasonable aspiration of a laboring man. If an initial payment of $150 is made, $15 per month will pay principal and interest in little more than ten years. The same property and cost of moving if rented during this time would probably amount to $12 per month.

Social centers should be established both for recreation and for their educational influence.

The housing of the unmarried has received slight attention—mostly in our large centers—almost none in our smaller cities and rural districts. Time permits us to suggest only a few of the many phases of the housing problem, but we feel this one deserves more attention than it is receiving. Not only should proper places be provided for them to sleep and eat, but the social centers above referred to can be made of inestimable value to them. If the families need social centers, much more do the young men and women who are deprived of family life. They need—demand—recreation. The Y. M. C. A. and the Y. W. C. A. provide a great need for a certain class of young men and young women, but in most of our cities these organizations do not reach the so-called laboring class. A similar provision adapted for them is very desirable. The saloon and the dance-hall become the club houses of many a working young man and young woman, not from choice, but from necessity. They, too frequently, are the only places which offer hospitality. We are not unmindful of the efforts that are being put forth by certain religious and philanthropic organizations, but they reach comparatively few. The young men accept the saloon with its vices, not because they desire the vices at first, but because of their convenience and the privileges extended; later, viciousness, having been tolerated, becomes a habit which follows them through life, thus unfitting them for their greatest usefulness. The story of the girl whose social life is confined to the dance-halls and moving picture shows needs only to be mentioned to be deplored.

The social centers would enable those who have higher aspirations to find congenial company among those in the same walks of life who have like ambitions; to meet those of the opposite sex and establish homes. "While no claim is made that all of those who live in small houses are well housed, it is contended that this plan of building can be made very successful financially; that it fosters a conservative, law-abiding spirit in the community; and that it gives to even the smallest wage-earner an opportunity by thrift and economy to earn a home, where he can conserve the best possible standard of family life."

The members of the committee desire to acknowledge their appreciation of valuable assistance rendered by Drs. E. M. and Blanche C. Brown in compiling the report.

Charles C. Browning, M.D., Los Angeles,
George H. Kress, M.D., Los Angeles,
C. B. Ball, M.D., Chicago,
Committee.

REPORT OF COMMITTEE ON MODEL HEALTH ORDINANCES FOR A CITY WHICH IS A RESORT FOR CONSUMPTIVES *

For some time it has been apparent to those of us residing in such localities that health centers west of the Mississippi are notoriously lacking in health ordinances providing for the protection, not only of residents, but of health-seekers as well. This fact was brought to the notice of Dr. W. A. Evans of Chicago, chairman of this section, during his recent trip through the West, and he suggested that a committee of three Western men residing in such centers draft a set of model health ordinances which would especially cover the subject of tuberculosis. The undersigned were appointed on that committee.

In drawing up this set of "model health ordinances for a city which is a resort for consumptives" we have considered that it will be necessary to revise and adapt them to meet local conditions in every municipality; and they are offered more as an outline indicating the essential points to be covered by such ordinances.

The committee respectfully submits the following ordinances:

I. REGISTRATION

Physicians' Duty to Report All Cases of Tuberculosis

Section 1.—It shall be the duty of every physician practicing in the City of ...., and of any and all persons professing to treat, or consulted for the treatment or cure of disease, by whatsoever means or method, to report in writing to the department of health of said city, on printed blanks furnished for this purpose by the department, the name, sex, age, color, nationality, occupation and address of any person visited by him or her, or coming to him or her for consultation, examination, or treatment, who is suffering, or suspected of suffering, from tuberculosis, within forty-eight hours after such case has come under his or her observation; to forward to said department a monthly report on every such case remaining under his or her charge; and to notify the department immediately on the patient's recovery, removal, or death.

Any person found guilty of violating any of the provisions of this section is to be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50).

Duty of Authorities of Hospitals, Sanatoriums, etc., to Report All Cases

Section 2.—It shall be the duty of the commissioners or managers, or the principal, superintendent, or physician in charge, of each and every hospital, dispensary, sanatorium, or similar institution, public or private, in the city of ...., to report in writing to the department of health of said city the name, sex, age, color, nationality, occupation and latest address of every person under their care, who is suffering from tuberculosis, within one week after such case has come under their observation; as well as to notify the department forthwith of the recovery, removal, or death of any such patient.

Any person found guilty of violating the provisions of this section is to be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50).

Duty of Managers or Owners of Hotels, etc., to Report Cases

Section 3.—It shall be the duty of every owner, lessee, manager, agent, or other person having charge of a hotel, boarding house or tenement house within the limits of the city of ...., to report to the department of health of said city all the known facts with regard to any person ill with tuberculosis, who resides in any building under his or her charge, and who is not attended by a registered physician, within forty-eight hours after the beginning of such residence; as well as to notify the department forthwith of the termination of such residence by the removal or death of the patient.

Any person violating any of the provisions in this section shall be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50).

Duty of Department of Health to Visit Patients in Hotels, etc., Not Attended by Physicians, and to Leave Literature

Section 4.—It shall be the duty of the department of health, when obtaining knowledge of the existence of a case of tuberculosis in a hotel, boarding-house, or tenement house within the limits of the city of ...., if the patient is not attended by a registered physician, to cause such premises to be visited by an officer of the department, and to leave with the person suffering from such disease, or his family, circulars of information and instructions concerning the nature of the disease, its proper treatment, the measures which should be taken to guard against its transmission to others, and such other directions as the case may seem to require.

Duty of Department to Make Microscopic Examinations, and to Leave Literature, at Request of Physicians

Section 5.—It shall be the duty of the department of health of the city of ...., when so requested by any physician or other individual professing to treat or cure disease, or by the authorities of any hospital, dispensary, sanatorium, or other institution for the treatment or care of the sick, to make, or cause to be made, a microscopic examination of the sputum, when forwarded to said department, of any person showing, or suspected of having, symptoms of tuberculosis; such examination, with a report on the result thereof, to be made free of charge to the patient, or to the physician or other individual having requested the same. And it shall further be the duty of said department to furnish, free of charge, to any physician making request for the same, for distribution among his or her patients, copies of any pamphlets, circulars of information, or other literature on the subject of tuberculosis, its character, symptoms, treatment, and prevention, published or procured by said department for this purpose.

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* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Duty of Department to Keep a Record of All Cases

Section 6.—It shall be the duty of the department of health to cause all reports of cases of tuberculosis made in accordance with the provisions of Sections 1, 2 and 3, above, and all results of microscopic examinations showing the presence of tubercle bacilli, as provided in Section 5, to be recorded in a register kept for this purpose at, and in the custody of, said department; such register not to be open to inspection by any person or persons other than the duly constituted health authorities of the city of .... and the state of ...., nor its contents, or any part thereof, to be divulged to any person or persons outside of said departments, except as may become necessary in order to carry into effect the provisions of this ordinance. Nor shall any such person having been reported as suffering from tuberculosis be visited by any public official, or be subjected to any public sanitary surveillance whatever, nor shall any literature on the subject of tuberculosis be sent to him by the department of health, unless residing in a hotel, boarding-house, or tenement house, and then only in case the patient is not attended by a registered physician, or in case the attending physician shall so request.

Penalty for Wilful Misstatement by Physician

Section 7.—Any physician, or person professing to treat or cure disease by whatsoever means or method, who shall knowingly and wilfully report as affected with tuberculosis any person who is not so affected, or who shall certify falsely as to any of the facts in such case, shall be deemed guilty of a misdemeanor, and, upon conviction, shall be subject to a fine of not to exceed twenty-five dollars ($25).

II. SCHOOL CHILDREN

No Tuberculous Child, or Child of Tuberculous Parents, to be Admitted to School Except by Permit from Department

Section 8.—No principal or superintendent of any school, and no parent or custodian of any child, shall permit any child suffering from tuberculosis, or any child in any family in which said disease exists, to attend any public or private school within the limits of the city of ...., except by written permit from the department of health, whose duty it shall be, before issuing such permit, to ascertain that adequate sanitary precautions are taken against the transmission of such disease to others.

Any violation of the provisions of this section shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

III. DISINFECTION

Premises Vacated by Tuberculous Person to Be Disinfected

Section 9.—When notified of the vacation, through removal or death, of any room, apartment, or house within the limits of the city of ...., having been occupied by a person suffering from tuberculosis, in accordance with the provisions of Sections 1, 2 and 3 of this ordinance, it shall be the duty of the department of health of said city (unless such premises have already been properly and adequately disinfected, as attested by a registered physician) forthwith to cause such premises to be visited by an officer of the department, who shall order or direct the disinfection or renovation of the same, and of any articles or furnishings contained therein, in such manner and by such means as, in his judgment, may be necessary; the expense of such disinfection or renovation to be borne by the city.

Any person or persons wilfully and maliciously obstructing the entrance into such building or premises of any duly authorized officer of the department of health in pursuance of his duties as above mentioned, or in any way interfering with such officer in the discharge of such duties, shall be subject to a fine of not less than ten dollars ($10) or more than fifty dollars ($50).

Such Premises Not to Be Reoccupied Except as Permitted by Department

Section 10.—It shall be unlawful for any person or persons, other than those residing in such premises at the time such case was reported, to occupy any room, apartment, or house vacated, whether through removal or death, by a person suffering from tuberculosis; and no person, whether as owner, agent, lessee, or occupant, shall rent or lease or permit to be occupied, except as above specified, such room, apartment or house until the orders or directions of the department of health, as set forth in the previous sections, have been complied with, and the premises have been declared safe and suitable for occupancy, by an officer of the department.

Any violation of any of the provisions of this section shall be punishable by a fine of not less than ten dollars ($10) or more than fifty dollars ($50).

Placard to Be Placed on Door of Infected Premises

Section 11.—In case the orders or directions of the department of health for the disinfection or renovation of any room, apartment, or house, or any articles or furnishings contained therein, as provided in Section 9, above, shall not be complied with within forty-eight hours after such orders or directions have been given, the department may cause a placard to be placed on the door of the infected premises, with wording substantially as follows:

> NOTICE!
>
> TUBERCULOSIS IS AN INFECTIOUS DISEASE!
>
> These apartments have been occupied by a consumptive. They must not be reoccupied until the order of the Department of Health directing their disinfection or renovation has been complied with.
>
> This notice must not be removed, under the penalty of the law, except by order of the Department.

Unlawful to Dispose of Belongings of Deceased Persons Unless Disinfected

Section 12.—It shall be unlawful for any person to remove, give, lend, sell, or offer for sale any clothing, furniture, or other article liable to carry infection, having belonged to a person suffering from, or having died from tuberculosis, unless the same has been disinfected according to the directions of the department of health.

IV. PUBLIC FOUNTAINS AND DRINKING-CUPS

No Fountain to be Erected in Public Places or Buildings Unless Properly Constructed; No Drinking-Cups to Be Attached to Public Fountains Unless Provision Be Made for Properly Rinsing

Section 13.—No fountain, well, hydrant, cooler, basin, or other source of or receptacle for water, or any other beverage whatsoever, shall be erected or placed in any street, avenue, or park within the limits of the city of ...., nor in or on the premises of any schoolhouse, railway station, store, shop, factory, or any other building, whether public or private, or on any railroad train, within the limits of said city, for the free and common use of the public, or to which the public has access through the payment of a fee or otherwise, or for the free and common use of the children or students of such school, the customers and employees of such store, shop, or factory, and the passengers of such train, unless the water or other liquid contained in such receptacle have a continuous flow, with devices for automatically carrying off any overflow, or any water or other liquid which may be poured back into such receptacle by any person drinking out of the same; or, if the water or other liquid be stagnant, unless it be properly covered or protected from dust and dirt, and frequently renewed. And, further, no cup, glass, dipper, or any other drinking-vessel whatsoever shall be attached to, or placed on or near any drinking fountain, well, hydrant, cooler, basin, or other receptacle for water or any other beverage, in any street, avenue or park, or in or on the premises of any schoolhouse, railway station, store, shop, factory, or any other building, or on any railway train, within the limits of said city, for the common and indiscriminate use of the general public, of the children or students of such school, of the customers and employees of such store, shop, or factory, or of the passengers of such train, unless such cup, glass, or other vessel be thoroughly and efficiently cleansed after each usage of the same, either automatically or by an attendant.

Any individual or corporation violating any of the provisions of this section shall be subject to a fine of not less than five dollars ($5) or more than fifty dollars ($50) for each offense.

V. EXPECTORATION

Illegality of Expectorating in Public Places

Section 14.—No person shall spit or deposit any sputum, saliva, tobacco juice, cigarette or cigar stubs, or quids of tobacco on the sidewalk or on, into or through any grating, area or stairway of any street, avenue, alley, or park within the limits of the city of ....; or on the platform, floor, walls, stairway, or furnishings of any railway station, schoolhouse, church, theater, place of amusement, market, store, shop, factory or other public building, or building to which the public has access, or which is occupied or frequented by numerous employees or attendants; or on the floor, steps, walls, or furnishings of any railway, elevated, or street car, or other public conveyance in said city; or on the floor, wall, or furnishings of any hall in any tenement house which is used in common by the tenants, or of any hall, lobby, or office of any hotel, boarding-house, or lodging-house which is used in common by the guests, within said city.

Any person who shall be convicted of violating any of the provisions of this section shall be punished by a fine of not less than two dollars ($2) or more than fifty dollars ($50) for each separate offense.

Posting of Notices Regarding Danger and Illegality of Expectorating

Section 15.—It shall be the duty of the department of health of the city of .... to cause to be posted in conspicuous places in the streets of said city a sufficient number of permanent notices calling attention to the danger and illegality of expectorating on the sidewalks, and to the penalty attached to such act; and it shall be the duty of any individual or corporation owning, or having the management or control of any public building, or any building to which the public has access, or which is occupied or frequented by numerous employes or attendants, or of any railway, streetcar, or other public conveyance system operating in or entering the territory of said city, likewise to cause to be conspicuously and permanently placed in each such building, or in each such car or conveyance, a sufficient number of notices forbidding spitting, and calling attention to the penalty therefor, as specified in Section 14 above.

Any violation or evasion of the provisions of this section shall be punishable by a fine of not less than ten dollars ($10) or more than one hundred dollars ($100) for each separate offense.

Duty of Police and Others to Cause Arrest of Offenders

Section 16.—It shall be the duty of the police of the city of .... to arrest any person found violating any of the provisions of Section 14 above; and it shall be the duty of any individual or individuals owning, or having the management or control of any building or place, as specified in Section 14, and of the janitor or watchman of any such building or place, and the conductor of any railway or elevated train and of any street car, to watch for and cause the arrest of any person violating any of the provisions of Section 14, and in every way possible to assist the police of said city in the enforcement of such provisions.

Placing of Cuspidors for Use of Public and Employees

Section 17.—It shall be the duty of every corporation, firm, or individual owning, or having charge or control of any railway station, public hall, saloon, factory, workshop, or barber shop, or any other place, building, or part of building frequented by the general public, or occupied by five or more employees, in the city of ...., to place or cause to be placed, a sufficient number of standing cuspidors in such premises, in the proportion of at least one cuspidor for every five men or fifteen women.

Any failure to comply with the provisions of this section shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

VI. LAUNDRY

No Linen of Tuberculous Persons to Be Handled at Public Laundry Unless Sterilized

Section 18.—No soiled linen, or other wearing apparel, shall be sent to any public laundry in the city of ...., or be received by the same for the purpose of washing or cleaning, from any hospital, sanatorium, hotel, boarding or rooming house in said city, where tuberculous cases are taken, unless such laundry be equipped with an adequate sterilizing plant, to be approved by the department of health.

Any violation of this provision shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50)

VII. STREET-SWEEPING

Frequency of Sweeping and Removal of Dirt

Section 19.—Every street, avenue, or square within the business section of the city of .... shall be swept or cleaned, and the sweepings, dirt and rubbish removed from the same, once in every twenty-four hours; and every paved street, avenue, alley or square in the residence sections of said city shall be swept or cleaned, and the dirt and rubbish carted away therefrom, at least three times in every week.

Time and Method of Sweeping and Removal of Dirt

Section 20.—No sweeping or cleaning, whether by hand or machine, of any street, avenue, alley, or square within the business section of the city of .... shall be permitted between the hours of six in the morning and eleven in the evening (6 a. m.-11 p. m.), and no street, avenue, alley or square within any section, business or residence, of said city, which is paved with granite blocks, cedar blocks or other wood, bricks or asphalt, shall at any time be swept or cleansed, whether by hand or machine, unless the same has been previously flushed or sprinkled with water; and no dirt, offal, or rubbish thus collected shall be allowed to remain in such street, avenue, alley, or square more than two hours following such sweeping or cleaning within the business section, or more than six hours within the residence districts of said city.

VIII. FOOD AND DRINK

Premises Where Food Is Sold Not to Be Occupied as Living-Rooms

Section 21.—No room or premises within the city of ...., in which any article of food or drink is exhibited or offered for sale, shall be occupied as a living-room or sleeping-room by any person or persons; nor shall any animal or animals be kept in, or have access to, such room or premises.

Articles of Food Carted Through Streets to Be Properly Protected from Dirt, Dust and Flies

Section 22.—No meat, game, poultry, fish, eggs, fruit, vegetables, breadstuffs, pastry, milk, butter, cheese, candies, confectionery, or any other article whatsoever which is to be used as human food, shall be carted or carried through the streets, avenues or alleys of the city of ...., unless the same be so covered or screened as to be protected from dirt, dust and flies; nor shall such articles be hung or exposed for sale or inspection in any street, avenue, or alley, or on any sidewalk outside of any shop, store, or private dwelling in said city, or in or near the open windows or doorways of such shop, store, or dwelling, unless it be properly covered or screened, so as to protect it from dirt, dust and flies.

Articles of Food Offered for Sale to Be Properly Protected From Dirt, Dust and Flies

Section 23.—No breadstuffs, pastry, butter, milk, cheese, candies, confectionery, or fresh, dried or preserved fruit, shall be exhibited or offered for sale in any part of any shop, store, or private dwelling in the city of ...., unless it be properly covered, screened or protected from dirt, dust and flies.

No Tuberculous Person to Be Employed at Manufacturing or Selling Foodstuffs

Section 24.—No person suffering from tuberculosis shall be employed in any grocery store, meat market, bakery, ice-cream parlor, dairy, or any other place where foodstuffs are manufactured or sold, within the limits of the city of ....

Penalties

Section 25.—Any violation of any of the provisions of Sections 21, 22, 23 and 24, above, shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

IX. GARBAGE

Duties of Owners, Tenants, etc., to Provide Proper Receptacles for Garbage

Section 26.—It shall be the duty of every owner, tenant, lessee, or person in charge of any building, apartment, or place of business in the city of ...., to provide, or cause to be provided, for the exclusive use of the occupants of such building, apartment, or place of business, a sufficient number of receptacles, made of or lined with metal, and water-tight, for receiving and holding all animal and vegetable refuse that may accumulate in such premises; such receptacles to be supplied with a strong, well-fitting lid or cover, to be kept tightly closed so as to prevent dogs, cats, or flies from gaining access to the contents thereof, and to be kept within such premises, or in the alley adjoining such premises, until emptied by the garbage collector.

Manner of Collection and Removal of Garbage

Section 27.—All garbage accumulated in any building, apartment, or place of business in the city of ...., as above specified, shall be collected and removed from such premises at least once in every twenty-four hours, by the city department or contractor having charge of such work, or by the individual or individuals being authorized therefor, in wagons or carts constructed especially for this purpose; which wagons or carts shall be provided with a substantial, water-tight metal tank with a close-fitting cover, so as to prevent the escape of any of the contents of such receptacles, and shall be thoroughly cleaned and disinfected at least twice a week.

Garbage Not to Be Used for Filling-In Purposes, or as Food for Animals Unless First Cooked

Section 28.—It shall be unlawful to deposit any garbage thus collected in any lot or grounds, or to use it for the purpose of raising the surface of any lot or grounds, within the city of ....; nor shall it be lawful to use the same for fertilizing purposes, or to be fed to swine or poultry, within the limits of said city, unless the same has previously been cooked, or otherwise treated so as to render it harmless as a carrier of infection.

Penalties

Section 29.—Any violation of any of the provisions of Sections 26, 27 or 28, above, shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50) for each offense.

X. MANURE

Accumulation of Manure in Vicinity of Dwellings Illegal Except as Approved by Department of Health

Section 30.—It shall be unlawful to deposit any manure or other putrid or offensive material in any street, avenue, alley, or public place within the limits of the city of ...., and to cause or allow any accumulation of such material within three hundred (300) feet of any inhabited dwelling, or of any store or factory, or other occupied building, in said city, without permission from the department of health.

Manner of Removal and Disposal of Manure, etc.

Section 31.—Any manure, or other putrid or offensive material incident to the keeping of horses, cows, or fowls within the city of ...., shall be removed from the premises on which it has accumulated, by the owner, lessee, or occupant of such premises, at such intervals and by such means and in such manner as shall be prescribed or approved by the department of health, and shall not be disposed of in any manner except by permission of said department.

Penalties

Section 32.—Any violation of any of the provisions of the two preceding sections shall be punishable by a fine of not less than five dollars ($5) or more than fifty dollars ($50).

XI. SMOKE

No Dense Smoke to Be Emitted Into Open Air From Any Building or Engine

Section 33.—It shall be unlawful for the owner, lessee, manager, agent, occupants, or person in charge of any factory, shop, store, schoolhouse, or any other building, public or private, or any engine, stationary or locomotive, within the limits of the city of ...., to cause or allow any dense smoke to be emitted or discharged into the open air from such building or locomotive; unless it can be shown to the satisfaction of the inspector charged with investigating such premises, or of the court trying any person for violation of this ordinance, that there exist no known devices or means, applicable to such premises, for the prevention of such smoke.

Any violation of any of the provisions of this section, except as noted above, shall be punishable by a fine of not less than ten dollars ($10) or more than one hundred dollars ($100); and each day on which such smoke is caused or suffered to issue or be discharged shall constitute a separate offense.

G. Walter Holden, M.D., Denver, Chairman,
W. Jarvis Barlow, M.D., Los Angeles,
W. H. Anderson, M.D., El Paso, Texas,
Committee.

REPORT OF THE COMMITTEE ON LAWS AND METHODS OF CONTROL OF TUBERCULOSIS IN A HEALTH RESORT STATE *

In outlining methods for the control of tuberculosis, the considerations must be the efficiency and cost of the various means that have been employed, in order to arrive at the most economical method of control. The method which has shown the greatest reduction in mortality may or may not be the most economical, as the same amount of money expended in a different way might show a greater reduction. As Newsholme has put it:

"The amount of money and energy available for the public health service, though it may fluctuate from generation to generation, is always limited; and of the measures that would aid in the prevention or cure of disease only a portion can be put into simultaneous operation. Thus any such measure yielding less than the utmost value for the resources expended represents an amount of avoidable and permitted disease proportionate to the relative inefficiency of the measure. It will be seen, therefore, that the rational as opposed to the capricious or random selection of measures is supremely important to the public health service, and where it can be had, actual experience is the safest and final guide."

It should be borne in mind that most of the proposed methods for controlling tuberculosis have a value in the prevention of other diseases and add materially to the comfort or general well-being of society. For this reason the cost of such measures should be charged only in part to the prevention of tuberculosis.

The methods for control may be divided roughly into segregation, education and supervision of working and living conditions.

SEGREGATION

Accepting Newsholme's conclusion that the decline in the phthisical death-rate is principally due to segregation, it does not follow that it is the most economical method of control for states having a large immigration of tuberculous persons. It is frequently assumed that the unrestricted tuberculous in "open resorts" constitute a menace to the general public of those communities. It has been very difficult to obtain evidence on this subject which is at all conclusive, for the reason that none of the states, excepting Arizona, classify separately the deaths from imported cases and those from locally acquired tuberculosis. The city of Denver makes this distinction, and California classifies these deaths according to the length of residence of the decedents, though the periods are such that it is impossible to deduce anything more than the conclusion that the corrected death-rate for tuberculosis is little if any higher for southern California than for the northern and central sections. The death-rate from locally acquired tuberculosis in Denver is very low, fluctuates considerably, but is certainly not an increasing rate. The highest rate for the six years from 1905 to 1910 was in 1909, when it reached 48.6 per 100,000 and then dropped in 1910 to 27.7 per 100,000.

In Arizona, the deaths for the year 1910 numbered 442 from imported tuberculosis of the lungs and 201 from phthisis acquired in the territory. Of the latter forty-nine deaths occurred among Indians on the reservations from which reports are received by the Territorial Board of Health, whose population, estimated according to the census of 1910, was 17,460 at the mid-year. If the presence of a large number of "open" cases were a factor of great importance in spreading tuberculosis, we should certainly be able to find some correlation between the death-rates for imported and acquired cases of the different communities. The death-rates for the two diseases by counties for the year 1910 is shown in Table 1 and should go far toward convincing one that casual contact and house infection are of relatively slight importance. The coefficient of correlation, as a matter of fact, amounts to less than 0.006 with a probable error of 0.187.

The accompanying table of those registration districts having the highest death-rates from locally acquired tuberculosis (Table 2) further bears out the contention that working and living conditions have a greater influence on the incidence of tuberculosis than has the presence of many open cases of the disease in the community.

While not sufficiently numerous in themselves to warrant a conclusion, yet when taken with the universally admitted influence of occupation, the correlation between poverty and phthisis, and when similar evidence and a like conclusion are obtained elsewhere, we are justified in being skeptical of the economy of segregation.

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* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

It is the poor everywhere who are most afflicted with tuberculosis and it is because they are usually ignorant, unclean and difficult to reach and teach, that segregation seems to offer the easiest road to success under ordinary circumstances.

But considered from the standpoint of cost, the figures for Arizona indicate that for every case of locally acquired tuberculosis there are about three imported cases. (The Indians on reservations are not counted, as they are under federal supervision.) In some other states no doubt the disproportion will be found even greater. This means an expense of about four times the amount that the locally acquired cases would demand.

The Arizona statistics show a preponderance of cases among Mexicans, and practically all of these would have to be cared for at public expense. To limit sanatorium treatment to those who are able to pay is to defeat the best purpose of these institutions, and it is also apparent that not to segregate the indigent among the tuberculous coming to the state or territory, means that segregation, as a preventive, will be a failure. Another objection to segregation as a preventive is that it would tend to encourage the immigration of a class that is highly undesirable, and while the expense of segregation might be found to be a decreasing one for locally acquired cases, it is unreasonable to expect anything but an increasing expense both for establishment and maintenance.

Furthermore, segregation will effect a decrease only in the death-rate from tuberculosis. Granting the economic importance of the disease, it yet must be conceded that a public health department must be maintained whether a policy of segregation be followed or not, and it is therefore proper to inquire what other means may be adopted, and especially whether it is not possible to prevent those living and working conditions which predispose not only to consumption but to a variety of other diseases and conditions as well.

In considering this phase of the subject, it is apparent that these conditions have two sources, the primary one being the ignorance of "the least resourceful class of citizens," and the second, the greed or ignorance, or both, of landlords and employers. It is folly to deny that the standard of living is so low among some people that they actually prefer idleness and squalor to work and decency; that others stake their health and present comfort against future independence, and that yet others, while desiring better things, lack the ability or opportunity to acquire them. The conditions under which these people live are capable of correction, partly through education and partly through the prohibition of insanitary housing and overcrowding. The agencies for the former are the public schools and practical instruction by visiting nurses. Lectures, pamphlets and other instruction given at arm's length are not effective with the class that need instruction most. They require the force of example, not precepts.

TABLE 1.—DEATH-RATE BY COUNTIES PER 100,000

	Imported Tuberculosis	Tuberculosis Acquired in Arizona
Apache	......	......
Cochise	96.56	53.96
Coconino	190.30	38.06
Gila	48.44	83.04
Graham	21.05	37.89
Maricopa	731.34	119.34
Mohave	......	113.88
Navajo	35.13	23.42
Pima	483.16	200.46
Pinal	98.28	98.28
Santa Cruz	73.35	29.34
Yavapai	124.60	74.76
Yuma	257.26	81.24
Indian reservations	......	280.28

As for securing sanitary housing, it is believed that American civilization has advanced sufficiently to admit the justice of requiring certain minimum standards for lighting and ventilation, and in new states such as those under consideration, it should not be difficult to secure their enforcement. The justice of requiring fire-proofing and proper sewerage is recognized. In like manner, the sanitation of mines, factories and workshops should not present great difficulties. At least their prevention now should be far easier than their correction at a later period when we shall have grown used to them and they shall have become politically and commercially intrenched.

The importance of such regulations is made apparent by the extremely high death-rates for certain classes of industries and especially for occupations productive of dust. The high morbidity and mortality-rates from other affections of the respiratory tract would make sanitary regulations of these trades imperative even though tuberculosis were non-existent. It also may be noted in passing that segregation practiced even to a large extent has failed to prevent considerable increases in certain occupations in England and Wales. Notable among these occupations with increased rates are those of general laborers, general shop-keepers, tin-miners and copper-miners. The fact that many people are affected with latent tuberculosis makes it highly probable that they need but the determining influence of lowered resistance to develop an active process.

EDUCATION

Education is perhaps after all the method on which we may best base our hopes. We may have sanitary houses, factories, schools and workshops, a sufficiency of food and clothing and yet through ignorance or inexcusable carelessness consumption will hold a place of prominence in tables of mortality. It is believed, however, that education in hygiene in the public schools should be of a more practical nature, should insist on personal cleanliness of the pupils, especially their fingers, sanitary schoolhouses—including lavatories and individual towels and physical examination of all pupils. Special provision should be made for ill-nourished children, and those exhibiting in any way a tendency to tuberculosis. It does not seem unreasonable to require that persons with phthisis should be prohibited from teaching, for almost surely some will be careless, and aside from the actual danger of contagion, will, by their example, undo any good that may come from didacticism.

To educate the adult population is more difficult, both because erroneous ideas must be dispelled and because new machinery must be provided for the dissemination of knowledge. Besides the methods mentioned above, the state should make an object lesson in sanitation of every public building and institution under its control and be prepared to give expert advice to local governments and private owners.

TABLE 2.—REGISTRATION DISTRICTS HAVING THE HIGHEST DEATH-RATES *

July 1, 1909, to April 1, 1911

	White		Mexican		Chinese		Negroes			Death-Rate per
	M.	F.	M.	F.	M.	F.	M.	F.	Tot.	100,000
Clifton	..	..	8	6	..	..	..	..	14	164.2
Globe	11	..	5	3	..	..	..	1	20	117.0
Tucson	9	2	23	21	1	..	2	1	59	209.7
Yuma	..	..	6	3	..	..	..	..	9	.....
Phoenix	12	4	13	9	..	..	1	1	40	113.6
Tempe	..	1	5	2	..	..	..	..	8	148.7
Bisbee	9	1	4	4	..	..	..	..	18	76.3
Douglas	1	1	7	2	..	..	..	..	11	86.3
Total	42	9	71	50	1	..	3	3	179	

* Clifton, Globe and Bisbee are mining-camps; Douglas, a smelter-town; Tempe, a farming-town; Tucson, Yuma and Phoenix are the towns most resorted to by tuberculous patients. The death-rate from imported tuberculosis in the latter town is far above that of any other district in the territory. With the exception of the last three the death-rate from imported tuberculosis is quite small.

In order to secure these means, it is absolutely essential that the state shall be provided with a public health service so organized and so supported that the actual work may be accomplished. In the past too little attention has been paid to the organization of state health departments and too much to the enactment of legislation that is soon to become a dead letter for lack of proper machinery and adequate funds for its enforcement. Emphasis is laid on this point for the reason that the problem is too large for anything less than state control. Charity organizations and voluntary associations, though of undoubted benefit and in every way commendable, can never do more than mitigate an evil of this magnitude. They lack the power, they lack the funds and they lack the organization; and though these two latter qualities may be acquired, the first cannot be. It is much more desirable that they be acquired by health departments and that states should shoulder their responsibilities in this important duty to their citizens. It is believed that a centralized state department with full-time officers, under civil service rules, and supported by a fixed tax levy, offers the most reasonable solution from the standpoints of economy, efficiency and security against political control. This will center the responsibility, permit the aggregation of funds and assure tenure and promotion, thus securing the services of specially trained workers. It will permit such specialization within the service (diagnosticians, statisticians, bacteriologists, etc.) as may conduce to the best class of work. It will divorce public interest from private practice and avoid the friction that competition in practice may engender. It will permit the employment of laymen for lay duties and do away with the present ridiculous practice of employing medical men to perform police and clerical work. In place of the ill-paid "health officer," who is called on spasmodically to "stamp out" an epidemic of this or that disease, a visiting nurse could be employed with far greater returns for the money expended. The epidemics should be fewer and more quickly suppressed under the supervision of the officer in charge of the district.

At present, well-organized departments are found only in our larger cities and it does not seem that efficient organization will be possible so long as disease prevention is looked on as a local affair and provided for by local taxation and administered by a local body.

Considering the probable costs of the foregoing measures, it appears that the expense of maintaining a properly organized and equipped state department of health, which would be competent to deal with all the diseases amenable to public control, would be even less than the amount necessary to maintain sanatoriums for the segregation of all the consumptives, requiring public aid. The cost of equipment for such a department would be but a very small fraction of the amount necessary for providing such sanatoriums. The inevitable expense of caring for the indigent is considered in this statement. Furthermore, in the plan here outlined, the burden of expense is put where it more rightfully belongs, as the additional expenditures necessary to render working conditions sanitary will be borne ultimately by the consumers of the products and not primarily by the working man and those dependent on him, and secondarily by the community.

In a like manner, the enforcement of proper housing laws should operate as a sort of compulsory insurance for the tenants and it is improbable that the entire cost of alterations will be exacted in rent.

These are practically the only matters which are reasonably debatable, and, assuming that the reasoning is accepted, the methods of control may be outlined as below in two general classes, as measures of primary and secondary importance. In this connection it may be well to point out that thus far in state action for the control of tuberculosis, except in so far as money has been expended for sanatoria, only the least expensive and least effective methods have been brought into use. The educational measures which have thus far been carried out have failed to reach those who need help most and much effort has been directed against minor evils which are only in slight measure responsible for the ubiquity of the disease.

1. Measures of Primary Importance

I. Organization:

- A. A properly organized state department of health, adequately supported with funds and equipment, including in organization:
    1. Civil service.
    2. Full time officers.
    3. Security of tenure.
    4. Promotion by reason of ability only after an examination.
- B. Including in equipment:
    1. Funds for the employment of subordinates, including clerks, visiting nurses and inspectors.
    2. The establishment and maintenance of laboratories.
    3. Adequate pay for officers and employees.
    4. Funds sufficient for conducting educational campaigns throughout the state by means of printed matter, practical demonstrations in sanitation, etc., reaching the rural as well as the urban districts.

II. Registration:

- A. Vital statistics laws conforming to the essential principles of registration as defined by the American Public Health Association and other associations which have indorsed these principles.
- B. Registration of the tuberculous in order that
    1. There may be a superficial inspection of the premises to determine the advisability of more thorough inspection.
    2. Instructions may be given in the mode of living either as an aid to the patient or to reduce the chances of his infecting others, or both; this to be done either by the attending physician or at his request by the state through circulars, inspectors or visiting nurses, or through all of these channels.
    3. Charitable aid may be directed to them when necessary, including medical attendance or by transferring to hospitals or sanatoriums.

III. Laws relating to working and living conditions:

- A. A housing law requiring minimum standards relating to ventilation and lighting and prohibiting overcrowding.
- B. Laws relating to the ventilation of factories, mines and workshops, requiring especially the use of contrivances for the removal of dust in those trades in which dust is an unavoidable factor.
- C. The prohibition of the tuberculous from engaging in occupations bringing them in immediate contact with children or involving the handling of foods which are eaten without intervening cooking.
- D. Requiring all foods which are eaten without further cooking to be kept in such retainers as prevent contamination by dust, flies, and handling by would-be purchasers.
- E. The enforcement of these laws should devolve on the department of health in order to obviate the duplication of governmental machinery.

IV. Medical inspection of schools, including

- A. The physical examination of all school children.
- B. The supervision of the sanitation of schools.
- C. Practical instruction in personal hygiene and sanitation.

2. Measures of Secondary Importance

I. Disinfection under the control of health authorities.

II. Anti-spitting ordinances.

III. Abolition of the public drinking-cup.

IV. Provision for the tuberculin testing of diary herds.

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Committee.

ABSTRACT OF DISCUSSION

Dr. Henry B. Stehman, Pasadena, Cal.: If I remember correctly, Mr. Newsholme, to whom Dr. Godfrey referred in speaking on the matter of segregation, said that after a long experience in England, Sweden and Germany in improving the food-supply, the death-rate of consumption or tuberculosis was unaffected. After they tried improving the dwellings, the home surroundings, there was still no change in the death-rate. It was only after they began to segregate that the mortality decreased; and it is remarkable to find how low it did fall in Germany, for example. If I am not mistaken, the rate fell one-half in fifteen years. Koch said that, after all, segregation was the only thing which would accomplish what we are trying to accomplish.

Now, there are two sides to this question, and perhaps wisdom lies between the extreme of segregation and the adoption of the points which Dr. Godfrey has so ably outlined, because the conditions are such that some have to be segregated and others can be cared for in their own homes. There is a great deal of heartless talk on this subject of tuberculosis. I was told yesterday that some one at Denver said that these people must be segregated, if it required the police to do so. Any one who has had experience in this line of work, any one who has had the patient's point of view, will appreciate, probably, more than those who are talking at random, that there is a sympathetic side to this question; and this sympathetic side can be emphasized without detriment to the public; and there are certain methods of segregation that in my judgment will be effectual, not only in preventing the spread of tuberculosis, but of great assistance in educating the public. There are a great many people that can be segregated, and that will be segregated, who will not be a necessary expense to the community or the state, because their friends, recognizing the importance of it, will maintain them. Thus that part of the question will be answered.

But there is one other question that I wish to speak of, and I think it is one of the most striking things that Dr. Godfrey referred to, and that is the death-rate among the Indians. A few years ago I was told by a resident among the Indians that the spread of tuberculosis among them was in a great measure produced in the following way. In the Indian schools that were maintained by the government, the superintendents are very anxious to have a large roll, which is easily understood. Consequently, the Indian children are taken from homes into schools already infected; these children become infected and are kept there until they become hopelessly ill, and then they are returned to their homes. In this way the infection is spread. It does seem to me that if there is any truth in a statement of this kind it should be investigated, and that we should make every effort to see that such a deliberate crime against these people should be prevented.

Dr. G. H. Sumner, Waterloo, Ia.: In 1906 there were 1,502 deaths in the state of Iowa from tuberculosis; in 1907, 1,661; 1908, 1,548; 1909, 1,597; 1910, 1,474. The only guide we have as to the results of this disease is furnished by the death certificates. In 1910, in the entire state, we had 24,000 deaths in round numbers. Now you can calculate for yourselves the percentage, when I say that 1,474 of these deaths were from tuberculosis. Here are some figures which come to me with great force and I want to call attention to them. Deaths from pneumonia in Iowa for 1906, 2,050; 1907, 2,439; 1908, 2,290; 1909, 2,137; 1910, 1,880. Of the 24,000 deaths, 4,066 were from preventable diseases, or about 20 per cent. It is simply appalling when you consider these figures regarding pneumonia and tuberculosis. There is something radically wrong somewhere. I don't believe it is with the medical profession. We are getting a great number of diseases which we can classify as tuberculosis and pneumonia; and I think that Iowa is no exception.

REPORT OF THE COMMITTEE ON THE PURIFICATION OF SEWAGE *

The Engineering Aspect, by Rudolph Hering, D.Sc.
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The disposal of wastes from large communities has from time immemorial been a subject that has not only presented difficulties but also frequently much annoyance to those in charge. Such wastes are both solid and liquid and they may emit offensive odors. The solids consist of garbage, sweepings and general rubbish, and the liquids consist of sewage, includng the solid matter which it carries in suspension.

House rubbish, sweepings, sewage and insects, bred in and nurtured by garbage and other filth, are known to be carriers of the germs of some infectious diseases. They are also well known as nuisances, which fact to the average individual is generally the stronger cause for speedy and effective remedy.

In modern times many improvements have been made to bring about better health and more comfort to the inhabitants of cities. At last a point seems reached at which also the disposal of all wastes can receive satisfactory solution.

To-day the solid refuse can be collected and disposed of in such manner that all danger from transmitting disease is removed and that no nuisance need be created during the ntire process; and both results can be obtained at a reasonable cost. The correctness of this conclusion has been repeatedly demonstrated, so that there remains no longer any doubt concerning the practicability of achieving the above results. A large number of cities in both Europe and America are ither starting new works for refuse disposal or are remodelng old ones to obtain this long-sought-for satisfactory relief.

The present paper, however, deals solely with the liquid wastes or sewage. From the time of the Roman *cloaca maxima*, sewage has been considered a nuisance. During modrn times it has also been recognized as a disease-carrier. Both of these objectionable qualities can now be economically eliminated, and it is the special purpose of this paper to briefly outline the means. As disease and nuisance may have uite distinct and different causes, we should consider their treatment separately, for what may prevent one may not prevent the other, while in some cases the two troubles may be removed together.

I. SEWAGE PURIFICATION TO PREVENT DISEASE

The engineer who is called on to design works of this character assumes from evidence furnished by the medical profession that excrementitious matter, laundry water, general wash water, etc.—in short, that sewage, as it is now generally produced in cities—may carry pathogenic germs. He further assumes that these germs may be destroyed by exposure to heat, light, desiccation or sufficient aeration. He also assumes that they can be directly destroyed by contact with certain oxidizing materials, such as hypochlorite of lime and sodium. He finally assumes that most and probably all of such germs will perish by starvation if the easily putrescible liquids and the solid organic matters in the sewage are removed, or so far reduced that they no longer furnish sufficient means for sustaining germ life.

The first practical result derived from these assumptions is that sewage should be divided into two parts: the coarse solids, the aggregation of which is called "sludge," and the liquids or solutions, carrying the finest suspended particles, for which the name "colloids" is now used.

The second practical result is that both of these parts must be specially treated if the destruction of the pathogenic bacteria is to be assured. This treatment may be similar for both parts, but it is usually different. In all cases, however, it depends on the physical and financial opportunities for treatment.

The solids that readily putrefy must be rapidly decomposed and converted into liquids and gases, and the liquids must be oxidized and converted into mineral matter.

Sludge.—The solid organic sewage matter should be further divided into two parts: that which is easily decomposed, such as animal and vegetable fluids and the softer cellular matter, and that which resists decomposition for some time, such as bones, hair, epidermis and the harder vegetable cellular matters. Disease germs are more likely to be nurtured by the non-resistant organic matter, or that which more easily breaks down or putrefies. It is highly probable that pathogenic bacteria perish as the non-resistant matter of sewage decomposes and is converted into mineralized liquids and gases. There is no evidence at hand that the more resistant organic matter, such as forest or garden mold, old manure, river or lake deposits, retain or nourish the bacteria of disease.

Therefore, with our present knowledge, the engineer should endeavor to cause as rapid a decomposition of the non-resistant solid matter as practicable, so as to remove as quickly as possible the most favorable conditions for the survival of pathogenic bacteria.

Before sewage is discharged for purification, whether into water or on land, it should first be screened, so as to hold back all very coarst and floating solids, which can best be dealt with separately.

When discharged into a water-course the finer particles, which are not screened out, may settle to the bottom or may be carried along in suspension. When they settle they may either putrefy or slowly decompose. To minimize putrefaction it is desirable, therefore, to prevent settlement of the fine particles, either by sufficiently fine screening, by special sedimentation, or by having a rapid or non-depositing velocity.

When discharged into salt water, the finer particles, together with bacteria, may be taken up by oysters or some other shell-fish which may be eaten in a raw state. When the bacteria are pathogenic, a serious danger to health would exist. In instances in which, for economical reasons, sewage sludge is discharged into salt water, it will usually be found less expensive to cease taking oysters or shell-fish from such localities than to try to prevent their infection.

When discharged on land at purification works there are several methods available for dealing with the sludge:

When sewage is at once turned on land for filtration, the solid particles remain at or near the surface. The pathogenic bacteria may perish by contact with sunlight and sufficient air, or by starvation, should they be washed into or penetrate the soil.

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* Read in the Section on Preventive Medicine and Public Health f the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

When sewage is first allowed or caused to deposit its solid matter as sludge before it is further treated or discharged, then the pathogenic bacteria contained therein may perish, *pari passu*, as the non-resistant matter is decomposed and all favorable nutriment disappears.

Liquids.—The oxidation and conversion of liquid or dissolved organic sewage matter into mineral matter is accomplished by low organisms, ranging from insects down to bacteria, which bring about changes that remove the conditions of a suitable nidus for pathogenic germs. With sufficient time they will perish. But such sufficiency is not always available and it is not always certain that all of the germs are destroyed.

If the necessity for their immediate destruction is paramount, then the effluent should be treated with hypochlorites. This can now be done in the same manner as destroying the pathogenic germs in potable water-supplies, which has recently become quite common. Because of the much larger quantity of organic matter contained in sewage than in potable water, the expense of such treatment will be much greater. On account of the greater expense, however, it would be cheaper and, in fact, safer in most cases to treat the water-supplies, should they be taken from sources of questionable purity, than to treat the sewage effluents instead, beyond what would be required to prevent nuisances and a reasonable protection against propagating diseases.

This conclusion is proper for the reason that even were the sewage of a town sufficiently treated to wholly remove all pathogenic bacteria, there would still remain the possibility in any open water-course or lake of a pollution with excrementitious matter from shipping, as from cases of "walking typhoid," or from shores, due to rain-water washings of the land, should a water-supply be taken further down the stream for another community.

II. SEWAGE PURIFICATION TO PREVENT NUISANCE

Most of the efforts made to purify sewage were made because of the desire to prevent the nuisance that results from its rapid putrefaction. This nuisance, further, is less one of sight than of odor. The offensive odors arise from a number of ill-smelling gases which are produced by bacterial decomposition of the non-resistant organic matter. The principal offender is hydrogen sulphid. Others are butyric acid, mercaptan, etc.

A successful effort, therefore, will be that one which succeeds in allowing decomposition of sewage to take place without developing ill-smelling gases. Therefore, we endeavor to secure it by oxidation or by the production of marsh gas (CH_4), carbonic acid (CO_2) and other inodorous gases.

As before, we can find that this result can be best obtained by dividing sewage into two parts: the coarse solids or sludge, and the liquids, including the fine suspended matter. Each part must be specially treated, the kind of treatment also here depending on the physical and financial opportunities.

Sludge.—The sludge, as mentioned above, consists of resistant and non-resistant solid matter. It is the latter alone which causes a nuisance. Animal and vegetable fluids and soft cellular matter, as flesh or pulpy leaves, when life has ceased, are readily attacked by bacteria. When decomposition is rapid, oxygen compounds are soon displaced by hydrogen compounds and oxidation is supplanted by putrefaction. Under ordinary conditions hydrogen sulphid and other foul gases are produced. Until quite recently, success was only moderate in preventing these foul odors which are due to putrefaction.

In the Emscher district of Germany, at Essen, it was found that with a deposition of the solids for one to two hours, the remaining sewage, thus relieved, could be satisfactorily discharged into open water-courses. It was also found, unexpectedly, that the decomposition of the sludge in specially-made tanks resulted in the production chiefly of marsh gas and carbon dioxid; therefore, of non-odorous gases.

This discovery, made by Dr. K. Imhoff, chief engineer of the Emscher sewage works, was later tested at numerous places in Germany, and recently in two cities in this country. When the apparatus to accomplish this end received proper design and operation, the same non-odorous sludge and gases appeared in every case, although it is not yet clearly understood why the sulphur compounds are no longer produced in offensive quantities.

The chief conditions required to obtain this result appear to be the passage of the sewage through a tank having a sedimentation chamber, which at the bottom is provided with sloping surfaces forming a slot, through which the solid particles can pass into a lower chamber for storage and decomposition, but so that the sloping surfaces project over each other sufficiently to prevent bubbles of gas which rise and bring up suspended matter from again entering the upper chamber.

The sewage passes through the upper chamber in one to two hours. This short time does not allow it to become foul or septic, yet it is sufficiently long to allow practically all of the objectionable solid matter to settle out, the amounts being estimated at from 90 to 100 per cent. of such matter that is capable of settling within the time of passage. The sewage leaving the upper chamber is fairly fresh and non-odorous.

The sludge is stored in the lower chamber for several months. It has fresh particles constantly depositing on the top. Throughout the mass there is a continual decomposition going on, indicated by bubbles of inodorous gases which are constantly rising. There is no circulation of liquids within the lower chamber. The rising gases keep the sludge sufficiently stirred up so that toxins do not accumulate to reduce the activity of the decomposition.

At the bottom of the lower chamber, and under a depth of 20 to 30 feet of water, the sludge after a sufficient time is found to have lost practically all of its original non-resistant or putrescible matter. It has lost its slimy and glutinous consistency and has become friable and porous. In this condition it can be withdrawn from the bottom tank under the existing water-pressure. When it issues, the compressed gases expand and lighten the sludge, so that it easily drains and can be dried within a few days. It has a slight odor resembling burnt rubber, but this soon disappears and the sludge resembles vegetable mold or garden soil, although hair and other resistant animal matter is often still seen therein.

The first experiments in our country with this inodorous sludge decomposition effected in Imhoff tanks were made in Philadelphia and Chicago. Although our American sewage is much more dilute than European sewage, the results with the sludge obtained in both of these cities were practically the same as those in Europe. We, therefore, have every reason to believe that this new method of sludge treatment will have a pretty general application in our country and will at last make it possible to prevent the present nuisances where sewage sludge is handled.

Where sewage is disposed of by dilution and can be discharged into a stream of water of sufficient quantity and velocity to prevent a deposition and accumulation of sludge, there is, of course, no nuisance at any time. It often happens, however, that a deposition does take place and then offensive conditions are liable to result. In such cases it may become practicable to intercept the sludge by Imhoff tanks, and the offensive deposition would then be prevented. Such possibilities exist in the two cities above mentioned; also in New York city and in many other cities situated along rivers and lake shores.

Liquids.—The liquid sewage, after about two hours' sedimentation, still has a large amount of fine colloidal matter in suspension. It has been found, however, that this fine matter can be best treated together with the liquids containing organic matter in solution.

Near its origin, sewage contains very little organic matter in solution other than urine. Nearly all of the organic matter is practically in suspension. But after it has been flowing for hours in a sewer a large amount of the suspended matter is dissolved, so that analyses often indicate about equal quantities of organic matter in solution and suspension.

In that condition the liquid sewage soon becomes foul unless it is treated. The only satisfactory and economical way of treating it inoffensively is by oxidation. This can be secured by bringing the sewage into contact with sufficient air under conditions favorable for bacterial life.

The disposal of liquid sewage in flowing water, which has sufficient air and oxygen in solution to prevent putrefaction,

s. therefore, a legitimate and widely accepted method. When he conditions are proper in practice, it is quite satisfactory n entirely preventing a nuisance from the moment the sewage s discharged.

When liquid sewage must be purified on land, the oxygen is btained from the atmosphere. To have sufficient contact with t. it is necessary to cause the sewage to be spread out over a arge surface as a thin film, in which the bacteria abound and o which the air has ready and thorough access. Experience as shown it necessary to have on an average from 300 to 600 quare feet of bacterial surface per inhabitant. This condition s obtained by intermittent filtration through grains of sand, y the sewage spreading over and wetting the sand grains, so hat the above required bacterial surface per inhabitant can e obtained within a few square feet of filter surface.

Oxidation is also obtained by sprinkling filters made of oarse-grained material. The sewage is spread over it by a prinkling process and the oxidation proceeds as above. The oarse-grained filters utilize, in addition to bacteria, the activ- ty of insect life which abounds in them.

Finally, oxidation is obtained also by so-called coarse-grained ontact beds, in which the liquid sewage is allowed to fill the ntire bed and wet the surfaces of the material. After each ose the surplus liquid is drawn out, so that the retained iquid may be oxidized by the penetrating air. Several repeti- ions of this process may finally oxidize all the non-resistant rganic matter contained in the liquid.

Among these three liquid-oxidizing processes, the intermit- ent sand-beds generally give the most effective results, and f the filters consist of natural sand-beds, the process is often uite economical. The sprinkling filters, on the other hand, enerally give a satisfactory effluent at the least cost. The ontact-bed method of oxidation is generally the most expen- ive one to obtain the same degree of purity. When the sew- ge is foul it may give the least nuisance when the beds are lled from below, because the sewage is not exposed at the urface.

All of these oxidizing processes can effect an inoffensive urification of the liquid when it has not been allowed to ecome septic. It is, therefore, now greatly to be desired that ewage is delivered to the works as fresh as practicable.

Delivery of the sewage in a fresh condition can be facili- ited by a well-designed and well-maintained sewage collect- ig system, giving good velocities at all points and furnish- ig no opportunities for local deposits or for retention of ecomposing matter by projections or rough surfaces.

CONCLUSIONS

From the above account of the means of sewage purification, eing recognized as the best, it can be concluded that we have ow advanced to a point where both the spreading of diseases nd the creation of any nuisances by sewage can be prevented t reasonable cost.

To accomplish these results by the methods above described e must first secure a substantial separation of the solids om the liquids; second, secure construction that will remove e sewage from the town completely and without the reten- on of any matter; third, secure a removal as rapidly as pos- ble; and fourth, treat each part according to the general rinciples outlined above with intelligent and faithful atten- on and care.

The Biologic Aspect, by Arthur Lederer, M.D.

hemist and Bacteriologist, Sewage Testing Station, the Sanitary District of Chicago

Comparatively few of the larger cities in this country have mpletely solved their sewage and water problems. As a le, the sewage problem cannot be spoken of without touch- g on the water problem. The sewage problem of one city -day may become the water problem of another to-morrow. ollution of surface waters is, in many cases, an interstate fair, and usually to prevent or eliminate such pollution the od grace and good will of many small communities have to depended on. Concerted action by such communities is hard obtain and, in some cases, is almost a hopeless task. There e several reasons for this:

1. Various communities seldom agree as to the amount of pollution they are responsible for.
2. Some communities depend on the water-supply they are polluting; others do not. Naturally, the ones which do not are in no hurry to remedy the condition.
3. Funds are generally insufficient.
4. There is general lack of appreciation of the common good.

It is probably true that very few rivers in the United States are safe raw for drinking purposes. It is also true that the temptation to discharge raw sewage into the large watercourses is great. We can only remedy this evil with difficulty. A reasonable line must be drawn somewhere. The trade-wastes of our large industries have to be discharged. Many of the trade-wastes can be purified but partially. We have therefore to confine ourselves to trying to keep the large common drinking reservoirs, such as are represented by the great lakes, in a good, wholesome condition. The introduction of the purification of sewage is an educational task, much more so than the purification of a water-supply. One can demonstrate to the people in a community that the death-rate from intestinal disease is rising and that the water-supply is responsible for it. The people will fight for a pure water-supply and get it frequently in spite of franchised water companies and empty treasuries. Unfortunately, the discharge of raw sewage by one community in most cases affects another. Small communities, as a rule, pay attention to their sewage problem only when they begin to smell it. Their usual procedure in such a case is to have the engineer, who, in most cases, is a civil engineer by training, draw up a design for a septic tank or the like. Right here is where we need most enlightenment. Many of us have seen sewage disposal plants which do not operate properly, and many have seen plants which are failures either on account of faulty design or on account of entire lack of intelligent supervision. State legislatures and state boards of health, in the Middle West in particular, are just beginning to awaken to the fact that proper sanitary engineering advice by men of special training is as valuable to these small communities as anything they may do to further the health of the people. An inefficient sewage disposal plant, or a neglected plant, represents a waste of capital and energy. Massachusetts was the first state to realize the value of disseminating sanitary engineering advice among its towns and villages. In the Middle West, Ohio has done good work, and now Illinois begins to fall in line, having been granted enough money by the legislature to undertake sanitary engineering work in conjunction with the state water survey.

Misconception in regard to the engineering, as well as the biologic, features of sewage disposal is common even among the educated laymen. One is not surprised to hear educated people, even those whose business it is to look after sanitary matters, speak of "sewerage" when "sewage" is meant.

Few people realize that ordinary domestic sewage in reality is very dilute as far as the solids in suspension and in solution are concerned. A content of 0.1 per cent. of total solids would be representative of a strong domestic American sewage, and more often it is likely to be considerably less. Of this amount, a small portion only—on the average, about 25 per cent.—represents the solids in suspension. The odor of fresh sewage is not repugnant, as is commonly supposed. In small bulk it appears as a slightly yellowish, fairly turbid liquid, containing a varying amount of finely divided, as well as coarse, suspended matter. The layman invariably pictures sewage as the dark, putrid liquid found in stagnant sewers or septic tanks.

The aim in modern sewage disposal is to get rid of the small amount of suspended matter present as quickly as possible, and then to oxidize the fresh liquid on biologic filters should additional treatment be required. This view has been the result of a thorough study of the nature of the liquid. The only feasible method of removing suspended matter on a large scale is by allowing it to settle. Not all of the suspended matter can thus be removed. Even if it were possible to remove it all, the liquid portion would still be putrescible. Of the suspended portion, the heavier mineral particles settle first. During a heavy rainstorm, when the streets are flushed, with a system of sewerage receiving both fecal waste and storm water, the coarser mineral matters will reach the sewer in such quantities as to make a so-called "grit chamber" or "detritus tank" necessary as a preliminary purification measure. Besides the heavier mineral particles, there is suspended matter containing varying proportions of organic, or volatile, and mineral, or fixed, matter. The higher the percentage of mineral matter, the quicker, as a rule, settling will occur. The finely divided suspended matter or, as it is called, colloidal matter, usually contains the highest proportion of organic matter, which cannot be got rid of even by prolonged settling. German authorities therefore have suggested that the efficiency of a settling device be judged by the percentage of removal of suspended matter capable of settling, rather than on the basis of the total suspended matter as obtained by gravimetric determinations.

Not all sewages will show the same behavior in settling. A great deal will depend on the concentration of the sewage. The concentration of a domestic sewage is ordinarily measured by the quantity of suspended matter or by its chlorin or nitrogen content. The chlorin and the organic nitrogen are good indices as long as they do not originate from any source other than human excrements, and the suspended matter is a good index as long as it is not increased by the wash from streets or industrial waste. A sewage may have a heavy sediment, yet it may be less putrescible than a sewage with a slight sediment, simply because the greater percentage of the heavy sediment is of a mineral non-putrescible nature.

The concentration of the sewage, however, bears no relation to the physical changes which develop during storage. During storage, a goodly portion of the finely divided suspended matter will precipitate and black ferrous sulphid will be formed. Such a dark "septic" sewage will appear a great deal more repugnant than a more concentrated fresh sewage. The best index of the changes in the character of a sewage on standing is furnished by the oxygen in solution. As long as there is oxygen in solution no odors will develop. The amount of oxygen in solution will depend partly on the fresh water consumption per capita and the season. The higher the consumption the greater the amount of oxygen in the sewage. In cold water the oxygen content of water is higher, and the low temperature in itself acts as a preservative. Again, the sewage during the winter months usually contains an appreciable amount of oxygen in solution. As a further consequence, less water is needed for its dilution in order to prevent a nuisance in a water-course. During the hot summer months, sewage rarely contains oxygen in solution except after a heavy rain, inasmuch as the rain water contains considerable quantities of dissolved oxygen. The sewage may reach the outfall sewer in either a stale or a septic condition. It becomes stale before it becomes septic. In both cases the sewage will be devoid of oxygen in solution, but in a septic sewage even the oxygen of the mineral nitrates and nitrites has been drawn on for the oxidization of the putrescible matter present. Still, there are stages below the septic state which cannot be followed up by simply analytical methods. A sewage will increase in "septicity," if I may be permitted to use this term, to a certain degree and then will greatly purify itself with the aid of semi-anaerobic and aerobic bacteria.

Raw sewage may actually purify itself during storage prolonged for weeks to a state in which it is impossible to differentiate it from fresh, clear water by physical inspection, except it be for a mineral sediment and a growth of algæ at the bottom. In such a state it would work no harm in a stream for the reason that it is completely aerated and highly mineralized. It would, therefore, not draw on the oxygen present in any water used for dilution. The entire process of conversion of sewage into a stable, clear liquid (which is of theoretical rather than practical interest) is brought about by the aid of various sets of plant and animal microorganisms, and particularly in its later stages also by the aid of macroscopic plants. It goes without saying that such a self-purified sewage would not be safe for human consumption, on account of its bacterial contents, although the less resistant types of intestinal bacteria are materially lessened in number and perhaps entirely eliminated on prolonged storage because of lack of food and unfavorable environment.

As has been pointed out before, the modern tendency in sewage disposal is not to permit septic action previous to biologic treatment such as takes place on sprinkling-filters. The "septic tank" has been hailed as a panacea of sewage disposal for the last decade and has been eagerly taken up by the smaller towns. The idea of eliminating the sludge question was an attractive one. The actual digestion of sludge in a septic tank has been found to vary in different places a great deal. There are very few cases in which complete liquefaction of sludge has occurred. While septic tanks, as a rule, are not sources of putrefactive odors, as the layman ordinarily assumes, they unload during the warm season a great deal of the lighter sludge. As a consequence, the effluent is very often a great deal worse than the raw sewage entering it, something which will never be the case in a well-operated settling tank. A happy combination of the principles both of settling and of sludge digestion can be found in the Emscher or Imhoff tank. This tank permits the escape of a fresh effluent, while the suspended matter settles, dropping into a separate sludge digestion chamber. Thus, the upper part acts as a plain settling-tank. In the lower part, sludge digestion goes on distinctly separate from the liquid portion above. We can therefore classify the tank properly neither as a septic tank nor as a settling-tank. The principle of this form of tank is sound and seems to have met with great favor in the sanitary engineering profession.

The question of odors developing during the preliminary stages of sewage purification is an interesting one. As has been pointed out before, repulsive or disagreeable odors are the exception, not the rule, in this country, for the reason that the compounds capable of forming putrefactive bodies are vastly diluted; yet odors, particularly hydrogen sulphid odors, may and do arise under particular conditions. Hydrogen sulphid is the chief decomposition product of the organic sulphur compounds present in sewage, but the amount of organic sulphur in our dilute sewages is too small to account for the development of noticeable quantities of hydrogen sulphid gas. The gas may develop, however, in noticeable quantities during the digestion of concentrated sewage sludge, as, for instance, in a sludge tank. Large quantities of hydrogen sulphid gas may be formed by the reduction of mineral sulphates such as may occur in a water high in permanent hardness or may enter the sewage as manufacturing waste. Instances of this have been noted in this country and abroad. This phenomenon can be traced direct to the powerful action of certain unidentified microorganisms. Beijerinck[1] has demonstrated that the reduction of sulphates in sewages is due to a spirillum. He has not been able, however, to accomplish the result with a pure culture. Other observers have endeavored to trace the reduction of sulphates and the formation of hydrogen sulphid as the result of the reduction to various microorganisms with little success, probably because they have not been able to imitate the particular environment essential to the vitality of the organisms. Clark[2] has noted the development of noticeable quantities of hydrogen sulphid gas as the result of the reduction of mineral sulphates in a septic tank. Since then, the phenomenon has been noted in various other sewage disposal plants. On the whole, however, we have very little specific knowledge of the organisms causing putrefactive odors in sewages.

The second step in the purification of sewages consists in the biologic treatment or oxidization of the sewage. The oxidization of sewage can be accomplished by allowing the sewage to pass through an intermittent sand-filter or into sprinkling-filters of crushed stone. The resulting effluent is not only a great improvement in the physical character of the sewage, but, what is more important, in its chemical character. The influence of rates, size of stone, depth of bed and many other factors will play an important part in the success or failure of a plant. The free ammonia becomes oxidized to nitrites and nitrates. The amount of nitrates formed furnishes good evidence as to the work accomplished. The effluent also contains more or less oxygen in solution after passing through the filter. If it be stable, as is desirable, it will contain enough oxygen to effect its own self-purification. Here, too, the improvement in the liquid can be traced to microcopic plant and animal life, the combined action of which is ore powerful than anything we are able to reproduce in the boratory, considering the short time the sewage is allowed be in contact with the filtering material. The great bulk f suspended matter retained does not clog the sprinkling-lter quickly, as may be expected, for a great deal of the rganic portion becomes oxidized and consequently the sludge ccumulating at the bottom of the filter and on the stone is f a more mineral character and less putrescible than the udge in the upper surface layer. Secondary settling-basins ould be provided to take care of the sediment of the filter luent during the spring or other times when the filters nload the sludge from the bottom. The disposal of the sludge a difficult question and has not been solved satisfactorily s yet. The sludge does not make good fertilizer and is not rticularly good fuel, although it can be burned. The most asible way at present is to dry the sludge on prepared beds nd to use the dried sludge for filling low land. The physical ppearance of dried sludge is that of ordinary humus soil. t has none of the offensive characteristics of fresh sewage udge. The sludge from the Emscher tank, when dried, is rticularly adaptable for filling.

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[1] Beijerinck: Ueber Spirillum Desulfuricans als Ursache d. Sulfat Reduction. Centralbl. f. Bacteriol., 1895, i, 3.

[2] Clark, H. W.: Jour. Assn. Engineering Socs., xxxii, 262.

The effluent of the secondary settling basins usually repre-nts the last stage of sewage purification from the standpoint f abolishing a nuisance, but, in specific cases in which a high cterial purity is required, disinfection with chlorinated lime resorted to. None of the purification devices spoken of pre-iously have, for their primary object, the destruction of bac-ria. The great reduction in the number of bacteria of the nal effluent is largely coincident with the great reduction in spended matter. The final effluent is therefore not safe to ischarge into a stream used for drinking purposes without dditional disinfection, no matter how efficiently a plant oper-tes. In the last few years, the disinfection of contaminated aters has made great strides and has actually lowered the eath-rate from intestinal diseases wherever it has been intelli-ntly applied. Careless operation of such plants has dis-edited this meritorious safeguard, however, in many places. hlorinated lime in the quantities in which it can be applied es not destroy all species of bacteria. Some spore-forming cteria, such as *B. enteritidis sporogenes*, *B. butyricus*, *B. daveris sporogenes*, *B. aerogenes capsulatus* (*B. welchii*) nd others, require excessive quantities of chlorinated lime r their destruction, but the pathogenicity of a good many the resistant types of bacteria is not fully understood. We now that the less resistant group of intestinal bacteria is fectually destroyed and the virulency of a large number of her species materially lessened. Vital statistics tell us of ry good results, and we should keep on using chlorinated me as an efficient remedy until we have found something ore efficient and just as cheap or cheaper. The disinfection raw sewage with chlorinated lime has nothing in its favor cept it be as an emergency measure when raw sewage is dis-arged into a water-supply. We can reduce the number of cteria in raw sewage considerably by the costly application large quantities of the chemical, but we must consider that ere are large numbers of bacteria left and enough organic atter present in the treated sewage, in all probability, to rmit the multiplication and rejuvenation of many patho-nic types in a favorable environment.

The question of how far to go in the purification of sewage one which will depend entirely on local conditions. The ast that can be required for waters not used for drinking rposes is that the sewage discharged into it should not terfere with fish life. Some fish require very pure water r their existence, while others can live in contaminated aters. Phelps[3] states that major fish life disappears when e saturation value of the dissolved oxygen in the water goes low 70 per cent. of its original figure, while some forms of h can exist until a limit of 30 per cent. has been reached. helps' report is very interesting, in that it suggests a way learn whether a certain sewage and fresh water mixture ill become a nuisance in a given time or not. The loss of dissolved oxygen by the incubation of water at 22 C. in tightly-stoppered bottles after a given time constitutes the basis for the test. The test is a natural "oxygen-consumed" test and bears no relation to the "oxygen-consumed" test as practiced in sewage and water laboratories. The value of the test will become more apparent in the near future. It will give the sanitarian, in many cases, more information than any chemical data he may obtain and may prove superior to the rather coarse and time-consuming methylene blue putrescibility test. The test fulfils the necessary conditions of approximating the actual biologic changes taking place in contaminated waters. German authorities for many years have referred to the "*Sauerstoffzehrung*," i. e., oxygen consumption, as a valuable aid in the critical study of a contaminated water or filter effluent. Phelps recommends not allowing the oxygen to drop below 70 per cent. of the full saturation value—a rather severe standard for a good many of our surface waters.

While the last few years have not given us anything revolutionary in the line of sewage purification, we have made great strides, thanks to the better understanding the practical sewage men and biologists have been able to give us as the result of their studies. It is hard to foretell what the future may bring, but the present principles of sewage purification seem to be established on a firm basis. The sludge question is most pressing and one which ultimately will be solved in a more satisfactory manner. The importance of the sewage purification problem grows in direct proportion to the rapid increase in our population, and to the increased contamination of our surface waters. The broad masses of the people are beginning to become interested in the question, and our technical men of to-day are much better prepared to deal with the problem than they have been before. The average physician, as a rule, is poorly informed on this subject. This is to be regretted in view of the fact that a good many physicians in their careers are called on to become the guardians of the health of the communities in which they live. The science of hygiene and sanitation has broadened in late years to such an extent as to require the attention of specialists. Let us insist, however, that our average medical graduates have a sufficient knowledge of sanitary matters at least to thoroughly comprehend such problems as those of water and sewage.

ABSTRACT OF DISCUSSION

Mr. Langdon Pearse, Chicago: Mr. Hering has summarized in a very interesting way the modern ideas on the purification of sewage. I should like to emphasize what he has said as to the necessity of having adequate velocity in a stream in which sewage is to be handled by dilution in order to prevent deposits of sludge. It is important, from the standpoint of prevention of nuisance, to avoid pools in which the liquid may have time to settle. This may seem strange to many of you when you think of the doctrine of the self-purification of lightly polluted streams through storage. The case is, however, quite different, since in the case of a lightly polluted water, with very little suspended matter, the question is one of time required for the pathogenic germs to die off, either through unfavorable environment or the action of light, or other causes. Another point of great importance, particularly to cities situated so that they have to discharge their sewage into their own water-supply, or their neighbor's, is the consideration of the sewage and the water situation as a whole, rather than as separate parts. The logical development for a water-supply subject to pollution is to begin with the filtration of the water and then gradually treat the sewage intercepting the discharge and keeping it as far as possible from the intake. The reason for this is, as Mr. Hering has stated, that it is cheaper to treat the water-supply and render it practically free from bacteria than to handle the sewage and make it largely free from bacteria, to say nothing of the protection afforded against transient pollution from shipping to surface currents in the case of the lakes.

Man's Destiny.—"There is a destiny made for man by his ancestors," says Maudsley, "and no one can elude, were he able to attempt it, the tyranny of his organization."

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[3] Report of Col. William M. Black, U. S. A., and Prof. Earle B. helps, concerning location of sewer outlets and the discharge of wage in New York Harbor, Board of Estimate and Apportionment, 11.

THE PROBLEM OF CONSERVING THE AMERICAN MEDICINAL MINERAL SPRINGS

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The American people have now become fully cognizant of the reckless wastefulness with which the natural resources of the country have been and are being used. It has also accepted a clearer conception of the value of the health of the people as one of these natural resources, and any measure that promises to contribute to the improvement of the sanitary conditions of the individual as well as of the community is considered with interest. It does not seem inopportune, then, to call the public attention to the medicinal mineral springs of the United States as to another one of the natural resources which, instead of entering into the work of preserving and restoring the health of the people, is now, while perhaps not actually wasted, largely allowed to go to waste.

However skeptical one may be with regard to the value of the internal use of the waters of the medicinal mineral springs in general, it must be conceded that in certain disorders and ailments of the human body the intelligent use of mineral waters, preferably at the place where they originate, is a more potent curative agency than drugs. If it cannot be denied that most persons visiting a watering-place during the summer months experience an improvement of their physical condition and often have their health fully restored, a large share of the good results must be attributed to the use of the waters themselves, even after a liberal deduction for all other influences like the change of air, of food, of surroundings and for the escape from the cares of business or daily drudgery. So among the numerous inhabitants of the United States who annually cross the Atlantic we see a large proportion bound for the various spas of Europe. They go there to seek relief from their different real and imaginary ailments, some on the advice of their physicians, some on their own responsibility, some almost from sheer habit. It is not difficult to explain their preference for the foreign mineral springs. In all the European countries the medicinal mineral springs have been for a long time and are now considered as extremely valuable assets which Nature has bestowed on the people. Therefore, the greatest pains are taken by the governments of states and municipalities and by private owners to render these places as useful, as pleasant, and at the same time as remunerative as possible. The springs are most carefully enclosed and protected and analyzed as to their chemical constituents. Their effects on the various diseases are studied by physicians, partly officially connected with the springs, partly independent, so that it becomes possible to define more or less sharply the indications for the employment of the various springs or to advise special methods of application. The sanitary conditions receive the proper attention; where Nature has not sufficiently lavished her charms around the springs, artificial parks, gardens, lakes, etc., are created and in every way the surroundings are rendered as attractive as possible. Some public authority exacts a moderate tax for the use of the waters, for the maintenance of all the improvements, for music and other entertainments, and watches over the general welfare of all visitors, regulates prices and is expected to protect against all kind of imposition. All these advantages are brought home to the American public, professional and non-professional, by beautifully illustrated booklets and pamphlets, often real works of art usually with the official stamp of some authority, and by visits to this country of resident physicians of the spas who lecture before medical societies. There can hardly be any doubt that a good majority of these visitors of the European springs are materially benefited by the cures, and it must be conceded that, for those who can easily afford the expense of time and money, the necessity of making the ocean trip before and after the treatment at the spas is rather an advantage, as it implies a certain period of rest.

Yet for the large majority of the people who cannot spare more than three or four weeks from their occupations and whose means do not allow the spending of several hundred dollars for the ocean trip, a visit to the European springs is entirely out of the question; whereas they might afford to spend time and money for a cure at a moderate distance from their homes. But what opportunity is there for that? If you begin to look around for American watering-places and try to select a suitable spring for your individual case, you will find yourself greatly embarrassed, not by the absence of claimants for your patronage, but rather by the large number, and at the same time by the difficulties of obtaining any reliable information with regard to the indications for the employment of the waters. It is probably not generally known that there are more than two thousand places in the United States in which springs with more or less justified claims to medicinal properties are located. There are included a number of springs the water of which is widely distributed in bottles, partly with and partly without any claims to therapeutic effects. Some of these do not contain any more mineral substances than any ordinary drinking-water. By far the greater number, however, are really entitled to the name of medicinal springs. They are distributed over almost all the states of the Union and therefore differ much with regard to their climatic conditions. In most of the European spas there is a limited season, usually comprising only the summer months; during the rest of the year the weather conditions are not sufficiently favorable to warrant the continuation of the establishments throughout the year. Within the United States we can command almost any climate suitable for health resorts and it would not be difficult to select watering-places for every season.

As to the surroundings of our American springs, as charming landscape and scenery can be found in the United States as in the countries of Europe, although rarely as accessible or convenient to the visitors as in their watering-places where every nook, every ravine, every rock or hill, not to mention mountains, has its euphonious name, its shady foot-paths, its benches, rustic summer-houses and other conveniences; including the opportunity of obtaining suitable refreshments at convenient distances and when you feel in need of them while resting. Whenever similar principles have been applied to American landscapes, as for instance at Lakes Mohonk and Minnewaska, it has easily become apparent that we need not go so far as Europe for beautiful and interesting scenery. Unfortunately this feature has been more or less generally neglected at our springs, perhaps justified by the fact that walking as a method of seeing and enjoying Nature is not very popular any longer. Usually attention has been given only to the hotel or hotels, for the establishment of which in many instances apparently the mineral spring has afforded the excuse.

erving more as an advertisement to attract visitors and ith little discrimination as to whether they could be in he slightest way benefited by the water. It so happens hat people come to these places without the advice of heir physicians and insist on drinking the water of a ossibly highly mineralized spring without any actual nowledge of its contents and without any medical guid-nce. As an editorial in a daily newspaper said some ime ago:

> Americans as a rule are not responsive to home efforts for heir comfort and benefit. . . . But once abroad we will-gly submit to different conditions, become strangely amen-ble to new customs and subject ourselves to a discipline we ould not bear elsewhere.
>
> This is the hold the foreign "cures" have on us. We look n the foreign doctor who directs the spa with ridiculous awe. le exacts all sorts of things and we obey to the letter. He imes us by the clock and measures us in the balance of his ncompromising requirements. The water must be drunk in ach quantities and at just such times. We must eat only ach things as he commands. We must fast and exercise as e directs, and it is a machine-work method from beginning o end.
>
> Because we obey to the letter we are benefited. . . . If e would do the same thing at home at our various spas we, n the main, could get the same results; at least we could ry our own "cures" for comparatively longer periods and at uch less expense.

Similar conditions might very well be enforced here f the interests of the owners of the springs were not ntirely centered in the hotel and in the endeavors to nake that pay, so much so that it is said that in some laces, advertised as health-resorts, gambling has been ntroduced and encouraged as an attraction. In some laces, it is true, particularly where the springs are ocated in or near a more populous community, the uropean custom has been adopted of entirely sepa-ating the springs from the hotel and boarding-house nterests, much to the advantage of places like Richfield nd Sharon Springs in New York, Hot Springs in rkansas and others. These are all either natural hot prings or springs which are preponderantly used for athing purposes. They have received much more atten-ion in this country, are much more commonly visited nd appreciated, and are used with much more modera-ion and common sense than the drinking spas; some ave acquired a well-deserved national reputation. Alto-ether, therefore, mineral springs of this class do not all for any urgent reforms and apparently can be rusted gradually to fulfil all reasonable expectations. here remains, however, the majority of these springs hich are principally or exclusively suited and used for ngestion into the stomach. They owe their real or ssumed effectiveness to the presence of a certain amount f some mineral salts which form an important constit-ent of the human body and play an essential part in s household; here and there some other mineral sub-tances are added, mostly in small quantities. The umber of these chemical constituents is a comparatively mall one, so that most of them are found in nearly all prings, but their combination in the most various pro-ortions to a large extent determines the activity of the ater in various diseases, and therefore, also the prin-ipal indications for their clinical use, not, however, as onclusively or exactly as you might expect or wish. xperience teaches that waters of evidently similar hemical composition may exhibit quite different thera-eutic results which do not always admit of a satisfac-ory scientific explanation. Therefore, it is necessary o watch and study closely the consequences of the methodical use of every single spring, preferably at the site where the spring is located, or when that is not immediately practicable, by means of water brought in bottles to the clinics. It is the almost complete absence of just such observations and data received from reliable sources which is one of the greatest obstacles to the better development of our medicinal mineral springs. This is not entirely the fault of the medical profession. A large amount of work in relation to the chemical analysis of the mineral springs has been furnished, principally by Dr. A. C. Peale, from the Division of Mineral Resources of the U. S. Geological Survey. The American Climatologic Association has made some attempts to bring the results of these investigations to the knowledge of the physicians at large. In 1893 it appointed a committee on health resorts which was to be continued from year to year and was to report to the association at its meetings. It made several valuable reports, but since 1902 it has not exhibited any signs of activity. Papers on various mineral springs of some scientific value have appeared here and there in the periodical literature and several books have been published, among them an excellent treatise by the late Dr. Crook[1] of New York. In spite of these efforts to convey some knowledge of our mineral springs to the medical profession and to arouse in its members some interest in them, the fact must be acknowledged that at the present time there is still very little understood by the medical profession and the people in general about this valuable natural resource of the country, and what little is known is considered with distrust by both and with skepticism regarding the indications for the use of the mineral springs. Dr. Crook, in the preface to his book, says:

> This is largely due to the circumstance that most of the information reaches the physician in the advertising circulars and booklets of the mineral springs themselves. They come clothed in a reputable, even elegant dress, but they too frequently portray the virtues of the alleged fluid which they represent, in language of absurd hyperbole. Indeed, one finds the claim that a certain water is positively curative in an imposing list of diseases as set forth in pages of testimonials, when the analysis shows that it contains two or three grains of lime-salts to the gallon, the remaining ingredients requiring perhaps a third or fourth decimal figure to express.

It will also be observed that all the various springs are described as effective in the same diseases, irrespective of their composition, so that the unprejudiced reader might almost come to the conclusion that the one component that is common to all, the water, must be the most effective one.

The fact then remains that the medical profession in general, not less than the laity, is practically not at all or only very dimly acquainted with the virtues of our mineral springs for internal administration. But what is worse, there do not even exist facilities for obtaining reliable information. With very few exceptions, American handbooks and text-books (even those that are not translations or reproductions of German or other European books) with the exception of those describing the hot springs and others mostly used for bathing, mention American spas only half-heartedly if at all, while references to and recommendations of European watering-places are common. The same conditions undoubtedly exist in the teachings in our medical colleges and university clinics. From this rule even the springs of Saratoga, some of the oldest and best-known and probably some

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1. Crook, James King: Mineral Waters of the United States and Their Therapeutic Uses. Lea Brothers & Co., New York, 1899.

of our most valuable springs, are not exempt: indeed, they have been so openly mentioned in connection with some mysterious practices that their reputation has suffered in the eyes of teachers in the medical colleges. In an attempt to redeem the American mineral springs from their present neglected position, the first aim will have to be to gain for them the confidence of the medical profession and of the laity. But this cannot be obtained solely by information regarding the chemical constitution of the waters and possibly the climatic conditions, but principally by the demonstration of therapeutic results and by clinical observations made by reliable and authoritative men, preferably at the springs themselves. To accomplish this it will be necessary to establish the American springs on the standard of the European ones, subject to rules similar to those prevailing abroad. That would mean independence of the springs themselves from the hotels, all possible precautions against contamination and adulteration, restriction of the use of the waters only under supervision of competent and independent physicians. It would mean attractive and healthful surroundings, promenades and walks, amusements, like theater and music, besides the conventional golf- and tennis-grounds, arrangements that would make it possible for patients to find accommodations for taking the cure at moderate or large expense, according to their means. Whether under such conditions the owners of mineral springs would find their property remunerative at once or even for a number of years seems more than doubtful. Still in time, if properly selected, judiciously managed and decently advertised, such places would surely become paying and even profitable investments. Without the prospect of an early profit, however, private capital is not likely to be attracted to such an enterprise, the less so as in most instances the outlay necessary to meet all just demands would be quite considerable. The question then arises as to the source from which the desired relief could be expected. Without urging the question whether it would be possible to keep politics sufficiently out of any administration by the federal or state government to insure satisfactory conditions, it is hardly to be expected that the federal government would be willing to assume a new line of expenses of very uncertain limits. For similar reasons state legislatures might have been at once dismissed from consideration as sources of relief if it were not for the precedent established by the New York Legislature in appropriating money for the acquisition of the springs of Saratoga for a state reservation, certainly an innovation in the United States. As a precedent this action might induce other communities with mineral springs within their boundaries to request similar action by the state for themselves, which, however would probably result in ever-increasing valuations of other properties still to be acquired. Where the number of such places is not very great, as in New York, the burden might not become too heavy for a rich commonwealth, but there are other states not so well situated financially which enclose a large number of valuable springs.

Under these circumstances the outlook for a decided improvement in the management of our spas does not seem very favorable. Still the problem could probably be solved in a way not unheard of within the last years: through one of those munificent foundations which have been established by some of our patriotic citizens, men and women, who are intent on employing part of their riches for the betterment of the conditions of the people in general. It seems that a foundation for the development and supervision of the medicinal mineral springs of the United States would very well come under this classification. To demonstrate what such a foundation might accomplish and to outline a plan on which it might proceed does not appear inappropriate. Naturally its work, being largely educational in the beginning, would be slow and not very conspicuous or ostentatious. The first act would be to take an inventory of all mineral springs of the United States (and Canada?), partly by collecting all possible information from past and present literature and from the U. S. government department, partly or principally by calling on the entire medical profession for cooperation through the American Medical Association and its organization in state and county societies, which would be best able to furnish complete information and undoubtedly would be willing to further the plans. All the data thus collected would be carefully arranged and rendered accessible to the medical and general public. Physicians in charge of large hospitals and teachers of clinical medicine in colleges and universities would be requested to give expression to their opinion of the different springs and to report on their actual experience with their therapeutical use; they would be urged to employ largely in their clinics some of the waters which would be furnished them without expense and under guaranty of being unadulterated, and to have the results carefully observed and recorded. To encourage really scientific work and to obtain valuable reports, prizes could be offered to house physicians and laboratory workers liberal enough to secure modern research work. All such reports would be published either in existing medical journals of wide circulation or in a separate periodical in the shape of a bulletin which would be liberally distributed among the members of the medical profession.

As soon as sufficient knowledge had been obtained to distinguish the more important springs a commission would be appointed to inspect as many as possible of these selected springs, not so much with regard to their chemical and strictly medical qualities as to their surroundings, their accessibility, the character of the community, the social and business conditions and particularly the quantity of the water furnished by the springs in order to define their capabilities. This commission would therefore be rather a technical one. In the meantime a similar commission would be sent to Europe to study the watering-places of different countries with regard to their administrative, technical and social features, amusements, public buildings, etc., in order to furnish a report on all the requirements of a model modern mineral spring resort, with due consideration of the differences in the climatic, social and local conditions at home.

After these preliminaries the foundation would be prepared to take up the more practical side of its purposes, the acquisition of a limited number of American mineral springs (their number naturally depending on the amount of money that could be expended), and their transformation into model watering-places which would satisfy all demands that could be reasonably made of a first-class European spa. These places, probably from four to six, would have to be selected so that the springs would be of different types and would be appropriate for employment in affections of different organs as the stomach and intestines, the liver, kidneys, etc., one to be an iron spring, a class much frequented in Europe. They would be located as far as possible in different states, distributed over the entire country, and wherever practicable, commanding sufficient land for parks, woods, etc.; they should have a supply of water sufficient for many visitors so as to warrant a larger outlay of money for extensive future development. While the character of these model spas as health-resorts would have to be considered as paramount, everything would have to be constructed and arranged artistically and tastefully without any attempt at luxuriousness, although hotels and boarding-houses should satisfy different tastes and different purses. Altogether, the aim should be to make these establishments in time self-supporting and producing revenue from a moderate "cure-tax," from rents of hotels, boarding-houses, restaurants, stores, baths, etc., just as the European "baths" are made self-supporting. To accomplish all this, the foundation would by this time have collected a staff of men experienced not only in the medical side, but in civil and sanitary engineering, architecture, landscape gardening, in the real estate and in the hotel business and also in advertising. For it would now be necessary to make its work known to the people, although in the first part of their existence the new spas would have to depend for their patients on the physicians of the country when the physicians had once obtained sufficient guaranty of favorable conditions.

With the completion of these model establishments and the demonstration of the fact that there are mineral springs in the United States which afford the same advantages as those of Europe, the task of the foundation would apparently for the time being be completed. Besides the maintenance and constant enlarging and improving of its own places, however, it would find sufficient occupation for the medical and for the technical staff in continuing to publish reports on therapeutic results with its own and other springs, in giving all kinds of information and advice to physicians, to other watering-places and to the general public, forming in fact a kind of clearing-house for the interests of balneology and mineral springs. Naturally the effects of the creation of the model spas would have to be watched for some time to judge of their value, but certainly many Americans would appreciate the efforts of the foundation and, once demonstrated that perfectly appointed mineral springs can be found at home, not only would these pioneers begin to flourish, but there would shortly arise the demand from the people that he other American watering-places conform to the same standard and adopt the same character in order to receive continued patronage. Naturally the foundation could not assume control of all American springs, but would aid the improvement of other places by furnishing he advantages of its experienced staff, possibly by lendng money on mortgage at a moderate rate for improvements, if the owners would conform to certain reasonable requirements and allow a certain supervision of their administration. If anybody doubts whether a private nstitution without any power granted by the government could obtain such an influential position and wield any authority, let him remember the existing relations f the universities and colleges of the country with a ertain foundation. In time the medical profession as well as the laity would become used to looking to the "Mineral Spring Foundation" for information and dvice in all matters relating to the mineral springs, and radually all watering-places would find it to their nterest to cooperate with the foundation and show dherence to its principles. Such a foundation might e placed in any convenient city, although its location n Washington, D. C., would offer the advantage of reater opportunities for the use of the government nstitutions and libraries and avoid from the beginning the appearance of a sectional character by giving it the stamp of a national institution.

Doubt may be raised whether the plan which has been tentatively outlined is feasible, or whether the medical profession will show sufficient interest in the matter to make the undertaking successful, but there can be little doubt with regard to the advantages which would accrue from such a foundation and with regard to the blessings which it might confer on the entire nation and country.

By developing and popularizing the domestic medicinal mineral springs, a large number of the citizens and inhabitants of America, thousands and probably in time hundreds of thousands, would be enabled to improve or restore their failing health by cures which to them are or seem now unobtainable because they are found only in Europe; the value of the lives and earning power saved thereby would run into a very large sum.

A certain proportion of those who are accustomed to go to European watering-places for their cures at a great sacrifice of time and money will be glad to go to nearer places at home, if they have the guaranty to find the same advantages; thereby a good share of the millions of dollars will be kept at home which now are annually spent abroad—often enough in a vain search for health and recuperation.

The development and improvement of our domestic mineral springs will give regular employment and remunerative occupation to a great number of people, probably to many who on account of moderately impaired health are precluded from such employment at all, or from employment at other localities.

The attraction of many of our citizens to the improved spas will be the means of bringing them nearer to and make them better acquainted with the charms and beauties of their own country which at present are a sealed book to thousands who have been all over Europe. Better acquaintance could not fail in the end to produce greater love of and greater pride in their country.

316 Madison Avenue.

A CASE OF SPLENIC ANEMIA WITH UNUSUAL FEATURES

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Recently, renewed interest has been shown in splenic anemia and closely allied conditions, the effort having been made to separate the clinical entities and to define more clearly, as well as to discover further, the causes of the conditions. A probable relationship between certain cases of infantile splenic anemia and kala-azar and between splenic anemia and ponos has been pointed out, but awaits confirmation.[1] The comparative rarity of splenic anemia and the presence of unusual features in the following case seem to justify placing it on record.

Patient.—G. G., male, single, white, aged 17, a native of Turkey, dish-washer, was admitted into the service of Dr. H. A. Hare in the Jefferson Hospital, April 7, 1911. Parents are living and well; three brothers and two sisters are in good health. Two brothers died in infancy of unknown causes. No history obtainable of tuberculous or malignant disease.

History.—The patient is not known to have had any of the diseases of childhood. He denies venereal diseases. He does not use tobacco and uses alcohol only occasionally and then not to excess. His general health has been good until February, 1911. The patient was first seen April 7, 1911. The onset of the present illness was very gradual (during February) with general weakness, headache, shortness of breath on exertion and frequent attacks of palpitation of the heart. The patient stated that about six months previous to the onset—or in August, 1910—he noticed a swelling in the upper part of the abdomen, which had appeared gradually and had not occasioned any pain or disagreeable sensations beyond a sense of weight. During March, 1911, he felt feverish during the day and had frequent night sweats. In the last six months he had lost considerable weight. He had not complained of cough. There was no hemoptysis, epistaxis, hematemesis or melena. He had not noticed swelling of the feet or lower abdomen. There were no symptoms referable to the urinary tract. The appetite was good and the bowels regular. The patient had been working up to the time of his admission, April 7, 1911.

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[1] This matter has lately been reviewed in an editorial in The Journal A. M. A., Aug. 12, 1911, p. 566.

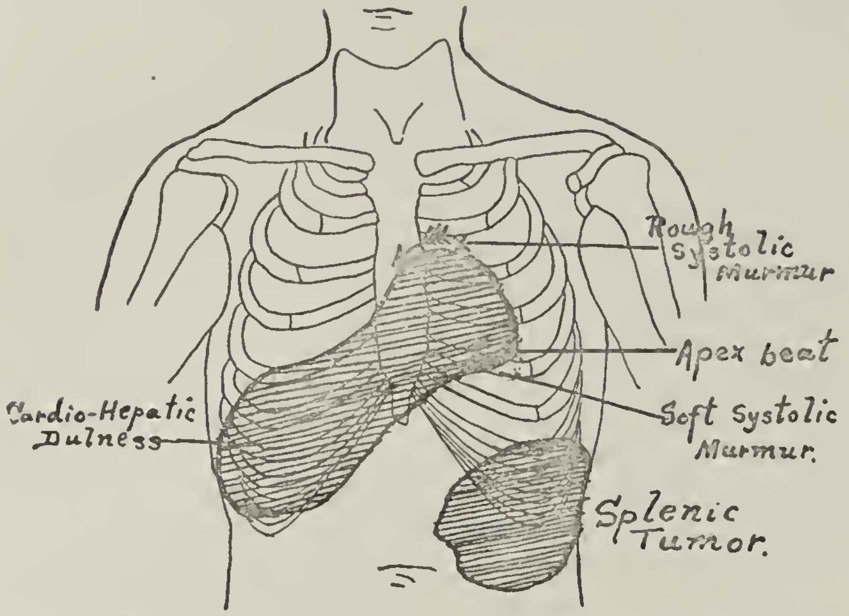

Diagram showing findings in a case of splenic anemia.

Examination.—The patient was a fairly well-nourished young man of short stature. The skin was warm and of a brownish-yellow color. Temperature 101 F.; pulse 110; respirations 24. The pupils were equal and reacted normally; conjunctivæ were pale and had a slight icteroid tinge. Lips and buccal mucosa were pale; tongue was moist and coated with a uniform grayish-white fur. None of the superficial lymph-nodes were palpable. The chest was symmetrical; expansion equal and full. Pulmonary resonance was clear and the breath sounds were normal. The apex-beat was visible and palpable in the fourth left interspace in the midclavicular line. A soft blowing systolic murmur was heard at the apex and was transmitted slightly toward the axilla. A rather rough systolic murmur was heard at the second left intercostal space near the sternum and was transmitted a short distance down the sternum.

Abdomen: The musculature was firm and well developed. Liver dulness extended from the fifth interspace in the right midclavicular line to one finger's breadth below the costal margin, the lower border being distinctly palpable on deep inspiration. The spleen was palpable as a large tumor in the left upper quadrant of the abdomen, extending downward and mesially to within one finger's breadth of the umbilicus, the dulness extending upward as far as the seventh rib in the midaxillary line. The surface felt smooth and the notch was plainly palpable along its lower and mesial border. No tenderness was associated. The tumor was fairly movable. The kidneys were palpable but not abnormally movable. There was no evidence of ascites.

Urine Report: Amber, 1022; acid, a faint trace of albumin, no sugar, no crystals and no casts.

Splenic puncture was refused; no Leishman-Donovan bodies were found in the peripheral blood and no malarial parasites discovered. The feces contained no ova, parasites or blood; Wassermann reaction was negative; *x*-ray examination showed an extensive shadow in the region of the spleen.

Treatment.—Fowler's solution was given in ascending doses with Blaud's pill (gr. v) three times a day. Tincture of digitalis and nux vomica were given during the first two weeks.

Course.—The temperature range was irregular, being subject to transient rises but never over 101 F. and rarely normal. The patient's general condition steadily improved but there was no appreciable change in the size of the spleen or liver. The character of the murmurs heard over the heart varied from time to time. Splenectomy was advised but refused. The patient was discharged May 15, 1911. He has been seen and studied in the out-patient department of the hospital about once a month since his discharge. He is able to work and says that he feels much better than before admission, but nevertheless is losing weight gradually and still has an irregular temperature range.

A recent blood-count made July 27 showed: hemoglobin 44 per cent., erythrocytes 3,880,000, color index 0.57, leukocytes 4,600, polynuclears 66.2 per cent., small lymphocytes 18.5 per cent., large lymphocytes 3.8 per cent., degenerated cells 7.7 per cent., transitional types 3.8 per cent., no eosinophils or basophils, many poikilocytes, many microcytes, no nucleated red cells, slight polychromatophilia.

A still more recent count made August 29 showed: hemoglobin 55 per cent., erythrocytes 3,950,000, color index 0.7, leukocytes 4,600, polynuclears 76.7 per cent., small lymphocytes 18.1 per cent., large lymphocytes 4.3 per cent., eosinophils 0.9 per cent.; no myelocytes or nucleated red cells; moderate poikilocytosis.

DIFFERENTIAL DIAGNOSIS

The primary anemias can be excluded in this case by the blood-picture and by the enlargement of the spleen and liver. In hypertrophic cirrhosis of the liver, so common in young adults, the splenomegaly is slight; there is usually jaundice and the liver is more enlarged

TABLE SHOWING ANALYSES OF BLOOD-COUNTS IN A CASE OF SPLENIC ANEMIA

					Differential Count						
Date	Hemoglobin (per cent.)	Erythrocytes	Color Index	Leukocytes	Polynuclears (per cent.)	Small Lymph. (per cent.)	Large Lymph. (per cent.)	Eosinophils (per cent.)	Basoph.	Other Elements	Remarks
4/8	38	2,650,000	0.7	1,800	63	31	6	0	0	Few macrocytes; few microcytes; no erythroblasts; no myelocytes.	Slight polkilocytosis; red ceils stain poorly.
4/10	39	2,710,000	0.7	1,200	55	33	5	7	0	No erythroblasts; no myelocytes.	Slight poikilocytosis; no malarial parasites.
4/18	47	2,700,000	0.8	3,400	73	22	4	1	0	....	....
4/24	43	2,990,000	0.7	3,200	65	26	6	3	0	....	No malarial parasites.
4/29	41	3,310,000	0.6	3,000	68	29	2	1	0	....	....
5/5	53	3,990,000	0.6	2,400	76	10	2	8	0	Myelocytes: Eosinophilic, 1 per cent.; neutrophilic, 3 per cent.	....
5/9	58	2,750,000	1.+	3,200	59	27	3	8	0	Myelocytes: Neutrophilic, 3 per cent.; eosinophilic, 0 per cent.	....

with more or less associated tenderness; in addition to this, the blood-findings are not characteristic. Syphilitic cirrhosis of the liver is excluded by a negative history of syphilis, absence of the other signs of the disease and a negative Wassermann reaction. In Hodgkin's disease considerable enlargement of the spleen is frequent and often some enlargement of the liver is associated, but the general marked lymphatic hyperplasia is a very essential feature which is absent in splenic anemia. Malignant disease of the spleen (especially Gaucher's endothelioma) is extremely difficult to differentiate and in this case may even yet be a possibility, but the blood-findings and the general improvement would favor excluding it. In the absence of examination of material obtained by splenic puncture, kala-azar cannot be absolutely excluded and we regret that we were unable to satisfy ourselves in this matter.

The direct diagnosis in this case is based on gradually developing painless enlargement of the spleen and liver (the former attaining a great size) without any apparent underlying cause; the associated weakness; the characteristic blood-findings consisting in marked reduction in the number of leukocytes and erythrocytes, marked diminution of the hemoglobin and the scarcity or absence of abnormal elements. The fully developed case of splenic anemia, especially when approaching a fatal issue, is associated with jaundice and ascites constituting the full syndrome of Banti's disease.

The unusual features of this case to which attention should be called are:

1. The absence of hemorrhages from the mucous membranes (epistaxis, hematemesis, etc.), which are so common in the reported cases.
2. The presence on several occasions of an excess of eosinophils, of myelocytes and nucleated red cells.
3. The irregular and elevated course of the temperature over a period of at least three months, continuing at the present time (September, 1911).

In conclusion I desire to express my thanks to Prof. H. A. Hare for the privilege of studying and reporting this case and for the use of the laboratory reports. I am indebted to Dr. J. G. Beardsley for his kind suggestions in the preparation of this report.

114 East Durham Street, Mount Airy.

PRURITUS ANI: THE PROBABLE CAUSE AND AN OUTLINE OF TREATMENT

A PRELIMINARY REPORT, BASED ON RESULTS OF ORIGINAL RESEARCH *

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It is not without considerable diffidence that I present paper on this subject, about which so much has been written, so many different opinions have been expressed as to its etiology, and as many sure cures have been presented, but which still has remained the same old pruritus to plague our patients and baffle our skill. I believe the correct etiology has not yet been published, and cures have mostly been temporary improvement.

As a preliminary statement and in connection with this work, it must be understood that I have reference only to the true pruritus ani that has the constant symptoms of thickened skin, radiating in folds; macerated in most cases, and with lack of pigmentation, skin fissures and a parchment-like condition of the skin. Scratching or rubbing the parts gives no relief. Itching occurs with great regularity, particularly when the patient prepares for bed and in the early part of the night. Some cases give trouble during the day, but the nightly periodicity is almost pathognomonic. There are cases of itching about the anus that may be caused by some trivial abnormal conditions, like a simple fissure, ulcer, diseased crypts, a fungous growth affecting the skin, pediculosis, etc., but the itching from these causes is not true pruritus ani, and is easily cured by appropriate local measures.

I have had no opportunity, as yet, to test the pruritus ani and pudendi of diabetic patients, and cannot tell whether the same cause will be found in these cases or not. It is important, however, that differentiation shall be made between true pruritus ani and the ordinary itching caused by conditions mentioned above.

Operations have been done (Ball's) that have divided all nerve-supply to the skin. It blunted the nerve sensibility and left the parts crippled as to sensation, but otherwise the disease remained the same.

Many opinions have been given as to the cause, no adequate proof was given, and few, if any, cures resulted. Knowing all this, you will wonder that any person could have the temerity to claim to have found even a probable cause and to recommend a line of treatment for the cure.

I shall not boast that I have found the true cause, but will give you the results of original research for the past few months which has been ably seconded by Dr. Fred M. Meader, bacteriologist to the Syracuse Medical College, to whom I am greatly indebted for his able assistance and to whom I extend my sincere thanks.

I gave considerable thought to this condition, as all of you have done, and have always been baffled. I have never been able to give honest encouragement to these sufferers.

During the early fall of 1910, I resolved that I would have cultures made of every case of pruritus ani which presented, and have the bacteriologic findings carefully recorded. If the same pathogenic bacteria were found in all pruritus cases, and this germ should be absent in cases not afflicted with pruritus, I should consider this a factor at least in its etiology.

The bacteriologic findings in the first few cases showed that large numbers of streptococci were present. It is a matter of common knowledge that the appearance of the skin about the anus is almost identical in all cases of pruritus ani, which indicates that the same infection may be the cause in all. I recalled the fact that the treatment heretofore given by me, which gave the greatest relief, was one that had for its principal item a strong germicide; this was confirmatory.

Since beginning our investigations, we have examined nineteen cases of typical clinical pruritus ani, and streptococci have been found externally on the skin in excessive numbers in every case.

We have examined in exactly the same way five cases having other rectal diseases; only one of these control cases showed any streptococci outside the anal canal, and these were very few.

After seven cases had shown positive streptococcic infection, we considered this a progressive step toward finding the etiology. We then decided to make a blood-test with some cases to show the opsonin test for streptococci in comparison to that for other organisms. It has

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* Read before the American Proctologic Society at Los Angeles, June 27, 1911.

* The detailed reports of this work and of these cases are printed in full, and a reprint will be sent by the author, on request, to any reader who is sufficiently interested.

been found in every case tested that the resistance against streptococci was low, and high for other organisms.

It is not my purpose at this time to give a paper of theories, but to present the plain facts as found by Dr. Meader and myself in these nineteen cases of pruritus ani and five control cases. I sincerely hope that this work will be taken up by other investigators in order that it may be proved that the cause or an associate cause has at last been found, or that the findings herein set forth be disproved.

Nineteen patients have been examined, all of whom showed streptococcic infection of the skin immediately around the anus.

Eight of these patients have so far been treated by autogenous vaccine as outlined more in detail in the history and progress of each case.

RESULTS OF VACCINE TREATMENT: EIGHT CASES, ONLY, WERE TREATED

Case 4.—No streptococci found in smear and swab taken after sixth injection. No itching after fifth injection. Good reaction after fifth injection.

Case 5.—No streptococci found in smear and swab taken after eighth injection. Reaction occurred after the fifth vaccine injection, and itching began to grow less.

Case 8.—Had slight reaction after first injection. After second vaccine injection, owing to pressure of business, he did not have another treatment until after May 15, at which time he stated that he had not half as much itching as before; no comparison with the past. There was less moisture, and the skin is not so sore as previous to the first vaccine injection.

Case 9.—No streptococci found in smear and swab after sixth injection. Itching began to grow less after third injection (reaction). Practically no itching after the fifth injection (fifteen days after first).

Case 12.—After fourth injection itching began to grow less (nine days after first injection). Opsonin test for *B. coli* was lower than for streptococci, and we began May 18 (thirty-three days after beginning the streptococci vaccine) to give *B. coli* vaccine injections in conjunction. Four days later gave second injection of combined vaccines (severe reaction), after which itching changed in character and almost stopped.

Case 13.—April 17, first injection, had reaction after first and second injections lasting two days. May 24, patient reported very marked improvement.

Case 14.—May 16, first vaccine injection (no local treatment given in this case). Reaction after fourth injection (eleven days after first injection). Itching markedly less the following day. Character of the itching has changed; less intensity; less moisture. June 9, injection; severe reaction for two days. June 16, no itching since last treatment.

Case 16.—No local treatment given this patient; experienced no relief until after the fifth injection (seventeen days). There was severe reaction and vomiting; he has had much less anal itching since reaction. Sleeps well; skin dry. Character of itching has changed; less intense; if a cloth is rubbed over the skin, it now feels as on any other part of the body.

Ten of the patients in this series had been previously treated by me for pruritus and came for relief from time to time.

It is somewhat noteworthy that there are no women in this series of pruritus cases; whether this is a coincidence or not I cannot say. I have in my records only two cases of pruritus ani in women, so that there is little doubt that women are less frequently affected than men.

Since this research work has been showing these results, I have wondered whether it is possible that other parts of the body could be infected from this infection, as for example, puerperal fever, erysipelatous inflammation in other parts of the body. The history of Case 19 shows erysipelas of the neck one year ago.

We believe at present that this infection penetrates the substance of the skin. If it does, it will without doubt be more liable to relapse until the skin germs have all been eliminated.

The blood-tests in all cases in which the opsonin-test was made, show low amounts of opsonins for streptococci, and yet these patients mostly have the general appearance of strong, well-nourished and healthy persons. There must be some faulty metabolism that is responsible for it. The histories show that a majority of the cases have indicanuria, yet all other cases of indicanuria do not have pruritus ani.

This is a field of work in which some original investigator may distinguish himself by showing us what lowers the opsonin-test for streptococci by reason of which these unfortunates become infected.

CONCLUSIONS

1. From the data presented by this series of cases I feel justified in saying that pruritus ani is caused by an infection by or associated with one of the streptococci group, which may be the primary, secondary, or aggravating cause; if it is the secondary or aggravating cause, the primary may already have passed away.

2. If technically for the bacteriologist, streptococcus may not seem to be the primary cause of infection; practically to the patient and to the physician who treats him, streptococcic infection answers best the question of etiology.

3. Whether the infection occurs because the opsonins for streptococci are low or whether the opsonins are lessened because of the invading organism is not yet known.

4. If the opsonin-test is low for *B. coli,* or any other bacteria, there may be a complicating infection.

5. A vaccine made from a culture of the offending germ offers our best hope of cure.

6. Whether any local treatment for temporary relief, while awaiting the results of vaccine treatment, is advisable or not, must be left to the judgment of the attending surgeon. Some of the cases herein detailed were treated only with autogenous vaccine, and results were as satisfactory as in those cases receiving topical treatment as well.

7. This whole matter is still *sub judice* and subject to confirmation by other observers. I shall, at a later date, present results of continued investigation.

800 University Block.

Therapeutics

ANESTHESIA AND ANESTHETICS

(Continued from page 1839)

ETHYL CHLORID

Aethylis chloridum, U. S. P. (C_2H_5Cl) is a colorless, very volatile liquid, with an odor not unlike chloroform. It boils at a temperature of 55 F.; consequently it is kept in sealed containers which are furnished with spring valves, so that it may be liberated at will. The temperature of the hand on the bulb is sufficient to send it in a forceful spray through the valvular opening.

Its principal use has been as a local anesthetic; it produces anesthesia by its rapid evaporation causing an intense cold. It literally forms snow, and freezes the part on which it is sprayed.

It was first used as a general anesthetic as far back as 1848, but did not gain any importance until it was again urged just prior to 1880, in which year a Committee of the British Medical Association examined it and condemned it. In 1895 it began to be used in dentistry, and many thousand narcoses with it without any unfortunate results were reported.

Its physiologic action is not fully proved, but by its inhalation the pulse and respiration are at first accelerated and then drop to normal just before the anesthesia is complete. It causes unconsciousness quickly and not unpleasantly in from two to five minutes, and recovery is prompt after the removal of the inhaler. Its advantages are that it does not cause primary excitement, and there is very little nausea and vomiting following it. It resembles chloroform in that it paralyzes the cardiac muscle, but it has the advantage of chloroform in that it requires about nineteen times as much of it to produce serious consequences to the heart.

It may be administered by simply spraying it on to the gauze or flannel of an inhaler, but a specially devised inhaler is better. It has been shown that the amount of ethyl chlorid mixed with air should not exceed 10 per cent. by volume. Stronger vapor than this may inhibit the heart.

It has been suggested that ethyl chlorid increases the coagulability of the blood, and this might cause dangerous embolism.

It would seem as though the only excuse for using ethyl chlorid as an anesthetic would be as a substitute for pure nitrous oxid, and nitrous oxid has been proved so safe for short operations, and is so very satisfactory for operations of five or ten minutes when combined with oxygen, that, as ethyl chlorid has caused a number of fatalities, perhaps about 1 in 3,000 administrations, there is no good excuse for using ethyl chlorid as a general anesthetic. It has been quite frequently used in obstetrical practice as a substitute for chloroform during labor. (Also see H. C. Wood Jr.'s article, THE JOURNAL, Dec. 24, 1910, p. 2229.)

ETHYL BROMID

This drug is very similar to, and possesses no advantages over, ethyl chlorid. It is more dangerous than ethyl chlorid, and its use could not be defended. It was first tried as an anesthetic in 1849, and then lost sight of, and urged again in 1896. It deteriorates rapidly, and perhaps becomes more dangerous for this reason. It should be distinguished from ethylene bromid, which s still more dangerous.

As is true of every drug, even though inferior, a large number of reported successes have been recorded of its use as an anesthetic, but many fatalities have occurred, even when precautions were taken to obtain and use the drug pure. It has been advocated as a preliminary to ether anesthesia.

A proprietary preparation, with the suggestive and misleading name "Somnoform," has been sold with the claim that it consists of ethyl chlorid, methyl chlorid and ethyl bromid in proportions respectively of 60, 35 and 5 per cent. Granting that this statement of composition is true (which there is reason to believe is not he case), such a combination would have no advantage over ethyl chlorid.

PENTAL

Pental, tri-methyl-ethylene, is a clear liquid, very inflammable, obtained by heating amylene hydrate in the presence of acids. It is an anesthetic, and has been used to produce short anesthesias. It does not cause excitement, and is said to have no bad after-effects. It has not, however, been much used.

MIXED ANESTHESIAS

Very many experiments have been made to find, if possible, a combination of anesthetics that would avoid some of the unpleasant features of any one of them. This investigation has more especially applied to ether and chloroform, and some of its combinations have enjoyed more or less short-lived popularity.

The various alcohol, chloroform and ether mixtures may be named, but only to be condemned, as the powerful leg of the tripod is chloroform, and the combination of the other two drugs does not materially weaken it, but gives a mistaken feeling of safety, and hence carelessness in its administration.

The A C E mixture attributed both to Harley and to the Med. Chirur. Soc. of London, was offered in 1864, and consisted of alcohol 1 part, chloroform 2 parts, and ether 3 parts. Sometimes a mixture is recommended of 1 part of alcohol, 2 parts of ether and 3 parts of chloroform.

The following are some of the mixtures which have had more or less popularity:

The Vienna mixture; chloroform 1 part, ether 3 parts.

Billroth's mixture; chloroform 3 parts, alcohol 1 part, ether 1 part.

Sanoom's mixture; chloroform and alcohol equal parts.

M S mixture; ether 56.75 parts, chloroform 43.25 parts, by volume. This is said to be a molecular solution.

Willy Meyer, in 1898, offered his mixture, which consists of ethyl chlorid 17 parts, and the above M S mixture 83 parts.

In 1895 Schleich offered his mixtures, which are known by his name, and were intended for light, medium, and deep narcosis, respectively. Their composition by volume is as follows:

	1. Light Anesthesia	2. Medium Anesthesia	3. Deep Anesthesia
Chloroform	45	45	30
Sulphuric ether..........	180	150	80
Petroleum ether (benzin).	15	15	15

In this country the use of these mixtures has been practically abandoned, the general opinion being that they possess the disadvantages of all the various ingredients without any corresponding advantages. In England, however, some of these mixtures are still much used.

Dr. Gwathmey, of New York (*New York State Jour. Med.*, December, 1904), reported to the New York State Medical Association that his experiments with a mixture of chloroform and oxygen had proved to be two and one-half times as safe as chloroform alone.

The administration of nitrous oxid before etherization has been already discussed, and those who advocate this mixture claim that the length of time to produce anesthesia is reduced by nearly ten minutes, that the amount of ether that is used is reduced by at least one-third, and that the pulse-rate is less rapid from the beginning to the end of the operation with the combination than with the ether alone.

(*To be continued*)

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THE REQUIREMENTS OF RECTAL FEEDING

From early times physicians have attempted to introduce nutriment into the body in some way other than by mouth when natural feeding was difficult or impossible. Thus has arisen the practice of rectal alimentation. One needs only to review the literature of this topic, or to subject to critical examination the clinical findings in every-day experience, in order to learn how uncertain are the evidences of real nutritive gain from this widely employed procedure. A few years ago, before the teachings of recent experimental investigation on digestion and absorption in the alimentary tract became current, it was difficult to understand why milk or eggs introduced by rectum should fail to satisfy the needs of the organism just as they do when administered by mouth. But the modern lessons of digestion tell us that the foodstuffs must be disintegrated into comparatively simple fragments before they can serve as adequate materials for metabolism. Failing to be adequately digested in the lower bowel, where there is ordinarily a scarcity of suitable digestive enzymes, and remaining there in this unsuitable, and, to a large extent, unabsorbed form, the foodstuffs injected may become the pabulum for bacteria and the sources of irritating products of putrefaction and fermentation.

Water and inorganic salts are readily absorbed from the large intestine, as are many drugs; so that the introduction of these compounds by the rectal path may be highly effective. But that group of nutrients which ranks above all in its physiologic importance—the protein group—cannot be supplied in any adequate degree in this way. Here is presented a difficulty that appears capable of solution. Is it not possible to introduce the proteins in a predigested form suitable at once for absorption and assimilation?

A few years ago, when physiologists were still imbued with the idea that a large daily intake of protein was essential to health, the problem would have seemed more difficult to attack. In the light of Chittenden's well-known researches, however, it ought to be possible to maintain patients on a relatively low quota of protein so long as the other nutrients are supplied in reasonable amounts. A carefully studied trial[1] in a patient, who, on account of esophageal stenosis, was fed by gastric fistula and per rectum, deserves more than passing notice. Through the fistula non-protein foods were introduced, while the nitrogenous intake was furnished per rectum in the form of meat that had been completely digested with the aid of pancreatic and intestinal extracts. During the fifteen days under observation the nutritive condition of the patient was excellent.

This observation points out the direction along which the next trials in rectal feeding must be undertaken. Predigested foods, largely of a proprietary nature and at one time widely advertised to meet the dietary needs of various types of patients, have fallen from vogue—and deservedly so. Their use by the mouth is rarely indicated. Has not the better appreciation of the essential conditions of rectal alimentation opened a new field for the rational employment of predigested foodstuffs? Leube long since advocated the use of clysters of meat and pancreas, the latter to serve as a digestive agent *in loco*. The combination is unsuitable for many reasons; but the end sought was logical.

What has been said in respect to proteins might be repeated with certain modifications in relation to the fats and carbohydrates. Our manufacturers could wisely direct their energies toward the production and investigation of a series of food products which will meet the requirements briefly outlined above; for the production of such materials is beyond the scope of the physician or the individual. Efforts expended in such experimental fields are likely to reap the rewards of legitimate endeavor quite as readily as flashy advertising gathers in returns from questionable enterprises.

THE WASHINGTON TYPHOID EPIDEMIC

The final report on the occurrence and causation of typhoid fever in Washington, D. C., by Dr. L. L. Lumsden and Dr. John F. Anderson, is just published.[2] As this is probably the most patient and elaborate study of the epidemiology of typhoid fever hitherto made in the United States, we have patriotic as well as professional pride in drawing attention to it.

Typhoid fever had long been abundant in Washington and its excess was widely attributed to the water-supply until in 1905 the installation of a model slow sand filter for purifying the Potomac River water failed, to the great surprise of everybody, to produce any reduction in the amount of typhoid fever such as is ordinarily produced by good filters applied to bad waters. The conclusion was inevitable that either the filter must be less good or the water less bad than had been all along supposed.

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[1] Abderhalden, Frank and Schittenhelm: Ueber d. Verwertung von tief abgebautem Eiweiss im menschlichen Organismus, Ztschr. f. physiol. Chem., 1909, lxiii, 215.

[2] Lumsden, L. L., and Anderson, J. F.: The Origin and Prevalence of Typhoid Fever in the District of Columbia, Rep. 4, Bull. 78, Hyg. Lab., U. S. P. H. and M.-H. S., 1911.

In 1906 the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service attacked the problem with skill and vigor. The present volume is the fourth detailed report, the whole covering the investigations of the five years 1906-1911. Credit for this serious and sustained effort is due to the members of the Typhoid Fever Board appointed by Surgeon-General Wyman to plan and execute the work, viz., Dr. M. J. Rosenau, Prof. J. H. Kastle, Dr. John F. Anderson, and Dr. L. L. Lumsden, the epidemiologist of the board, who has personally supervised and for the most part actually conducted in the field the fundamental and necessarily often tedious investigations required.

One of the first questions that arose was as to the accuracy of diagnosis, and the authors conclude (for 1909) that from 10 to 15 per cent. of the cases reported as typhoid were really something else. Over against these must be put an unknown number of true typhoid cases not discovered, the latter being of course for the epidemiologist the more important. The general method of investigation of the reported cases has been much the same for all four years, and has consisted essentially in house-to-house canvassing, with such interviewing and following up of "clues" as was necessary.

In the report the cases discovered are first divided into those imported into and those arising within the city of Washington. As might be expected in a city such as this, about 25 per cent. of all patients apparently contracted the disease elsewhere in 1909, 22 per cent. in 1908, 26 per cent. in 1907 and 15 per cent. in 1906.

Negroes, composing 28 per cent. of the population, furnished 26.1 per cent. of the reported cases—a lower rate than that of the whites. The mortality-rate, on the contrary, was 50.4 for negroes and 23.1 for whites. More interesting, because probably more significant, was the relatively higher prevalence of the disease among the colored population during the summer. The preponderance of morbidity among males of all colors was also nearly double that among females, a striking fact which the authors attributed largely to greater exposure to infection under more varied environment during time spent away from home.

An interesting chart shows that the reported cases of typhoid fever have on the whole declined rapidly since 1902, in spite of increase in population, and also that this decline has been largest for the summer months.

Asserting that the disease has had not a single, but a multiple origin, the authors consider at length the part played by the various possible cooperating factors, seeking to apportion to each its contributory share. A larger number of cases was found, for example, among the users of privies than among the users of sewers. Milk, in 1909, as in the earlier years, is found to have been "one of the major factors." Ice-cream, although none of the cases in 1909 was definitely attributable to it, is nevertheless regarded with suspicion. Raw fruits and vegetables, while not actually proved guilty, are rightly suspected as contributory factors, especially as typhoid fever cases were found in several instances on grossly insanitary farms supplying Washington with green vegetables. Flies receive due attention and are allowed "a considerable part" in the whole; but the authors very properly point out the want of complete correspondence between the fly season and typhoid prevalence, and deny to flies any "major" part. Contacts and carriers are very carefully considered, with the result that the former are believed to constitute "one of the major factors" and the latter "a very important and perhaps the predominant factor in the spread of typhoid infection in Washington." "Newcomers" and "servants" as agents of transmission are also dealt with, but not found important.

Water, as the facultative vehicle most suspected from the start, naturally receives most consideration, seventy-eight out of the entire 196 pages of the report being specifically devoted to it, and the authors repeatedly conclude that very little if any of the typhoid fever in Washington has, since 1906, come from the water. Even for that year, in which they are inclined to allow to the water a contributory part, no very convincing evidence is adduced. It seems more reasonable, for example, to explain the slight increase of typhoid in that year, as shown on Chart 10, by an excessive operation of one or more of the other factors, than to suppose that the addition of slow sand filters to the purifying agencies already at work, viz., three reservoirs, should have actually made the water worse. The authors rightly leave open the possibility of the agency of water as a vehicle of infection, but seem disposed to allow to it perhaps more importance than it deserves.

The shell-fish question takes on special prominence in cities like Washington, Baltimore and Richmond, located near the vast oyster-beds of Chesapeake Bay, and we note with interest the conclusion that oysters probably played "a considerable part in the causation of typhoid fever in Washington in 1908-9, and probably contributed more largely than any other single factor (in the spread of the infection) to the undue prevalence of the disease in that winter."

The authors are convinced that the greater part of the typhoid fever infection in Washington is distributed through milk, green vegetables and other foods, and by fingers and flies. Some of the infection undoubtedly is derived from infected persons without the city, but the bulk of it is spread from the dejecta from typhoid fever patients and typhoid bacillus-carriers within the city. Lumsden and Anderson are satisfied from the results of five years' study of the situation that an efficient campaign within the city against typhoid fever as a communicable disease and the enforcement of reasonable measures to prevent the introduction of infection into the city through food supplies, such as milk, green vegetables and shell-fish, would reduce typhoid in the District of Columbia to a negligible quantity.

GOVERNMENT AID FOR CATTLE: WHY NOT A LITTLE FOR MAN?

It is understood that the federal government, which is able to support a twenty-million-dollar Department of Agriculture and to issue Farmers' Bulletins in editions of millions, is entirely too poor to pay adequate salaries to the officers of the Public Health Service or to issue their valuable public health bulletins in editions of more than a few thousands. That it cannot afford a department of health of course goes without saying. That is to say, the national government cannot afford to give to the health of its citizens the attention that it gives to live stock. For our own part, we cannot help feeling more interest in the health and welfare of human beings than in that of cattle and hogs. This, we admit, is unstatesmanlike; it is a professional bias of which we are unable to rid ourselves, and we humbly realize our inability to justify it in those high spheres where appropriation schedules are formulated. Yet, after all, is not a human being—even a child—worth something? Not so much as an Alderney cow, of course, but still something—enough to justify the expenditure of a few cents to save the life of the child where dollars are spent to save the life of the cow? It is our possibly misguided belief that it is worth at least this much; and this must be our apology for offering a plan for utilizing some of the Agricultural Department publications in the prophylaxis of disease among human beings. We hasten to add that the added expense for paper and typesetting would be infinitesimal; and moreover, we do not believe that the interests of the live stock would be jeopardized.

We have before us a Farmers' Bulletin[1] on tuberculosis in farm animals, which begins with a section on the "Nature of the Disease." We read: "Tuberculosis is contagious . . . it may not attract much notice from the owner of the cattle, as the disease is slow to develop and a cow may be affected . . . for several months," etc. Our suggestion would be to insert (in brackets, so that attention would not be too seriously diverted from the cattle) the words "father or mother of the children" after "owner of the cattle," and the word "child" after "cow." We have no suggestions to offer as to the chapter on "Importance"; the problem is clearly stated: "The importance of the disease must be estimated from two points of view: first, the loss it entails on the cattle-owner and second, the danger . . . to human beings."

The chapter on "Symptoms" is fairly satisfactory; a careful perusal of this chapter might enable a mother to suspect that her child was not suffering from a "common bad cough" (just as it helps the cattle-owner to see that something unusual is wrong with his cow) and that it was time to consult a physician. We must admit that the section "Post-Mortem Appearances" might not be of directly practical value; still its perusal might possibly convince a person with leanings toward Eddyism that it would be a little hard to will away the "tuberculous lumps." The chapter on "The Tubercle Bacillus" would be very useful, for here we would find practical statements, such as that the bacillus "can live for a long time in favorable surroundings, such as dark or dirty stables [rooms]." Similarly the chapter on "How the Disease Spreads" would be decidedly practical: "Sooner or later the tuberculous cow [person] begins to give off the germs of the disease"; "they escape from the cow [human being] by the mouth, nose, etc.; germs are coughed up and sprayed over the food in front of the cow [individual]; cows [people] in adjoining stalls [beds] may acquire the disease in this way." "The germs get into the milk, and hogs and calves [little boys and girls] are very readily infected by it." The chapter on "How a Herd [Family] is Infected" is excellent, as is also the chapter on "Sanitation." In the latter, for example, we would read that "dark, dirty, crowded stables [houses] are favorable to tuberculosis; clean, airy, well-lighted stables [houses] are unfavorable to the development of the disease." "Stables [houses] should have plenty of air space for each animal [whether of monetary value or only man]," etc. But the advice about sanitary homes (for cattle) is so excellent that we might safely advise the people to build such stables and then occupy them themselves.

But after all, might we not hope that in the course of time it would be possible for the United States government occasionally to discuss the man first?

C. H. CARSON—QUACK

In The Journal for September 30, reference was made editorially to "Dr." C. H. Carson, the Kansas City gentleman who conducts the "Temple of Health" for the "Treatment of Disease by the Vital Science System." In our editorial we were constrained to refer to Carson as a quack, also as a charlatan and a humbug. We used other adjectives equally uncomplimentary. After waiting a month, "Dr." Carson reached the conclusion that we had both libeled and slandered him and wrote a long letter to The Journal apprising it of this opinion. In his letter, the high priest of the "Temple of Health" says that he is "very sorry indeed that so high-toned a journal" as The Journal of the American Medical Association should contain such an article. We acknowledge "Dr." Carson's judgment in estimating the value of The Journal, and are willing, also, to admit that he doubtless *is* very sorry that the article appeared.

"Dr." Carson says: "I write this letter in the spirit of kindness and hope it will be received by you in the same way." And further he tells us that he has "recently won in a long-drawn-out litigation" in which questions regarding his "credentials" and his "diploma" were discussed. He says that the State Board of Health of

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[1] Farmers' Bulletin 473, U. S. Dept. of Agriculture. Tuberculosis. A plain statement of facts regarding the disease, prepared especially for farmers and others interested in live stock, by the International Commission of the American Veterinary Medical Association on the Control of Bovine Tuberculosis.

Missouri investigated the matter thoroughly and that "the standing of the school [from which he "graduated"] and its right to issue diplomas were finally established, and no question regarding this has ever arisen since." This is an interesting statement, as our readers will agree after reading the testimony reproduced on another page[1] relative to this "school." "Dr." Carson objects to our calling the "school" from which he "graduated" a defunct institution, and plaintively observes: "A school may pass out of existence without there being any reason for calling it defunct." Dictionaries and other sources of real information are doubtless closed books to the "doctor."

Carson says, further, that his standing "as a moral, upright man" has not been questioned "even by the loctors of medicine" of Kansas City. This statement, loubtless, is as far from the truth as many other statenents emanating from the "Temple of Health." The opinions of the decent medical men of Kansas City as o the "morality" and "uprightness" of a man who will lefraud the sick and the suffering by selling them slips of tissue paper as "cures" for disease, can easily be magined.

With his letter, "Dr." Carson encloses an advertisement from the *Kansas City Weekly Journal,* in which is reproduced a long rambling article written by . S. Carr, M.D. This article is a write-up of Carson and his "Temple of Health," that appeared in Carr's ournal and which has since been used by Carson as an dvertising asset. To the uninitiated the advertisement ives the impression that this article appeared in a eputable medical journal and was written by a reputable physician. As a matter of fact, Carr is and has een for years employed by the Peruna concern; he is ngaged in a mail-order nostrum business of his own nd is running a pseudomedical sheet that he calls the *olumbus Medical Journal,* whose advertising receipts ave come from some of the worst fakes in the country. Presumably Carson is too ignorant to understand the tatus of C. S. Carr. No other supposition would xplain his apparent belief that an article such as he ends with his letter would be of value to his cause.

Carson further says that our "most unfortunate rticle" seems to reflect not only on his "professional bility," but also on his "integrity." We are glad that he four weeks' study that "Dr." Carson gave to our rticle resulted in his getting our meaning as accurately s he seems to have done. In view of all this, Carson loses his letter by asking us to "kindly publish an litorial . . . apologizing for what has been said . . and asking the pardon of the ones you have njured." If we will perform this small service, we have from "Dr." Carson that he will then "have the spirit f the Master" and say: "Father, forgive them for they now not what they do." But—and here comes the limax—if we feel that we cannot apologize to "Dr." arson for calling him a quack, a charlatan and a humbug, he "will take the proper steps" to see whether we will be willing so to apologize "after a legal decree has been obtained."

THE JOURNAL has no desire to do any man an injustice; equally foreign to it is any intention to indulge in braggadocio or bluff; nevertheless, after considering the question from all angles and with an eye single to the principles of justice to the individual and the enlightenment of the public, it is constrained to make the following reply to the letter received from the owner of the "Temple of Health": "Dr." Carson *is* a quack; he *is* a charlatan and he *is* a humbug, and, in the interests of public safety and for the protection of the susceptible sick, THE JOURNAL of the American Medical Association will be pleased, if necessary, to prove its statements in the courts.

ACTIVITY OR PASSIVITY — SYMPATHY OR SACRIFICE?

Three weeks ago[1] we commented on the inconsistency of physicians who can find no language too harsh to express their disgust for the "patent medicine" advertisements that appear in newspapers, but who, at the same time, are subscribing for, contributing to, and in other ways lending moral and financial support to, medical journals whose advertising pages are just as much a disgrace to medical journalism as the advertising pages of the papers they criticize are to newspaper journalism. The justice of our criticism seems to be acknowledged, for we have received several letters commending it. One letter in particular, from a country practitioner, hits the nail squarely on the head with the pertinent observation that the proprietors of that class of medical journals against which our criticism was directed will care little about the occasional dropping of a subscription by the rank and file so long as they are able to get signed articles of merit from "leaders" in medicine and surgery. This statement of our correspondent is largely, but not entirely, true; there is no medical journal — in fact, there is no publication of any kind — whose business office does not "sit up and take notice" when people write in canceling, or refusing to renew, subscriptions. On the other hand, he is entirely right in assigning to the contributions of men high in the profession a power that is pregnant with great good or evil. Our correspondent's letter was so much to the point that a copy of it was sent to some of the acknowledged "leaders" whose names have recently appeared over articles — excellent articles — published in medical journals whose advertising pages reek with medical frauds.

Few educated physicians will deny that the greatest handicap scientific medicine has to-day is that imposed by the fraudulent exploitation of proprietary medicines. This conviction crystallized in the creation of the Council on Pharmacy and Chemistry. The information that this body of men has been able to present to the medical profession — and to the public — on the subject of the so-called ethical proprietaries has demonstrated that, with few exceptions, the bulk of proprietary medicines offered to physicians are not only unscientific but, in many instances, positively fraudulent. But the work of the Council has been constructive as well as critical. Such proprietary remedies as have value and are exploited truthfully have been accepted by the Council and admitted to the book, "New and Nonofficial Remedies."

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[1] Propaganda for Reform Department; testimony of John unyan Campbell and others, pages 1932 to 1934.

[1] Editorial, The Mote and the Beam, THE JOURNAL A. M. A., Nov. 18, 1911, p. 1702.

The submission of proprietary articles to the Council on Pharmacy and Chemistry is purely a voluntary act; there is no penalty for those manufacturers who do not see fit to submit their products to the medical profession's accredited experts—or practically none. It is true that until such products are approved by the Council, they cannot be advertised in The Journal of the American Medical Association. Nor can they appear in the few state journals and three or four so-called independent journals that follow the Council's findings, in censoring their advertising pages. But what cares the average manufacturer for that, so long as he can use the hundreds of other medical journals that gladly open their advertising pages to anything that will not debar the publication from the second-class mailing privilege?

We have said that there is no penalty for such manufacturers as ignore the existence of the Council on Pharmacy and Chemistry. As a matter of fact, there *is* a penalty, but the medical profession has, so far, not seen fit to impose it. In two ways physicians can bring pharmaceutical manufacturers to a realization of their responsibilities and at the same time solve the proprietary problem. They are simple — and as effective as they are simple. One is, for the medical profession to confine its prescribing to official articles and those proprietary preparations that have successfully passed the scrutiny of the Council on Pharmacy and Chemistry. Such a limitation not only will redound to the credit of scientific medicine but also — which is more important — will be in the interest of the public. The other method of imposing a penalty is for physicians to refuse to subscribe for, contribute to or even tolerate in their offices medical journals that advertise proprietary remedies that have not been approved by the Council on Pharmacy and Chemistry.

Do the physicians of the country really want to put an end to the proprietary evil? If they do, they can readily accomplish their desire; but it cannot be done simply by having The Journal of the American Medical Association expose the fraudulence and worthlessness of many proprietary remedies. Such work is merely educational. It opens the eyes of the medical profession to the viciousness of the proprietary evil; but that is all. For several years now The Journal has been doing its part in this propaganda for reform. The time has now come when the medical profession itself must take an active part in stamping out what is generally conceded to be the greatest menace to modern medicine. Will the profession do this?

Current Comment

SENATOR WORKS AS A TRUST-BUSTER

According to the Chicago *Evening Journal* for November 25, Senator Works of California stated in his recent speech in Chicago that the United States government was "looking into the charges made" that the American Medical Association is a "medical trust." We were not aware that Senator Works was authorized to speak as to the plans of the administration, but it is to be hoped that his statement in this instance, at least, is more reliable than some others that he has made. There is nothing that would please the American Medical Association better than to have all its doings established by sworn testimony. It would be equally valuable to the public if those interests which have been craftily opposing the work of the Association were forced to furnish proof and sworn statements or else admit that their vague and misleading insinuations were false. By all means let Congress investigate. The more light, the better. The Association has nothing to hide and has every reason to feel proud of what it is doing. When the facts are known, the American people will love the Association for the enemies it has made. In order that there may be no possible obstacle to such an inquiry, the American Medical Association will willingly produce its books and records, and its officers past and present will gladly appear and testify. Then if Senator Works can prove that the work which the Association has done and is doing has been for any other purpose than the good of the people, the Association will agree to donate to the League for Medical Freedom a sum equal to the expenses of the investigation and prosecution.

VITAL STATISTICS LEGISLATION

Legislatures will meet this winter in Kentucky, Louisiana, Maryland, Massachusetts, Mississippi, New Jersey, New York, Rhode Island, South Carolina and Virginia. In four of these states — Louisiana, Mississippi, South Carolina and Virginia—there are no provisions whatever for the proper registration of births and deaths, except in a few of the larger cities where there is some form of death registration. Strange to say, all four of these are southern states, where, on account of former epidemics, a reputation for good health conditions should constitute a most valuable asset. How many people died in Mississippi last year of malaria? What was the total number of deaths last year in any of these four states? Is the death-rate rising or falling? Is the amount of sickness increasing or decreasing? Nobody knows, because there is no record kept of births or deaths in these states. How strange that men will carefully record all business transactions, will insist on books being kept correctly, even to a difference of a penny, will record the birth and pedigree of their horses, cows, pigs, dogs and cats, but will permit their parents to die and be buried and their children to be born without any legal record of these events being made! Bank balance sheets, corporation reports, auditors' reports are all recognized as records of value, but in only twenty-four of our states do we know how many human lives are lost each year.

for in the other twenty-five states no books are kept. In only nine states are any birth-records kept, and even in these states such records have been kept only a few years. In the census reports for 1910, the disgraceful fact appears that our death-ratio is based on returns from only 58.3 per cent. of the entire population, since among the remaining 41.7 per cent. there is no way of determining the number of deaths. This situation has long been a disgrace to our nation. In Alabama, Florida, Georgia, Kentucky, Louisiana, South Carolina, Tennessee, Texas and Virginia, an effort has been made o register deaths in the larger cities. In none has any general registration of deaths or any recording of births n any way been provided for. In Louisiana, Mississippi, South Carolina and Virginia, the coming session of the legislatures offers an opportunity to atone for ong-standing neglect of this important duty. One of hese states can have the honor of being the first southern state to make proper provision for the recording of births and deaths. Which will it be?

RED CROSS SEALS

As has been the custom for a number of years, the various local antituberculosis associations will have on ale from December 1 to Christmas, Red Cross seals which are to be sold to raise funds for supporting the ntituberculosis movement. This is done under the anction of the National Association for the Study and Prevention of Tuberculosis and the American Red Cross. The local organizations are allowed a portion of the proceeds. This year a design has been adopted which as overcome the objections of the post-office department o placing these seals on letters. Many plans have been dopted in various localities to promote the sale of these eals; for example, friends of the antituberculosis movement have donated valuable prizes, such as pianos, anitary drinking-fountains, talking-machines, ventilatng apparatus, vacuum cleaners, other sanitary and ygienic appliances and books concerning health maters. These are to be awarded to persons who sell the most stamps or to schools whose pupils sell the most. t is expected this year that the sale of these seals will ar exceed that of other years and net at least a million ollars for the antituberculosis movement.

ERADICATING ROCKY MOUNTAIN SPOTTED FEVER

Supplementing the work of the late H. T. Ricketts in he study of the spotted-fever tick in the Rocky Mounain regions, the Bureau of Entomology has recently ompleted an epidemiologic and a natural-history study f this insect with the view of eventually eradicating it nd the disease it produces from the Rocky Mountain egion. This work is described in a recent bulletin.[1] ocky Mountain spotted fever has attained its greatest irulence in the Bitter Root Valley in Montana and in ertain parts of Idaho, although the tick is distributed ver much of the Rocky Mountain region as far south s New Mexico. The mortality from this disease in Montana has been as high as 70 per cent., and, taking nto consideration the whole area over which spotted fever is more or less prevalent, it is estimated that there are 750 cases each year with probably seventy-five deaths. It was determined from the investigations in the Bitter Root Valley that the tick is practically restricted, as far as the adult stage is concerned, to the larger domestic animals, chiefly cattle and horses. This discovery, which was made originally by Dr. Ricketts, and which has been more firmly established by the recent work of the Bureau of Entomology, is the key to the plan of control that is recommended in the bulletin. It is in the adult stage of the insect that it attaches itself to these domestic animals which results in bringing it in proximity to human beings. Its eradication involves the dipping or hand treatment of the cattle and horses in the Bitter Root Valley of Montana for several months in the spring, and the bulletin gives the details of the procedure to be followed. It is estimated that this plan will result in practically eradicating the fever tick and thus in the elimination of spotted fever, and that the total cost of this work for three years in Montana would be less than $25,000. The eradication of this dangerous disease will be accomplished by a procedure similar to that being followed throughout the world in the control of malaria, yellow fever and other insect-borne diseases and at a comparatively slight cost.

THE CHRISTMAS RED CROSS FILM

The moving picture is recognized as a valuable educational factor if rightly used. Fortunately, the men who have developed the business of manufacturing these moving-picture films in this country have not been blind to every consideration except money-making. Comparatively few seem to have yielded to the temptation to prostitute this great invention by catering to the sensational, the lewd and the depraved; instead, most have been wise and far-sighted enough to see the enormous educational possibilities of the moving-picture and to endeavor to build up their enterprise on a solid foundation. In no way is this better shown than by the cooperation between the Thomas A. Edison Company of Orange, N. J., and the National Association for the Study and Prevention of Tuberculosis. Each year, just before the holidays, the Edison Company releases to the innumerable moving-picture theaters a specially prepared film, designed to show the awful danger of the "White Plague" and to aid in the sale of the Red Cross Seal, the little stamp which, by the million, adorns our Christmas packages and carries its lesson everywhere. The film this year, released December 5, is called "The Awakening of John Bond." It is a graphic and truthful portrayal of the dangers of tuberculosis and of the personal responsibility of each one for existing conditions. It should be shown, again and again, in every town in the land—for what village is now so poor that it does not have a moving-picture theater? Let all physicians and all members of charitable societies ask to have this film shown to the public. It is by far the best of a number of public health films turned out by the Edison Company, which is fully justified in its announcement that it "has been able, not only to produce a film of high dramatic value, but also one of great educational benefit."

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[1] The Rocky Mountain Spotted Fever Tick, Bull. 105, Bureau Entomology, Dept. of Agriculture, 1911.

THE BEST CHRISTMAS GIFTS

Like many other good things, the celebration of Christmas sometimes becomes formal and lifeless. Christmas giving, which should be the spontaneous expression of affection or good will, too often is merely the exchange of merchandise, "purchased in rage and bestowed in despair," as William Dean Howells puts it. Even from the point of view of our profession, the bad effects, physical and mental, of the Christmas strain on both sides of the holiday counters in our shopping centers, amply justify a serious consideration of the question and a sincere effort to uphold a saner standard of Christmas giving. How can the custom be regenerated and made to yield its utmost meed of satisfaction and pleasure? Often its spirit may be best observed by giving no material commodity at all. Of all holiday giving nothing costs so little or gives so much pleasure as to take time to say or to write the word of appreciation for which there seems to be no appropriate season during the workaday year—to adjust, if need be, one's mental focus to appreciation. If we have been plodding along, each unmindful of others' efforts, this is the opportunity at once to enlarge our own mental horizon and to give real pleasure by sympathetic appreciation of others. It is not unworthy our efforts as physicians, moreover, while we are remembering our friends, to improve the hygiene of Christmas by restoring its spirit.

CANNED LECTURES VIA THE PHONOGRAPH

At last the "canned knowledge" industry has reached (and "touched") the medical profession. Along with the correspondence course in millinery and the phonographic method of learning Esperanto, a postgraduate course in medicine has been brought "within the reach of all" by the phonographic route. "The Medicophone Postgraduate Company" is the name of a concern which has been organized to provide the country doctor with postgraduate lectures "by the most noted medical men in America," thus incidentally offering the aforesaid noted medical men an opportunity to enter the class of the "best sellers." The proposition is to have phonographic records made of the lectures of these "noted medical men," and to sell these records, along with the phonographic machine, to physicians who, in the seclusion of their offices or in their restful armchairs before their domestic firesides, may have a complete postgraduate course and "keep abreast of the rapid strides made along the lines of improved methods of diagnosis and treatment." For on the staff of lecturers will be some of the most prominent men in the medical and surgical profession. But the geniuses who have worked out this brilliant scheme are willing to share the profits! The average physician is said to be extremely susceptible to the wiles and schemes of the sagacious promoter, and undoubtedly some will be willing to take the chance offered them, viz., "to get in on the ground floor of a good thing." Does not this seem promising?

> "It is estimated that any experienced salesman could average to sell at least five Lecture Outfits per week at $100 each. After deducting cost of manufacturing, agents' commission, cost of delivering and collecting this would leave the company a net profit of $36 on each outfit, or $180 profit on each salesman's weekly sales or $9.360 profit per year on the sales of each salesman, and with a force of only twenty men, a yearly profit of $187,200 aside from the profit on the sale of musical records.
>
> "Total net profit on the sale of Lecture Courses...$187,200.00
> "Total cost of Equipment, Salaries and Office Rent
> for the first year 32,266.00
>
> "Estimated Yearly Net Profit..................$154,934.00"

So much for the financial side. Just what advantage there will be in listening to the dulcet or sonorous tones of some eminent lecturer instead of reading the same matter in a medical journal or in a text-book is not apparent. In fact, the confiding physician is very likely to be deceived as to this part of it, since one surgeon is simply asked by letter to supply the manuscript—at 2 cents a word. The "master's voice" in the record, therefore, does not seem to be an essential part of this scheme, although, of course, the purchaser may not be made acquainted with this fact. We would be the last to discourage the practitioner from efforts to improve himself by study, but, on the surface, this looks very much like a proposition to capitalize the reputation of the "noted medical men" in order to "work" those medical men who are not so "noted."

A LIMITED LIST OF DRUGS

One of the stumbling-blocks in progressive medicine, so far as drug therapy is concerned, is the absurd number of drugs and combinations of drugs in the Pharmacopeia and in the dispensatories. Even granting that all of these drugs and combinations in the Pharmacopeia have some value—which is doubtful—the number is so large that it is impossible for any one in active practice to have even a superficial knowledge of all of them. While there are still some physicians who are impressed by the folk-lore and mystery of drugs, and others who are hypnotized by the smoothly worded claims for complex shot-gun proprietaries, the vast majority of practitioners pin their faith to a comparatively small number. And the longer a physician is in practice, the smaller is the number of drugs he uses, and the better acquainted he is with them. To the teacher of materia medica, to the medical student, and, above all and especially, to the examining boards and to those who have to appear before them, the conditions are of very practical importance. Both state board examiners and teachers have been complaining of this condition and emphasizing the need of a selected list of drugs for their pupils and candidates. About a year ago the Council on Pharmacy and Chemistry appointed a committee to take up this question. In the Propaganda Department of this issue appears a communication from the Chairman of this committee, and in the advertising pages is a suggested list of drugs. It is to be hoped that those who are in sympathy with this idea and work will read Dr. Hunt's communication and aid him and his committee by their suggestions regarding this movement. It is the object of the Council ultimately to publish a critical treatise on a limited list of drugs—a book which teachers as well as examiners may use.

Medical News

ALABAMA

Free Antitoxin.—The State Board of Health has completed contract with manufacturers of diphtheria antitoxin pro-ding that supplies of antitoxin will be deposited at several laces in each county in the state, so that any physician may cure the remedy for his indigent patients merely by signing ceipts in triplicate therefor.

Personal.—The governor at the solicitation of the State onvict Board is said to have decided to retain Dr. Elbert F. ields, Ensley, as physician to the board and Dr. Sidney J. ann, Fort Wayne, as state convict physician at Flat Top, ntil their successors are named and qualify.——Dr. George W. illiamson, Montgomery, for three years registrar of vital d mortuary statistics in the state health department, has signed on account of ill health.

Hospital Items.—The Etowah County Medical Society has ppointed a committee to meet with the county commissioners d impress on that body the needs of a county hospital to be tablished at Gadsden, to cost from $10,000 to $20,000.——r. A. W. Rawls, Gadsden, states that his hospital which was stroyed by fire, November 11, will be rebuilt as soon as the surance is adjusted.——The antituberculosis hospital at the ate penitentiary, Wetumpka, is nearing completion. It will commodate 250 patients and will have separate wards for hite males, white females, colored males and colored females. n observation station will also be established to which all w convicts will be sent to determine whether or not they ve tuberculosis.

ARKANSAS

Antituberculosis Society Organized.—An Antituberculosis ciety has been organized at Ozark, of which Dr. Edward . Blackburn was elected president.

Fires.—The residence of Dr. Lorenzo D. Duncan, Waldron, s destroyed by fire, November 21, with a loss estimated at ,000.——The Fredoravicz Sanatorium, Paragould, was de-royed by fire, October 25, with a loss of $15,000.

Plan Hospital at Hot Springs.—The Southern District Inde-ndent Order of B'Nai B'Rith, is engaged in a campaign to ise a fund of $75,000 for the erection of a National Jewish spital at Hot Springs to be known as the Leo N. Levi emorial Hospital. One-third of the amount required has en already raised. The hospital association has secured a ct 300 by 150 feet, and tentative plans have been prepared oviding for the accommodation of fifty patients.

Improvements at State Hospital.—Dr. James L. Greene, cently elected superintendent of the State Hospital for rvous Diseases, Little Rock, has already provided room for 8 more patients without crowding the capacity of the hospi-l and he believes that by a small expenditure he can provide fficient room for 148 additional patients. The State Chari-s Board has authorized Dr. Greene to purchase new equip-ent for the modernizing of treatment at the institution, at expense of $10,000.

Personal.—Dr. James Marshall Collier, Troy, Ala., is re-rted to be critically ill.——Dr. C. A. Arkebauer, Little Rock, s been promoted to first assistant physician and Dr. W. berts to second assistant physician of the State Hospital Nervous Diseases, Little Rock.——Dr. Harry C. Stinson, new superintendent of the new Confederate Home, Little ck, has resumed active charge of the institution.——Dr. illiam E. McLain, city physician of Argenta, has recovered om his recent operation for appendicitis.——Dr. Otto Plut-ow, Little Rock, has started for Europe.

INDIANA

Personal.—Dr. Thomas E. Courtney of Indianapolis had a rrow escape from death by being pinned under his automo-e when struck by a street car, November 21. The gasoline k burst and it was with difficulty that he was reached fore being severely injured. He will recover.——Dr. Willis Gatch, Baltimore, has been elected professor of operative rgery of the Indiana School of Medicine.

New Hospital for University.—The trustees of the Indiana iversity were authorized by the last legislature to build Long Memorial Hospital in Military Park, Indianapolis, ich is owned by the state of Indiana. As many civic socie-s, as well as the mayor of the city are opposed to locating a spital in a public park, arrangements are being made to ovide another site. Dr. T. Victor Keene, a member of the city board of health, has taken an option on ground adjoining the city hospital and it is proposed that the city of Indianapolis buy this property, and present it to the state as a site for the new hospital.

Antituberculosis Association Organized.—The Marion County Antituberculosis Association was organized in Indianapolis, November 24. Its membership is composed of leading physicians and health officers of the city, and its work is to manage the Red Cross Christmas Seal campaign in Marion County, and in the city of Indianapolis. The officers elected are: president, Dr. Alfred Henry; secretary, Dr. Theodore Potter, and treasurer, Miss Edna Henry. Competitive contests have been arranged for school children throughout the state. Prizes are to be awarded to school pupils in cities making the largest per capita sales of Red Cross Christmas Seals.

NEW JERSEY

To House Poor Consumptives.—Mayor Frederick Donnelly, of Trenton, as chairman of the commission which is now administering municipal affairs, plans to have a fund set aside for the erection of wooden shacks on the outskirts of the city, to be used as sleeping quarters for persons suffering with tuberculosis, who are unable to obtain proper air in the crowded districts. Breakfast will be provided for each person at the expense of the city and nurses will be on duty at the camp. There will be room for about fifty at the start.

KANSAS

Personal.—Dr. Robert S. Black, Ottawa, who has been seriously ill, is reported to be convalescent.——Dr. John D. Horne, Coffeyville, who had a cerebral hemorrhage recently, is reported to be in critical condition.

Hospital News.—The Kansas Board of Control has selected Larned as the location for the new State Hospital for the Insane, for which $100,000 has been appointed. The tract comprises about 800 acres of land.——The Mercantile Club and Wyandotte County Medical Society are endeavoring to secure a city hospital for Kansas City, which has not even an emergency operating room at present.

Against Tuberculosis.—The State Board of Health has obtained the services of Dr. Leo E. Haughey, Topeka, as lecturer, and J. K. Wiley, as assistant in its antituberculosis educational campaign.——At a meeting of the Topeka Sanatorium Antituberculosis Association, held November 7, Dr. Charles H. Lerrigo, Topeka, was elected president; Chancellor Frank Strong of the University of Kansas, vice-president (reelected); Dr. Jacob L. Everhardy, Leavenworth, secretary, and Dr. Lewis H. Munn, Topeka, treasurer.

KENTUCKY

Medical Society Organized.—At a meeting held at the residence of Dr. Emil T. Grasser, Louisville, November 2, the Clifton Medical Society was organized and the following officers were elected: president, Dr. John M. Morris; vice-president, Dr. Emil T. Grasser, and secretary and treasurer, Dr. Roy E. Wilhoyte, all of Louisville.

Personal.—Dr. and Mrs. Joseph M. Mathews, Louisville, have left for the Pacific Coast, where they will make a stay of indefinite length.——Drs. Louis Frank and Henry E. Tuley, president and secretary, respectively, of the Mississippi Valley Medical Association, were in Chicago last week, making arrangements for the meeting of the association in Chicago next fall.

LOUISIANA

Work for the Charity Hospital.—The Charity Hospital Festival Committee, New Orleans, hopes to have at least $30,000 to its credit on the day of the opening of the festival, which is to be given at the Atheneum from December 11 to December 16.

New Hospital for Monroe.—Rev. L. Enaut, Monroe, has donated a portion of his property in that city and $20,000 in cash for the establishment of a sanatorium to be in charge of the Franciscan Sisters and to be known as St. Francis Sanatorium.

Personal.—Dr. Marion Souchon, New Orleans, has been elected medical director of the Pan-American Life Insurance Co.——Dr. Franklin Boyd has been elected president of the Board of Health of Lafayette.——Dr. William T. O'Reilly, New Orleans, who has been ill for several days, is reported convalescent.——Dr. Rudolph Matas, New Orleans, has returned from Europe.——Dr. J. Valarus Bonnette, Alexandria, is under treatment in New Orleans on account of septicemia due to an operation wound.——Drs. John D. Trahan, Henri L. Ducrocq and Frederick R. Tolson have been appointed members of the board of health at Lafayette.——Dr. Joseph A. Danna, New Orleans, has been elected vice-president and chariman of the executive committee of the Sickles Fund trustees.

Academy of Medicine Election.—At the annual meeting of the Shreveport Academy of Medicine, the following officers were elected: president, Dr. William K. Sutherlin; vice-president, Dr. Joseph E. Knighton; secretary, Dr. P. W. Oden, and treasurer, Dr. Arthur A. Herold.

Mortgage on Hospital Lifted.—The indebtedness of $30,000 on the Presbyterian Hospital, New Orleans, has been settled within a year and the mortgage has been canceled. The McKowen bequest of $20,000 and generous gifts by other friends accomplished this desired result.

State Board Election.—At the annual meeting of the Louisiana State Board of Medical Examiners held in New Orleans, October 18-21, the following officers were elected: president, Dr. John G. Martin, Lake Charles; vice-president, Dr. Stuart L. White, Ruston, and secretary-treasurer, Dr. Albert B. Brown, New Orleans (reelected). Dr. Homer Dupuy, New Orleans, was elected a member of the board to succeed Dr. Edward L. McGehee, New Orleans, term expired. A resolution was adopted which provides that any physician who in violation of the law begins the practice of medicine in Louisiana without having first becoming registered and who persists in such violation, notwithstanding notice to desist has been sent to him by the board, will thereby disqualify himself for a license to practice medicine in that state, since no such applicant will be considered by the board as one possessing good moral character. Another resolution was adopted providing that all midwives be required to pass an examination before being permitted to practice.

MARYLAND

Typhoid Under Control.—Officials of the Maryland House of Correction, where an unusually large number of typhoid fever cases developed a few weeks ago, state that the patients are recovering, that no new cases have been reported and that the disease is under complete control.

Personal.—Dr. Edward Anderson, Rockville, has been reelected physician to the Montgomery County Almshouse.——Dr. D. A. Delcher of Cecil County has been appointed physician to the Navajo Springs Indian Agency, Arizona.——Dr. Harry B. Gantt, Millersville, is under treatment at the University Hospital for septicemia.

County Medical Society.—At the annual meeting of the Washington County Medical Society, held in Hagerstown, the following officers were elected: president, Dr. Samuel M. Wagaman; vice-president, Dr. William Baker Morrison; secretary, Dr. William Dick Campbell; treasurer, Dr. Hamilton K. Derr, and delegate to the Medical and Chirurgical Faculty of Maryland, Dr. James W. Humrichouse, all of Hagerstown.

Report of Insane Hospital.—Dr. Joseph Clement Clark, superintendent of the Springfield Hospital for the Insane, Sykesville, reports the average number of inmates 1,258, with a death-rate of 5.68 per 1,000. During the last two years there have been only four deaths from typhoid fever and eight deaths from tuberculosis in the institution. There were 800 patients vaccinated with typhoid vaccine and among these no typhoid fever developed. Dr. Clark urges the establishment of a separate hospital for the criminal insane.

The State Sanatorium.—The report of the Maryland State Tuberculosis Sanatorium, Sabillasville, shows, in a striking manner, the growth of the institution. The commission to establish the sanatorium was created by the legislature in 1902. In 1906, the site was selected on a rough mountain side. The association now owns 180 acres of cleared farm land, and can take care of about 250 patients. When the new building is completed, which will be in a few weeks, the capacity of the institution will be doubled. The institution at present represents an expenditure of $600,000; of this amount the administration building cost $80,000. There is a reservoir of 100,000 gallons, and heating and electric light plants, and all the shacks are heated.

Baltimore

New Nurses' Homes.—A nurses' building, 100 by 47 feet, is to be erected at the Hebrew Hospital at a cost of $50,000.——A nurses' home has been added to the John Street Hospital for Women at a cost of $26,500.

Personal.—Dr. Alexander H. Sexton was struck by an automobile, November 6, and sustained severe contusions.——Dr. John J. Valentini has been elected surgeon of the fire department, vice Dr. Albert J. Underhill.——Dr. Herbert S. Thomson has been appointed examining physician for the Public Athletic League. Dr. John M. T. Finney has refused to be considered a possible candidate for the presidency of Princeton University. He was approached on the subject by the nominating committee, but he felt that his work in Baltimore was not yet done.

Psychiatric Clinic Almost Ready.—The Henry Phipps Psychiatric Clinic, given by Henry Phipps of Pittsburgh, to Johns Hopkins Hospital, at a cost of about $1,000,000, is nearing completion. It is to be under the direction of Dr. Adolf Meyer. It will afford opportunity for patients suffering from mental diseases, to be treated without the necessity of being committed to insane hospitals, and will afford excellent instruction to students in mental disorders. A department is to be established for the treatment of nervous diseases on the theory of psycho-analysis.

MASSACHUSETTS

Small-Pox on Liner.—A case of small-pox discovered on the steamer *Romanic* resulted in wholesale vaccination of passengers after the ship anchored at quarantine, November 22.

New Milk Rules.—Brookline has put in force a new set of rules governing the delivery, production and storage of milk. As the chairman of the board of health is also the local judge it is certain that violators will be severely punished. At houses where there is a case of diphtheria, scarlet fever, small-pox or typhoid fever, the customers must provide milk receptacles. No person having any infectious disease is allowed to have any contact with the cattle or the milk.

Personal.—A complimentary dinner to Dr. Charles Pickering Putnam was tendered by his friends November 22, in recognition especially of his long term of service as head of the Children's Institution Department of Boston.——Dr. Simon J. Russell, Springfield, has been appointed medical examiner of Hampden County; Dr. Roscoe D. Perley, Melrose, of Middlesex County, and Dr. Frank S. Bulkley, Ayer, of the Tenth Middlesex District.——Dr. A. Hamilton Rice, Boston, is about to leave Paris on a tour of exploration to South America under the auspices of the Royal Geographical Society of England.——A banquet was tendered Dr. Francis D. Donoghue, Boston, by the members of the Massachusetts Society of Examining Physicians, in recognition of the services rendered by him to the society.

MICHIGAN

Personal.—Dr. James Franklin Adams, Mount Pleasant, with his family, is spending the winter in Little Rock, Ark.——A murderous attack was made on Dr. S. Edwin Cruse, Iron Mountain, November 19, by an Italian who objected to the enforcement of health regulations by Dr. Cruse.

Society Meetings.—At the regular meeting of the Tri-County Medical Society, held November 2 in Cadillac, the following officers were elected: president, Dr. Raphael Brodeur, Cadillac; vice-president, Dr. Walter B. Wallace, Manton; secretary, Dr. Rudolph J. E. Oden, Cadillac; treasurer, Dr. Wallace J. Smith, Cadillac; delegates to the state society, Dr. Carrol E. Miller, Cadillac, and alternate, the secretary; and censors, Drs. Carroll E. Miller and Sair C. Moore, Cadillac, and Victor F. Huntley, Manton.——Eaton County Medical Society, at its annual meeting held in Charlotte, elected Dr. James B. Bradley, Eaton Rapids, president; Dr. Flavius J. Knight, Charlotte, vice-president, and Dr. Arthur H. Burleson, Olivet, secretary and treasurer.——Hillsdale County Medical Society at its annual meeting held in Hillsdale, October 27, elected Dr. William R. Ditmars, North Adams, president; Dr. Daniel W. Fenton, Reading, vice-president, and reelected Dr. Burt F. Greene, Hillsdale, secretary-treasurer.——Lapeer County Medical Association has elected Dr. John V. Frazier, Lapeer, president; Dr. Adam Price, Almont, vice-president, and Dr. Jacob H. Burley, Almont, secretary and treasurer.——The physicians of Grand Haven and Spring Lake have organized a society to be known as the Grand Haven-Spring Lake Medical Society. Dr. John E. Reynolds, Grand Haven, was elected president, and Dr. William De Kleine, Grand Haven, secretary.

NEW YORK

New Hospital for Westchester County.—The Board of Supervisors of Westchester County have decided to build a hospital for tuberculosis patients. The building will cost about $200,000 and will offer accommodations for 200 patients.

Option on State Hospital Site.—The Fulton Physicians and Surgeons Association is said to have obtained an option on a long strip of property in the town of Schrippel bordering on the river, which it is proposed to use as a site for the new State Hospital for the Insane.

Personal.—Dr. E. S. McClellan, Saranac Lake, while on a it to his daughter, Northampton, Mass., November 24, had second cerebral hemorrhage and is critically ill.——Dr. Montmery E. Leary, Rochester, superintendent of Iola Sanaium, and formerly secretary of the Rochester Public Health sociation, is reported to be critically ill with septic periitis at the Dr. John M. Lee Hospital, Rochester. Dr. ary had been operated on for appendicitis the day before, l at that time perforation had already taken place and ritonitis had set in.

New York City

Increase in Health Budget.——The Department of Health s asked an appropriation of $3,392,938 for 1912, an increase $569,438.50 over the appropriation for 1911.

Harvey Society Lectures.—The sixth in the present series ll be given on December 16, by Prof. Walter B. Cannon ose subject is "A Consideration of the Nature of Hunger."

Steamship Brings Small-Pox.—The steamship *Calabria*, ich reached quarantine November 28, from Naples, had a e of small-pox on board. All of the steerage passengers re sent to Hoffman Island for observation.

Homicide Charge for Eddyists.—Mrs. Mosbach, the mother of 5-year-old child who died of diphtheria, November 30, witht medical attendance, has been arrested on a warrant charg her with homicide. The County Medical Society has also gun an investigation of the case and will proceed against . and Mrs. Ephriam Roberts, who treated the child.

Typhoid Mary Sues City.—Mary Mallon, widely known as yphoid Mary," whom the physicians of the health departnt designated as a typhoid carrier and confined for a time eral years since on North Brother Island, has brought suit inst the city for $50,000, claiming that the notoriety given as a germ carrier has made it impossible for her to gain ivelihood.

Election.—The Medical Society of the County of New York d its 106th annual meeting, November 27 and elected the lowing officers: president, Dr. Charles Gilmore Kerley; vicesidents, Dr. Brooks H. Wells and Dr. T. Passmore Berens; retary, Dr. John Van Doren Young; assistant secretary, Dr. Milton Mabbott; treasurer, Dr. Charles H. Richardson, l censors, Drs. Edward S. Peck, H. Seymour Houghton and ederick E. Sondern.

Personal.—Dr. Joseph E. Smith, Brooklyn, has been apnted surgeon in chief of the Fire Department of the City New York.——Dr. Morris J. Karpas has succeeded Dr. arles H. Holmes, resigned, as first assistant in the psyatric ward of Bellevue Hospital and Dr. P. J. Vossburg s succeeded Dr. Ernest S. Bishop, Brooklyn, resigned, as t assistant in the alcoholic ward of the hospital.——Dr. bert W. Ferris, Manhattan, has resigned as medical member the State Commission in Lunacy.

PENNSYLVANIA

Against Contract Practice.—At the September meeting of Washington County Medical Society, resolutions were animously adopted asking members of the society to andon contract practice, under penalty of having their contion with the society severed.

Officers Elected.—At the meeting of the Somerset County dical Society held at Rockwood, October 17, the following cers were elected: president, Dr. J. Ross Hemminger, Meydale; vice-president, Dr. William P. Shaw, Berlin; treasurer, Walter S. Mountain, Confluence; financial secretary, Dr. nry Hertzler, Jenners, and secretary, Dr. H. C. McKinley, yersdale.

Single Medical Board Appointed.—Governor Tener announced cember 1 the names of the seven members of the new reau of Medical Education and Licensure, which after Jan. 1912, will take the place of the present state medical examng boards. Those appointed are: Drs. John M. Baldy, iladelphia, and Adolph Koenig, Pittsburgh, representing the te Medical Society; Drs. Gustav A. Mueller, Pittsburgh, l Daniel P. Maddox, Chester, representing the State Homeohic Society; Dr. Calvin A. Johnstonbaugh, West Bethlehem, resenting the State Eclectic Society; Dr. Samuel G. Dixon, lmore, State Commissioner of Health, and Nathan C. haeffer, Superintendent of Public Instruction. Under the , the new bureau not only has the power to grant licenses, may refuse, revoke or suspend licenses for cause, including use of narcotics or vicious habits. The cost of the license practice medicine will be fixed by the new bureau at $10. is was formerly $25. The new bureau will organize before January 1 and will elect a president, secretary and treasurer. The headquarters will be at Harrisburg, but the examinations will be held in the spring and fall, at places designated.

Philadelphia

Personal.—Dr. Joseph Walsh, connected with the White Haven Sanitarium for many years, has been appointed medical director of St. Agnes Hospital to fill the vacancy caused by the resignation of Dr. Benjamin F. Stahl.——Dr. Archibald Goodis was struck by a motor car and seriously injured when he stepped from a trolley car in Eagleville, Pa.

Filter Plants Now Supply Entire City.—Chief Fred A. Dunlap of the Bureau of Water, announced at the meeting of the Finance Committee (City Councils) on November 21, that the entire city is now receiving filtered water. The last section supplied lies between Fairmount Park on the west, Pennsylvania Avenue and Aspen Street on the south, Twenty-Seventh Street to Ridge Avenue, the Pennsylvania Connecting Railroad and Sydenham Street east and Allegheny Avenue north. The Queen Lane filter plant supplies this territory and its beds have a capacity of 70,000,000 gallons daily. The plant is not running to its full capacity and will require about $30,000 to complete, but it is supplying ample filtered water. The plant has cost about $2,000,000.

GENERAL

Tri-State Society Meeting.—The twenty-eighth annual meeting of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee was held in Memphis, November 21-23, and the following officers were elected: president, Dr. Charles M. Lutterloh, Jonesboro, Ark.; vice-presidents, Drs. Edwin Wright, Sardis, Miss.; John F. Sanders, Blytheville, Ark., and W. H. Tucker, Jr., Halls, Tenn.; secretary, Dr. J. H. Eugene Rosamond, Memphis (reelected), and treasurer, Dr. James A. Vaughan (reelected). Resolutions offered by Dr. William Krauss, Memphis, indorsing Surgeon Joseph H. White, U. S. P. H. and M.-H. Service, for the position of surgeon-general of that service, were unanimously adopted.

Wyman Exercises.—Joint memorial exercises for the late Surgeon-General Walter Wyman, U. S. P. H. and M.-H. Service, were held by the San Francisco Medical Society and citizens of the health committee in Lane Hall, San Francisco, December 3, at which addresses were made by Dr. George H. Evans, San Francisco; Hon. C. C. Moore, and Passed Assistant Surgeon William Colby Rucker, U. S. P. H. and M.-H. Service.——The funeral services of Dr. Wyman were held in St. Louis, November 24, from the First Presbyterian Church. Drs. Benjamin M. Hypes, Robert C. Atkinson, Joseph R. Lemen, William A. McCandless, Walter B. Dorsett and George Homan were active pallbearers, and the honorary pallbearers were: Dr. George Dock, dean of the medical department of Washington University; Dr. George R. Lyon, dean of the medical department of St. Louis University; Dr. James Moores Ball, dean of the American Medical College; Dr. R. E. Schlueter, president of the St. Louis Medical Society; Dr. James Stewart, medical director of the Board of Education; Dr. William H. Luedde, president of the Medical Society of the City Hospital Alumni; Frank J. Hiller, secretary of the State Board of Health, Jefferson City; Dr. Frank C. Robinson, president of the State Board of Health, Kansas City; Dr. Max C. Starkloff, health commissioner of St. Louis, and member of the Board of Health Commissioners; Dr. C. H. Shutt, hospital commissioner of St. Louis; Dr. Harvey G. Mudd, president of the United States Medical Reserve Corps; Dr. Benjamin S. Warren and Dr. Harry C. Wakefield of the local United States Public Health and Marine-Hospital Service; Dr. George A. Stewart, president East St. Louis Medical Society; Dr. Frank J. Lutz, St. Louis, of the Board of Trustees of the American Medical Association; Dr. Frederick C. Simon, president of the Medical Alumni Association of Washington University; Dr. Major G. Selig, secretary of the Medical History Club; Dr. Norman B. Carson of the St. Louis Medical Library Association; Dr. Edward W. Schauffler, Kansas City, president of the Board of Directors of the State Sanitarium for Consumptives at Mount Vernon; Drs. Robert H. Goodier, Hannibal, president of the State Medical Association; Edward T. Evers, Thomas A. Hopkins, Edward J. Goodwin, Otto A. Wall, Otho F. Ball, Ralph E. Niedringhaus, Granite City, and William Porter, St. Louis.——The members of the St. Louis Medical Society and Society of City Hospital Alumni attended the funeral in a body. Drs. Benjamin M. Hypes, Otto A. Wall and Frank J. Lutz were appointed a special memorial committee for the St. Louis Medical Society, and Drs. George Homan, Walter C. G. Kirchner and William S. Deutsch, a similar committee for the

Society of the City Hospital Alumni.——A special memorial number of the *Weekly Bulletin of the St. Louis Medical Society* is to be issued in memory of Dr. Wyman.——The Amherst Alumni Association of St. Louis, at a special meeting, adopted resolutions setting forth the regret of its members at learning of the death of Dr. Wyman, and lauding his distinguished services to the government, the medical profession and the cause of humanity.

LONDON LETTER

(From Our Regular Correspondent)

London, Nov. 25, 1911.

The National Insurance Bill

The profession is still much exercised by the national insurance bill, which is making a steady but stormy passage through parliament. Meetings have been held throughout the country, strongly condemning the bill, and at several of them resolutions have been unanimously passed by all of the local practitioners declining to act under the bill unless the six points demanded by the British Medical Association (described in previous letters to The Journal) are granted. At a meeting in Manchester of the practitioners of Lancashire and Cheshire, of whom 1,100 attended, it was resolved that "the bill as at present framed does not satisfactorily embody the demands of the profession, that the scheme of the bill is at present unworkable and will create a condition of affairs not only detrimental to the medical profession but also dangerous to the public. Therefore, this meeting expresses its determination in the event of the bill becoming law in its present form, to unite with the whole profession in declaring its inability to undertake the duties which the bill proposes to assign to it." Following meetings of the divisions of the British Medical Association a meeting is to be held in London of the representatives of those branches from the whole of the United Kingdom. The object is to consider the bill as amended in the committee of the House of Commons.

From hospital managers also comes a strong note of opposition to the bill, which they believe will seriously injure their finance. Every day conferences of managers are held in the large cities at which identical resolutions are passed. Unlike the system which prevails on the continent of Europe the hospitals in this country are not subsidized by the state but are supported wholly by voluntary subscriptions. The motive of the subscribers is to provide the special treatment required by poor persons who may be able to pay for ordinary medical treatment but are unable to pay for this. The bill, while providing for the ordinary medical treatment of 15,000,000 persons, makes no provision for the hospital treatment which at the cost of many millions of dollars, to say nothing of the gratuitous services of specialists, is now provided by private effort. The subscribers, who are now taxed by the bill, will in many cases think that as the state has chosen to provide domiciliary treatment as well as to pay a weekly allowance to the sick, it ought to undertake some of the cost of hospital treatment—that it ought at least to pay to the hospital the weekly allowance of about $2 which is paid to the sick person. For the hospital treatment of the insured persons it is estimated that 30,000 beds will be required.

The Falling Birth-Rate

The quarterly return of vital statistics which has just been issued shows a remarkable decline in the "natural increase" in the population of England and Wales; and once more the lowest birth-rate on record is reported. During the third quarter of the present year there were only 81,645 more births than deaths, as compared with 123,300 in the third quarter of 1908, 124,054 in 1909, and 123,022 in 1910. The births registered in the third quarter of 1911 numbered 222,601 and were in the proportion of 24.4 annually per 1,000 of the population; that is 2.9 below the mean birth-rate of the ten preceding third quarters. This is the lowest rate reported since the establishment of civil registration. The deaths in the third quarter of 1911 numbered 140,956 and were in the proportion of 15.5 annually per 1,000 persons living. This rate is 1.7 above the mean rate in the ten preceding third quarters. A remarkable fact is that, notwithstanding the abnormal meteorologic conditions of the third quarter, the almost unprecedented heat and the disturbance of the milk-supply in consequence of the railway strike during the period of maximum seasonal mortality from diarrhea, the infant mortality in London was lower than in any corresponding period of eighteen of the forty-one preceding years, while in the other great towns it was lower than in nineteen out of these forty-one years.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Nov. 17, 1911.

Bill With Regard to Migratory Physicians

The committee of the Association syndicale des médecins de Meurthe-et-Moselle demands the passage of a law requiring a migratory physician to deposit at the préfecture of the department in which he means to practice, at least two days before beginning practice, his diploma, or a legally certified copy thereof, his own photograph, the declaration of his domicile and the name of the locality where he intends to practice temporarily. He should, at the same time, present a receipt for a supplementary license fee for temporary practice, which should be renewed each year on his return to this commune. If during the same year he wishes to practice in other localities of the same department, he should also deposit notice at the préfecture and present receipts for corresponding supplementary licenses. Repeated infractions of the law should be punished by withdrawal of the right to practice in the department under the same penalty as illegal practice of medicine.

The Radium Building

Mme. Curie has just requested the architect of the Sorbonne who constructed the "radium palace" to annex to this building a laboratory for instruction. Originally the "radium palace" consisted only of a study laboratory. The Pasteur Institute was to contribute $80,000 (400,000 francs) to the expense of the construction and the Université de Paris, $56,000. The new laboratory required by Mme. Curie, which would accommodate forty students, requires an expense of about $8,000. The Université de Paris will be asked for this new sum.

Death of M. Henri Monod

M. Henri Monod, former director of the public charities and hygiene in the ministry of the interior and member of the Académie de médecine, has just died, aged 68.

Reform of Criminal Statistics

The administration of the penal system, which is at present under the ministry of the interior, has just been placed under the department of justice. Consequently the minister of justice has decided to keep together the criminal statistics, properly speaking, and the prison statistics, which have hitherto been kept separately. The criminal statistics will continue to furnish the nature and the number of infractions of the law, etc.; the prison statistics will present all details with regard to the life of the prisoner during his incarceration and will throw light especially on relapses into criminality. The first will apply particularly to the crime and the second to the delinquent. The minister of justice believes that the moment has come to complete these two classes of statistics with the addition of a third element, that is, biologic investigation with regard to each prisoner and by the establishment of individual records, a comparison of which will make possible valuable contributions to the cause of criminality. A statistical work of this kind can be usefully accomplished only in a clinic of crime—a kind of laboratory of criminal anthropology. To organize the service a special commission has been formed, consisting of Dr. Landouzy, dean of the Faculté de médecine de Paris, Dr. Thoinot, professor of legal medicine, and Dr. Gilbert Ballot, clinical professor of mental diseases at the same university, among others.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Nov. 16, 1911.

Personal

Professor Ebstein of Göttingen will celebrate his seventy-fifth birthday, Nov. 27, and Professor Schatz, formerly head of the gynecologic clinic at Rostock, will celebrate his seventieth birthday, Nov. 17.

Professor Bernhard Fraenkel

On Nov. 11, Professor Bernhard Fraenkel, the noted senior of laryngologists, died in Berlin at the age of nearly seventy-five. For more than a year he had suffered from attacks of edema of the lungs and such an attack was the cause of his death. In spite of this disease which was aggravated by gout he was intellectually fresh and eager to work to his last day. Admiration was excited by the way in which he presided at the International Congress of Laryngology in September. In

Fraenkel one of the most distinguished personalities of the University of Berlin has passed away. He was a witness of the great past of our university. Fraenkel was endowed with a high degree of originality, with a rare talent for organization, with a many-sided knowledge of affairs and an intimate knowledge of men. With these faculties he did not limit himself to his specialty, but carried on a successful activity in many fields of public philanthropy. Especially he devoted his powers for decades to the campaign against tuberculosis. He was one of the founders of the sanatorium movement and was a member of the executive committee of the international association for the campaign against tuberculosis, and of the German central committee for the campaign against tuberculosis and of the executive committee of the great Belzig sanatorium for pulmonary invalids, near Berlin. For many years he was secretary of the local medical society, the Berliner medizinische Gesellschaft, and he contributed very greatly to the prosperity of this, the largest medical association of Germany. In this active life he was in intimate association with Virchow, who, as is well known, held the presidency of the society for several decades. Fraenkel enjoyed the most friendly relations also with many other noted men of the medical profession and of other societies, particularly with Leyden, Robert Koch, v. Bergmann. Althoff, the former minister of finance, v. Miquel, whose physician he was, and others. His importance in his special branch is generally known and recognized.

Fraenkel began his professional career as a general practitioner in northern Berlin. After he had taken part in the three German wars, 1864, 1866, and 1870-71, and returned from the Franco-Prussian war with the decoration of the Iron Cross, he joined the faculty as privat-docent for internal medicine. He first gave instruction in pediatrics and later devoted himself to laryngology and founded a private clinic for diseases of the throat and nose, which was the first of its kind. By his indefatigable energy he succeeded in increasing the importance of this department in the university, and in 1887 his private clinic was transformed into a university institute, the supervision of which was given to him as professor extraordinary. In 1893 the university policlinic was raised to the rank of a clinic for laryngology. Among the numerous articles which he has published in the field of laryngology, his work on cancer of the larynx deserves especial notice. He has written a number of comprehensive monographs, including a text-book of "General Diagnosis and Treatment of the Nose and Upper Air Passages," the section, "The Nose," in Ziemssen's "Handbuch der Pathologie und Therapie," "Scrofulosis and Tuberculosis" n Gerhardt's "Handbuch der Kinderkrankheiten," "Methods of Examination of the Larynx and the Air Passages," in Heymann's large "Handbook of Laryngology and Rhinology," and up to his death he was editor of the *Archiv für Laryngologie*, and also was one of the founders and editor of the *Zeitschrift für Tuberkulose* and of the international journal *Tuberculosis*. His clientele was extraordinarily large and his patients clung to him with genuine affection. This devotion and the high esteem in which he was generally held were manifest also t his funeral.

Accident to Professor Neisser at Breslau

Professor Neisser while examining the ground that is to erve for the special exhibition of the Deutsche Gesellschaft ur Bekämpfung der Geschlechtskrankheiten (the German society for the campaign against venereal diseases), fell into a cellar it and broke his left femur at the upper third. While the light diabetes with which Neisser is affected may retard ecovery somewhat, the prognosis is still good. At any rate t will be months before he has fully recovered. There is no oubt that so active a spirit as that of Neisser will find a ong rest in bed tedious, although he will surely find some ufficient employment during this involuntary period of rest. ven on the morning after the accident he could not refrain rom arranging certain affairs by dictation and conversation. rofessor Bruck has undertaken to represent Neisser in the onduct of his academic work and his private practice.

Expedition for the Study of Sleeping Sickness

Professor Nocht of Hamburg sailed November 1 for German ast Africa. Here the expedition will attempt the destruction of the tsetse flies and anopheles with the apparatus vented by a member of the Bavarian paraliament, Eugen lbresch, which has been very successful in fighting slugs nd other parasites on plants. The leader of the campaign gainst sleeping sickness in German East Africa, staff sureon (Stabsarzt) Professor Kleine is in Europe on leave of bsence and has gone to London for consultation with his nglish colleagues in his specialty. Kleine has cleared up the question of the sexual development of the sleeping-sickness germ in the tsetse fly, and has thus decided a question with which the foremost English investigators have been busy for the last fifteen years. The labors of Professor Kleine have opened the way for further investigations of sleeping sickness, a fact that has received unstinted appreciation from the English scientists.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Nov. 15, 1911.

The New Clinics in Vienna

On Saturday, November 4, the three new clinics were opened officially, and a number of invited guests, as well as the profession as a body, were present at the ceremony. This day is very naturally an important one for the entire Austrian medical profession, for the bulk of our physicians get their education and their final professional polish in the Vienna hospitals. For the next thirty years or so all this will take place in the above-mentioned institutions. After the ceremony, those present were shown over the clinics.

The first medical clinic, whose head is the well-known Professor von Noorden, covers an area of over 2,400 square yards, and consists of a main building, five stories high and two wings, each three stories high. The clinic has 100 beds, divided up into wards of from twelve to sixteen beds, and several rooms with one or two beds, and will be devoted to nervous diseases and disturbances of metabolism (diabetes, gout, rheumatism and adiposity). For the latter purpose, a special dietetic kitchen has been provided, wherein the food will be prepared according to the requirements of individual patients. As it is estimated that 50 per cent. of the in-patients will belong to this class, this kitchen will be very useful. It is intended to give physicians good and thorough theoretical and practical instruction in the requirements of the dietetic régime for both health and disease. This kitchen is the only one of its kind in Europe, and is a distinct feature of the clinic, as is the department for physical therapeutics, also a new departure for Austria. The latter contains tubs for sand and mudbaths, apparatus for electric and mechanical treatment and gymnastic and hydrotherapeutic procedures. An x-ray department, a department for electric treatment of nervous diseases and out-patient departments are located in the wings of the building. Special attention is paid to the chemistry at the bedside. One large laboratory and two smaller ones are provided for and most lavishly equipped, as is everything pertaining to the new clinics. A large lecture hall, built like an amphitheater, accommodating 256 students, forms the center of the clinic, together with a microscopic laboratory and a spacious library. The staff of the clinic, which will consist of twenty physicians, is accommodated in the house, as well as thirty-seven nurses. Part of the roof will be used as a garden and for open-air treatment; part of it for stabling for the animals of the experimental laboratory, another important addition to the clinic.

The second clinic is that devoted to the study and treatment of diseases of children, under the direction of Professor von Pirquet, whose method of cutaneous examination for tuberculosis has made his name familiar to the profession. He previously occupied a similar position in Baltimore. His clinic consists of a main building and two isolation pavilions, one for scarlet fever and the other for diphtheria. The main building contains, among other things, a small dietetic kitchen and rooms for the cleaning and sterilizing of bottles for milk, for the clinic will not only supply its own inmates with the necessary milk, but it will also deliver milk to the babies in the obstetric wards. A very interesting part of the clinic is the out-patient department on the ground floor. Here special precautions had to be taken to avoid as far as possible the danger of transmission of contagious diseases. The child, with its mother or other companion, is brought first to the porter's hall, where it is inspected at once by an experienced matron. Suspicious cases are sent to the "observation" station, consisting of a number of small cells and a physician's room. The child enters a freshly disinfected cell, is examined by the physician, and if found infectious leaves the cell by a special exit to one of the isolation pavilions; if diagnosis cannot be made at once, it is sent to the observation ward, a dozen cells, six on each side of a long corridor, called the "clean corridor." The cells are built of glass plates and iron and can be entered only from another outer corridor, the "infected corridor." The "clean corridor" serves only for visits by the patients' friends and for the students who can study the cases without any danger of transmission of disease. Each row of glass cells contains, in the middle, a nurse's cell, elevated by ½ yard, so that she has good oversight over the cells. Each patient's cell is, in fact, a ward; it is over 4 yards high and nearly 3 yards square. There is ample provision for disinfection in this station. If, however, a child is found to be non-infectious, it is sent to the general waiting-room, where similar diseases are grouped and treated together. A small dispensary gives remedies at a nominal cost or free of charge to those in bad circumstances. The in-patients are located on the two upper floors of the clinic. Wards with from 6 to 14 beds each are provided. A lecture hall for 200 students with special arrangements for the demonstration of children's diseases, a library, physicians' and nurses' rooms, a small infants' ward for seventy babies, "boxes" or *couveuses* for six prematurely born babies, and a hall for wet nurses, fill up the large building, which has sixty six beds for children. A small photographic and gymnastic department also belongs here. The pavilions for diphtheria and scarlatina are alike, each having twenty-two beds, and provide arrangements for the change of clothing of the physicians and nurses, and for disinfection. A subterranean passage permits of communication with the main building.

The clinic of Professor Chiari, the last of the trio, is smaller than the others. It has only fifty beds. Special attention has been paid to the lecture room and to the arrangements for teaching, as in this branch (laryngology) each student must see the cases separately. Twenty persons can be examined at the same time in the classroom, and four operations can go on simultaneously in the surgery. The arrangement for sterilization of the instruments (mirrors) used is simple and ingenious. They are placed in a cup made of wire, which is dipped into a receptacle containing constantly boiling water. Out of this receptacle the cup may be taken whenever wanted, and placed in another solid nickel cup at the table of the physician; a double set of instruments makes possible rapid, uninterrupted working. Operative classes, diagnostic classes, as well as regular treatment go on without delay, as there is plenty of space and material. More than 12,000 fresh cases are seen here yearly, so that the work done is enormous. Special operation theaters are provided for the larger operations, as well as a laboratory and an *x*-ray department, and a room for bronchoscopy and esophagoscopy.

These clinics are really the most modern and up-to-date institutions, forming the results of cooperation of experimental builders, architects and scientists with the respective professors, so that the outcome, adapted to the highest expectations, is the best that could be wished. For years to come these clinics will be the models for hospital building, a Mecca for all hospital committees. But there is a drawback; they have been very expensive, and a single patient costs the hospital nearly $1.50 a day, as the upkeep and management of the clinics is very dear. Heating and lighting is on the central system. Hot air is generated in the machine-room, where also electric power is generated for the numerous lamps. Only in the throat clinic is gas used for the lamps at the examination tables. A liberal number of nurses, a large medical staff and an ample outfit tend to increase the constant cost of these otherwise excellent clinics.

Marriages

James Edward Hobgood, M.D., Caroleen, N. C., to Miss Maude Weaver of Thermal City, N. C., November 29.

Charles B. Jones, M.D., Sacramento, Cal., to Miss Florence Pearson Johnson of Starbuck, Wash., November 15.

Bernard M. Jackson, M.D., Kansas City, Mo., to Miss Antoinette Gutinann of Butte, Mont., November 15.

Charles Connor Murphy, M.D., Amityville, N. Y., to Miss Gertrude Dunn of New Haven, Conn., November 6.

John Joseph Gaines, M.D., Excelsior Springs, Mo., to Miss Edith Cheyney of Glenwood, Iowa, November 15.

Peter Boysen, M.D., Pelican Rapids, Minn., to Miss Helen Dorothea Elberg of Minneapolis, November 22.

Ernest Harrison Rowe, M.D., Baltimore, to Miss Nina Grace Horner, at Baltimore, November 23.

James W. Miller, M.D., Cincinnati, to Miss Elenora Bumpus of Hartwell, Ohio, November 22.

George P. McNeil, M.D., to Mrs. Josephine D. Valentine, both of Sedalia, Mo., November 18.

Frederick L. Wright, M.D., to Miss Georgie Ellingham, both of Mariposa, Cal., recently.

Deaths

David Richard Fly, M.D. Kentucky School of Medicine, Louisville, 1894; elected president of the State Medical Association of Texas at its 43rd annual meeting at Amarillo, May 11, 1911; died in St. Joseph's Sanitarium, Fort Worth, November 30, aged 46. Immediately after graduation, Dr. Fly entered general practice in Fort Worth and on the organization of the Medical Department of Fort Worth University, he became demonstrator of anatomy and chief of clinics of that institution. He was also city physician of Fort Worth from 1895 to 1897. In 1900 Dr. Fly was obliged to remove to the Panhandle of Texas on account of ill health, and located at Amarillo. He was made local surgeon for the Rock Island and Fort Worth and Denver Railroad and consulting surgeon to the Santa Fe System; for two years after his removal to Amarillo, Dr. Fly was lecturer on physiology and hygiene in the Amarillo College. He was instrumental in locating the Hospital of the Sisters of the Incarnate Word in Amarillo, and was a member of the staff of that institution. For many years Dr. Fly was interested in organized scientific medicine; he was one of the founders of the old Panhandle District Medical Association and for six years its president. Since 1903 he has been councilor of the Panhandle District and for a year served as chairman of the committee on public lectures of the association and also as chairman of the committee of legislation and municipal regulation of the Texas Antituberculosis Association.

Alfred Cochran Lambdin, M.D. University of Pennsylvania, Philadelphia, 1866; a veteran of the Civil War and a practitioner of Germantown until 1870, when he gave up practice to enter newspaper work; first managing editor of the Philadelphia *Times*, then associate editor of the *Times-Public Ledger*, and since 1904 editor-in-chief of the *Philadelphia Public Ledger*, widely known as a dramatic, art and musical critic and writer; died at his home in Philadelphia, November 8, from heart disease, aged 65.

Francis Schill, M.D. University of Freiburg, Germany, 1881; a member of the American Medical Association; treasurer of the Cambria County (Pa.) Medical Association; a member of the board of managers and of the consulting staff of the Conemaugh Valley Memorial Hospital; a member of the board of health of Johnstown; assistant surgeon of the One Hundred and Seventh Ohio Volunteer Infantry during the Civil War; died at his home, November 14, from senile debility, aged 80.

John Boynton Palmer, M.D. New York Homeopathic Medical College, New York City, 1892; professor of diseases of the nose and throat in the New York Medical College and Hospital for Women; attending physician to the New York Ophthalmic Hospital and consulting physician to the Volunteer Hospital and the Hospital of the Five Points House of Industry; died at his home in New York City, October 30, from arteriosclerosis, aged 47.

Passed Assistant Surgeon Ransom Edwards Riggs, U. S. Navy, died on board the *U. S. S. Ohio* in Hampton Roads, Va., November 17, from acute gastritis, aged 38. Dr. Riggs was a graduate of the Medical College of South Carolina, Charleston, in 1899. He entered the Navy in 1903 and after duty at the Museum of Hygiene and Naval Medical School, Washington, and the Naval Hospital, Port Royal, S. C., was assigned to duty on the *Ohio*.

Gustavus H. Fuerbringer, M.D. Hahnemann Medical College, Philadelphia, 1872; a member of the American Medical Association, and a member and president of the board of education of Saginaw, Mich., from 1895 to 1901; died at his home in Saginaw, November 11, from pneumonia, aged 57. At a meeting of the West Side Board of Education, November 13, resolutions were adopted laudatory of the personality and character of Dr. Fuerbringer.

Monroe Dixon McClain, M.D. University of Arkansas, Little Rock, 1902; a member of the American Medical Association; assistant in genito-urinary diseases in his alma mater; state physician of the Modern Woodmen of America; died at his home in Little Rock, November 13, from pneumococcus meningitis, following an injury received in a collision between his automobile and a mail wagon, five days before, aged 39.

John Henry Miller, M.D. Bellevue Hospital Medical College, 1896; a member of the American Medical Association and secretary of the Niagara County (N. Y.) Medical Society and Niagara Falls Academy of Medicine; died at his home in Niagara Falls, November 10, from double pneumonia, six days after a cerebral hemorrhage, aged 50.

Lewis Jackson Baker, M.D., Jefferson Medical College, 1875; formerly a member of the American Medical Association; a pioneer member and formerly president of the Wapello County (Ia.) Medical Society; for several years city physician of Ottumwa; died at the home of his daughter in Somers, Mont., November 8, from cerebral hemorrhage, aged 61.

George W. Roberts, M.D. Rush Medical College, 1869; a member of the American Medical Association; for more than forty years a practitioner of Albany, Wis., and for several years vice-president of the Exchange Bank of Albany; died in a hospital in Madison, November 8, from septicemia, following an operation for abscess of the leg, aged 70.

Frank W. Graham, M.D. St. Louis College of Physicians and Surgeons, 1883; director of the White Cloud Hospital and Sanatorium, Ludington, Mich.; for four years mayor of Ludington and president of the board of trade for two terms; died suddenly in a store in Ludington, November 6, from cerebral hemorrhage, aged 55.

David Putney Goodhue, M.D. Dartmouth Medical School, Hanover, N. H., 1863; a member of the American Medical Association; and president of the New Hampshire Medical Society in 1895; acting assistant surgeon, U. S. Navy during the Civil War; died at his home in West Springfield, N. H., November 5, aged 73.

George Allen Brug, M.D. Medical School of Maine, Brunswick, 1875; a member of the Rhode Island Medical Society; for many years a practitioner of Providence, R. I.; major and surgeon of the First Rhode Island Light Infantry; died at his summer home in Chilmark, Mass., November 12, from cerebral hemorrhage, aged 58.

Thomas H. McGann, M.D. Dartmouth Medical School, Hanover, N. H., 1876; a member of the Medical Society of the State of New York, and for many years a practitioner of Wells, and surrogate and county judge of Hamilton County; died at his home in Gloversville, N. Y., November 8, from myocarditis, aged 59.

John Faraday Oaks, M.D. College of Physicians and Surgeons, New York City, 1871; a specialist on diseases of the eye, ear, nose and throat; for several years a resident of Chicago and later of Dubuque, Iowa; died at his home in Cincinnati, August 11, from cerebral hemorrhage, aged 61.

Hugh Blake Williams, M.D. Tulane University, New Orleans, 1884; a member of the American Medical Association; assistant surgeon to the eye department of the Illinois Charitable Eye and Ear Infirmary; died at his home in Chicago, December 4, from cerebral hemorrhage, aged 51.

Rufus D. Jacobs, M.D. University of Wooster, Cleveland, 1869; Medical College of Ohio, Cincinnati, 1886; of Vinton; a member of the Ohio State Medical Association; fell from a train at Vinton, October 27, and was run over, dying a few hours later from his injuries, aged 78.

Charles Reade Gould, M.D. Dartmouth Medical School, Hanover, N. H., 1866; a member of the American Medical Association; for many years a member of the board of health of Tilton, N. H.; died at his home in that place, November 11, from cerebral hemorrhage, aged 69.

John Joseph McAvoy, M.D. Bellevue Hospital Medical College, 1895; a member of the Massachusetts Medical Society; for three terms city physician of Lawrence, and at one time a member of the board of education; died at his home, November 12, from heart disease.

William D. Barclay, M.D. Hospital College of Medicine, Louisville, 1890; a member of the Missouri State Medical Association; local surgeon at Odessa for the Chicago and Alton Railway; died at his home, November 14, from pneumonia, aged 42.

Alexander Lane, M.D. Rush Medical College, 1895; a well-known colored practitioner of Chicago; once assistant physician of Cook County and a member of the legislature; died at his home in Chicago, November 13, from disease of the lungs, aged 52.

Louis Fleckenstein, M.D. Detroit College of Medicine, 1889; of Vernon; a member of the Michigan State Medical Society; at one time postmaster of Port Hope; died at his home in Detroit, November 14, from cerebral hemorrhage, aged 55.

Harry Victor Harbaugh, M.D. University of Maryland, Baltimore, 1907; of East Newmarket; a member of the Medical and Chirurgical Faculty of Maryland; died in the Cambridge (Md.) Hospital, November 10, from pneumonia, aged 28.

Joseph E. Perry, M.D. University of Tennessee, Nashville, 1887; of Wellborn, Fla.; died in a sanatorium in Atlanta, Ga., November 4, aged 50.

Charles Patton, M.D. Louisville Medical College, 1888; a member of the Indiana State Medical Association and Æsculapian Society of the Wabash Valley; died at his home in Terre Haute, November 17, from heart disease, aged 46.

Joseph Waldauer, M.D. Louisville (Ky.) Medical College, 1894; a member of the American Medical Association; health officer of Warren County, Miss.; died at his home in Vicksburg, November 10, from uremia, aged 48.

Edward R. Close (license, Michigan, years of practice, 1900); for forty-five years a practitioner; a member of the Antrim County Medical Society; died at his home in Bellaire, July 8, from chronic nephritis, aged 77.

James W. Vander Voort, M.D. Medical College of Ohio, Cincinnati, 1863; Bellevue Hospital Medical College, 1869; died at his home in Harveysburg, Ohio, November 11, from cerebral hemorrhage, aged 77.

John G. Knowles, M.D. Vanderbilt University, 1907; of Ninock, La.; died in the Schumpert Memorial Sanitarium, Shreveport, La., May 9, after an operation for intestinal obstruction, aged 32.

Samuel Edward Hawes, M.D. Louisville (Ky.) Medical College, 1881; a member of the Nebraska State Medical Association; died at his home in Fairbury, November 12, from heart disease, aged 51.

James Burl Kelley, M.D. College of Physicians and Surgeons, San Francisco, 1901; formerly of Brownsville, Ore.; died recently at his home in Portland, Ore., and was buried October 30, aged 52.

Osmer Letson (years of practice—six years—Michigan, 1900); formerly an inmate of the Soldiers' Home, Grand Rapids; died suddenly at the home of his daughter in Covert, October 22.

William Thomas Jones, M.D. Jefferson Medical College, 1883; a member of the American Medical Association; died suddenly in his office in Georgetown, Texas, November 11, aged 58.

Bernhard Krause, M.D. University of Göttingen, Germany, 1853; one of the oldest practitioners of Cleveland, Ohio; died suddenly at his home, November 17, from heart disease, aged 80.

Jesse Reagan, M.D. Medical College of Ohio, Cincinnati, 1856; a surgeon of volunteers during the Civil War; died at his home in Plainfield, Ind., November 10, from senile debility, aged 86.

Benjamin Brown, M.D. Medical College of Virginia, Richmond, 1899; formerly a member of the American Medical Association; died at his home in Nokesville, Va., November 14, aged 34.

Edward Sanderson McKean, M.D. University of Virginia, Charlottesville, 1881; a member of the Medical Society of Virginia; died at his home in Goshen Bridge, November 13, aged 60.

John D. Overholser, M.D. Rush Medical College, 1901; of Milledgeville, Ill.; a member of the American Medical Association; died recently and was buried at Milledgeville, November 12.

Elver Garrison, M.D. Barnes Medical College, St. Louis, 1896; a member of the Illinois State Medical Society; died at his home in Greenup, February 9, from cerebral hemorrhage.

Herbert Wallace Hatch, M.D. Cooper Medical College, San Francisco, 1893; of Oakland, Cal.; died in the new Providence Hospital, Seattle, Wash., October 28, aged 42.

David Harlow Riegle, M.D. Starling Medical College, Columbus, O., 1898; died at his home in Kansas City, Mo., October 29, from edema of the brain, aged 40.

Lars P. Jacobson, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1898; died at his home in Kankakee, Ill., November 6, from heart disease, aged 57.

Samuel McCurdy, M.D. Cooper Medical College, San Francisco, 1872; of Santa Ynez, Cal.; died in a sanatorium in Berkeley, October 25, aged 64.

Alfred B. Nash, M.D. University of Pennsylvania, Philadelphia, 1876; died at his home in Frenchtown, N. J., March 13, from tuberculosis, aged 58.

Jason Chaney, M.D. Kentucky School of Medicine, Louisville, 1877; died at his home in Senath, Mo., Nov. 2, 1910, from pneumonia, aged 58.

Charles F. Myers, M.D. New York Homeopathic Medical College, New York City, 1882; died at his home in New York City, August 22, aged 65

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

PRELIMINARY REPORT OF THE COMMITTEE OF THE COUNCIL ON PHARMACY AND CHEMISTRY ON IMPORTANT DRUGS

The Council on Pharmacy and Chemistry, in response to a number of requests, has undertaken the compilation of a list of the admittedly more important drugs which might serve as a basis for instruction in medical schools and in the preparation of examination questions for license to practice. The desirability of laying special emphasis on the really important drugs in teaching and in state examinations has been emphasized by teachers in medical schools and also by members of the National Confederation of State Medical Examining and Licensing Boards, who have gone on record as favoring the restriction of questions in materia medica subjects to a limited list of important medicaments with which all students and practitioners should be thoroughly familiar.

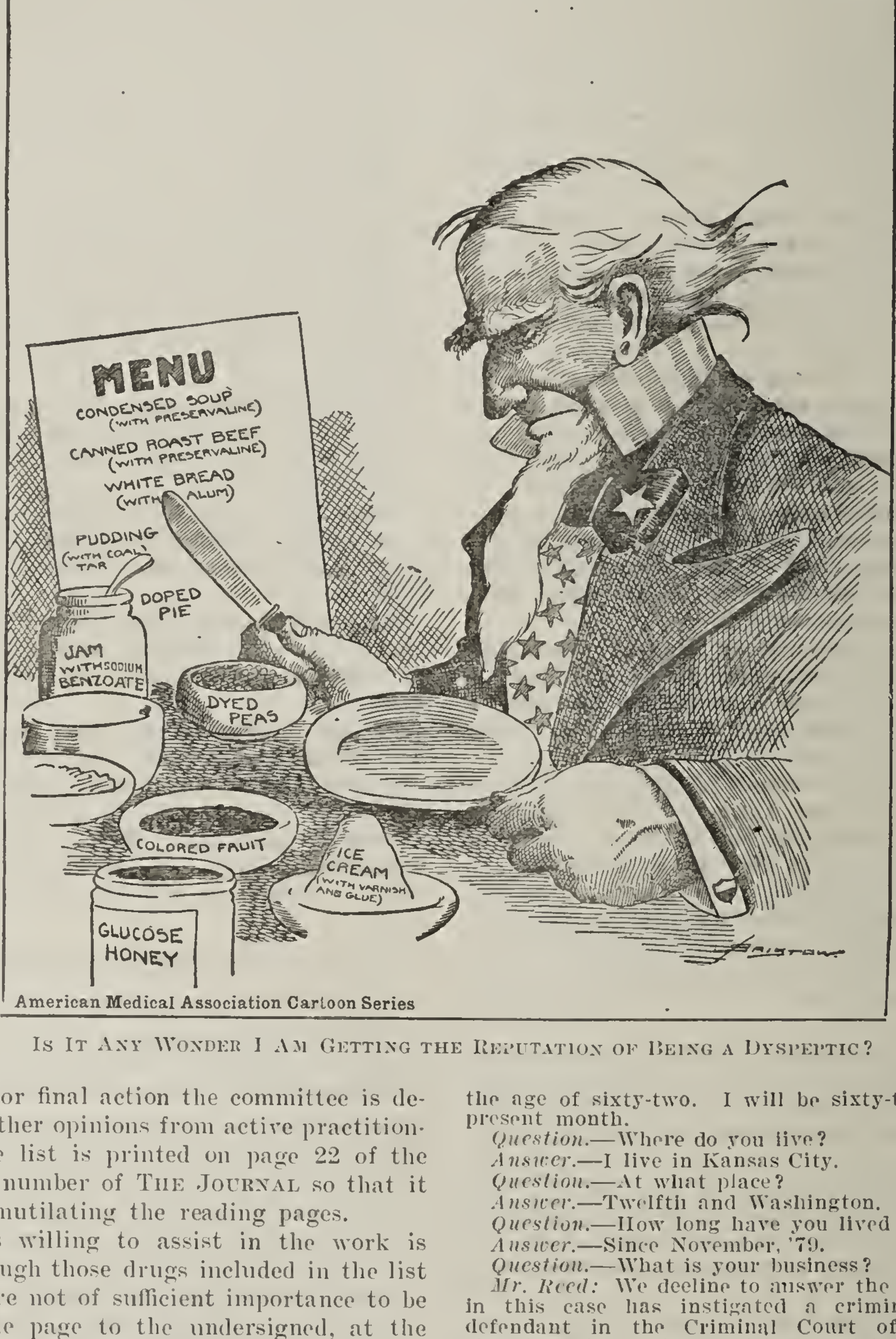
A number of tentative lists of this character have been prepared both in the United States and in England. A composite of these was submitted to a large number of teachers of materia medica and therapeutics, to members of state examining boards, and to others; the consensus of opinions received in reply is shown in the list referred to below; there was practical unanimity in favor of including those titles printed in solid capitals and a large majority in favor of including the others.

Before submitting the list to the Council on Pharmacy and Chemistry for final action the committee is desirous of obtaining still further opinions from active practitioners. For this purpose the list is printed on page 22 of the advertising section of this number of The Journal so that it may be detached without mutilating the reading pages.

Every physician who is willing to assist in the work is invited to draw a line through those drugs included in the list which, in his estimation, are not of sufficient importance to be retained, and to return the page to the undersigned, at the same time sending a list of such drugs as he may think should be added.

It may be repeated that it is not the purpose to prepare a list of all drugs of value, but simply a list of those which are recognized as being of such importance that all graduates in medicine and all applicants for license to practice may reasonably be expected to be familiar with them.

Reid Hunt, M.D., Chairman, Washington, D. C.
Hygienic Laboratory, 25th and E Sts., N. W.



American Medical Association Cartoon Series

Is It Any Wonder I Am Getting the Reputation of Being a Dyspeptic?

C. H. CARSON—QUACK

Some Sworn Testimony Regarding His Professional and Educational Qualifications

In the Editorial Department of this issue, we have something to say about the Kansas City quack, C. H. Carson. The conclusions there given are based, in part, on information some of which we are about to give. Three or four years ago, George Creel, the editor of the *Independent*, exposed Carson's charlatanry and fakishness. As a "come back," Carson published statements to which Mr. Creel took exception and which resulted in Carson being sued for slander. Depositions were taken in this case from which we are going to quote somewhat extensively. It should be explained that at the same time that the testimony was being collected in this case a criminal prosecution was being brought against Carson by the state of Missouri, charging him with practicing medicine without a license. This will make clear why Carson refused to answer questions to which no reputable practitioner of medicine would have hesitated to reply. In the matter that follows, Mr. Reed, who speaks occasionally for Carson and on whose advice Carson refused to answer questions, was one of the numerous attorneys employed by this quack to defend him. The matter that immediately follows and in which Carson shows an unwillingness to state the business in which he was engaged, was elicited on direct examination by Mr. Frank P. Walsh. Mr. Walsh was the special counsel appointed by the State Board of Health to prosecute Carson for practicing medicine without a license:

CARSON'S TESTIMONY

Question — What is your name?

Answer.—C. Hiram Carson.

Question.—What does the "C" stand for?

Answer.—Just for an initial.

Question.—No name to it?

Answer.—No, sir.

Question. — C. Hiram Carson?

Answer.—That is the name.

Question.—How old are you, doctor?

Answer —I have passed the age of sixty-two. I will be sixty-three on the 22nd day of the present month.

Question.—Where do you live?

Answer.—I live in Kansas City.

Question.—At what place?

Answer.—Twelfth and Washington.

Question.—How long have you lived in Kansas City?

Answer.—Since November, '79.

Question.—What is your business?

Mr. Reed: We decline to answer the question because the plaintiff in this case has instigated a criminal prosecution against this defendant in the Criminal Court of Jackson County, Missouri, charging him with practicing medicine without a license, and the answer, if given, might be used against this witness in the criminal prosecution, and might tend to convict him in that case.

Question.—Do you advertise yourself as a divine healer?

Mr. Reed: That is objected to, and the witness declines to answer for the reason that there is a charge now pending against him in the Criminal Court of Jackson County, Missouri, instigated by the plaintiff in this case charging him with practicing the healing art, and the answer, if given, might tend to convict him of the offense charged.

Commissioner: The question was, Do you advertise yourself as a divine healer?

Answer.—For reasons stated by my attorney I refuse to answer

Question.—Do you refuse to answer as to whether you advertise yourself as a divine healer on the ground that your answer might tend to incriminate you?

Answer.—Yes, sir.

Question.—Are you a divine healer?

Mr. Reed: Objected to for the reason given before and decline to answer it for the same reason given.

Commissioner:—You decline to answer, doctor?

Answer.—Yes, sir.

Question.—Do you decline to answer the last question on the ground that your answer might tend to incriminate you?

Answer.—I do.

[Carson used to call his institution the College of Psychic Sarcology and at the same time he published an advertising sheet called the *Psychic World.* Part of the questions and answers regarding this publication follows:]

Question.—What is the College of Psychic Sarcology?

Answer (after argument).—It is an institution incorporated under the laws of the State of Missouri, as a philanthropic and educational institution.

Question.—Who is president of it?

Answer.—C. H. Carson.

Question.—Is that you?

Answer.—That's me.

Question.—Who is vice-president of it?

Answer.—R. M. Carson.

Question.—Related to you in any way?

Answer.—She is my wife.

Question.—Who is treasurer of it?

Answer.—Same party.

Question.—Your wife?

Answer.—R. M. Carson.

Question.—Who is secretary of it?

Answer.—I have just stated that; Dr. F. M. Planck.

Question (after argument).—I will ask you if Dr. Planck attends to correspondence for you?

Answer.—He does—write and dictate letters.

Question (after argument).—Does Planck write articles for you for the newspapers?

Answer.—He does not.

Question.—Who writes articles for you for the newspapers? Who do you have in your employ for that purpose?

Answer.—C. H. Carson writes most of the articles for the newspapers. I have no one in my employ to write articles for newspapers.

Question.—In this college you have spoken of, Psychic Sarcology, do you issue some kind of a publication in connection therewith?

Answer (after argument).—For the reasons given by my attorney I decline to answer the question because the answer to the question might incriminate me in a suit now pending before the Criminal Court.

Question.—Did the College of Psychic Sarcology during the present year publish a paper or a magazine?

Mr. Reed: Now we object to that as absolutely immaterial in this case.

Commissioner: Objection overruled.

Answer.—It did not. It published a circular or prospectus of the things that we teach one. Only one issue of that is in existence now.

Question.—What is the name of that?

Answer.—It is called a prospectus of the Carson College of Psychic Sarcology.

Question.—Did you employ any person or persons to write articles for that?

Answer (after argument).—Before I answer that I would like to make an answer to the court,—explanation. This prospectus was a single issue. I dictated the character of the contents and gave it to a stenographer who wrote and furnished me the material for publication in this circular and prospectus.

Question—What was the name of the stenographer?

Answer.—The name of the stenographer that wrote that.—the writer of that was Mrs. Balgue.

* * *

Question.—Do you publish a book, magazine or printing and call it the *Psychic World?*

Answer (after argument).—For reasons stated by my attorney, I decline to answer the question because there is a suit pending against me in the Criminal Court, and my answer to this question might incriminate me.

Question.—Did the College of Psychic Sarcology publish or print a pamphlet or magazine known as the *Psychic World?*

Answer (after argument).—On the advice of my attorney I decline to answer the question for the same reason that I declined to answer the preceding question.

Commissioner: If you decline to answer this you must give the reason for declining.

Answer.—It did not.

Question.—Are you acquainted with the publication called the *Psychic World?*

Answer (after argument).—I am.

Question.—Did you employ any person to write articles, including testimonials of persons alleged to have been cured of diseases by your process, and have said articles published in this publication known as the *Psychic World?*

Mr. Reed: Now we decline to answer that question for the reason that the plaintiff in this suit has caused to be instigated a criminal prosecution against the defendant, and the evidence is not intended to be used in this case, and is not being called for in good faith for use in this case,—is simply asked for the purpose of harassing and annoying the defendant and inquiring into, and because the answer, if given, might be used against him in the criminal prosecution instigated by this plaintiff, and might tend to incriminate him.

[We have referred to the "magnetized" slips of paper humbug, before. Here is what Carson himself admitted under oath regarding this picturesque fake:]

Question.—Do you give your patients slips of tissue paper and tell them if they pin them on their garments it will relieve them of disease?

Answer.—I do not.

Question.—Do you give your patients slips of tissue paper and tell them to apply them to the part affected?

Answer.—I sometimes give my patients a tissue that I prepare for the purpose of being placed on the nerve center at the base of the brain or between the shoulders and pinned there to be worn during the night and removed and destroyed in the morning.

Question.—In what way do you prepare this tissue paper?

Answer (after argument).—The tissue paper is placed between my hands. My hands possess a magnetic and electric power that seems to be transmitted to this tissue. It is placed in an envelope securely sealed, and an absolute statement made of how to use it. The statement is made on the envelope.

Question.—What is the statement of how to use it?

Answer.—The statement says: this is what I say to the patient, "Place one of these tissues between your shoulders at night."

Question.—No matter what disease the patient has?

Answer.—In case of extreme suffering place the tissue over the seat of pain. If you wish to have me state what I have been able to accomplish with it I would like to do it.

Question.—Do you place that on the seat of pain no matter where the pain is or what the character of the pain is, or what the disease is?

Answer.—I do not give these in all diseases. (After argument.) I simply state to the patients in my instructions that if they are suffering from any severe pain place the tissue over the seat of pain,—if the pain is relieved—when the pain is relieved return it where it was formerly placed.

Question.—Where do you get this tissue paper?

Answer (after argument).—It is ordered specially from a wholesale house; I don't remember the name.

* * *

Question—What do you claim that you put into this tissue paper when you pass your hands over it?

Answer.—I have answered that question before, sir.

Question.—Well, answer it again.

Answer.—I have answered that question once or twice. If you will tell me what the fox puts on the ground when he steps on the ground, and the hounds come and follow him I will tell you what I put into the tissue paper.

Question.—What do you claim that power is that you put in that tissue paper?

Answer.—Some call it vital power. Some call it magnetism.

Question.—What do you call it?

Answer.—I only know it gets results. I get the result.

Question.—In every case.

Answer.—In every case, yes, sir. I don't use this in every case, sir.

Question.—If you can get that result, why don't you use it in every case?

Answer.—I use the original hand in the treatment.

[Carson, after telling how he had cured cases of appendicitis by rubbing his hand over the patient's stomach, testified as follows:]

Question.—The real part is rubbing the hands across the stomach?

Answer.—Yes, sir; by using my vital power.

Question.—Do you have to remove their clothing to do that?

Answer.—Sometimes I do, and sometimes I don't.

Question.—Do you put anything on your hands?

Answer.—No, sir.

Question.—Do you ever use vasilin on your hands?

Answer.—Capsicum vaselin.

[The capsicum in the vaselin was responsible, of course, for the tingling sensation which the patient understood was produced by "vital force." The "doctor" also treated eczema.]

Question.—Do you treat eczema?

Answer.—I have treated eczema, but Mr. Creel cannot find, or anybody else, where I claimed that I cure anything. No person has ever been told that I cure anything. I treat successfully all diseases, as to certain diseases the newspapers may make it, but they make it without my permission. I claim to treat successfully. I claim to treat appendicitis. I have treated the disease known as eczema. Some of the most successful are simply by passing my hands liberally over the form of the disease.

Question.—Any other treatment?

Answer.—Sometimes I might use a very simple form of ointment to protect my hands from the injurious effects of the disease.

Question.—What kind of ointment?

Answer.—Might be sweet-oil.

Question.—Where do you get it?

Answer.—I usually bought it at Guernsey & Murray's.

Question.—Did you put anything in the sweet-oil?

Answer.—Sometimes might use something in the sweet-oil.

Question.—What did you put in it?

Answer.—I don't treat all cases exactly alike.

Question.—When you sometimes put something in it, what did you put in it?

Answer.—I didn't put it in the sweet-oil. I sometimes used a plain, simple ointment.

Question.—What did you put in it?

Answer.—Sometimes I used a simple ointment. There is an ointment I use sometimes; it is called cerate.

* * *

Question.—What was this simple ointment that you put on your hands?

Answer.—It is a preparation called cerate.

Question.—What is it made of?

Answer.—It is a proprietary remedy and the contents of it may not be absolutely known.

Question.—Do you know the contents of it?

Answer.—Do I know the contents? I have my opinion in regard to that. My opinion is that it is very simple, harmless and not very efficient, and would not be efficient in the hands of a doctor as a remedial agent. For the purpose I use it for, it seems to produce the result. It is a proprietary remedy.

Question.—What is your opinion of its contents?

Answer.—I said it was a very simple cerate.

Question.—What is that?

Answer.—It is the simplest kind of preparation that is made from oil—from lard—elements of lard from a hog largely, may be composed of that, and may contain the slightest tint of camphor—little odor of camphor. I am only giving an opinion; that is all I can say on the subject.

Question.—All you know, in your opinion, is that there is a little camphor in it—mostly lard?

Answer.—Well, no; not mostly lard.

Question.—Mostly camphor?

Answer.—I don't know.

Question.—What is cerate?

Answer.—It is a simple basic ointment used for various things.

Question.—Do you know of your own knowledge what is in cerate?

Answer.—No.

Question.—Most cerates are then ointments?

Answer.—Yes, sir.

Question.—Who was the manufacturer of this that you used?

Answer.—I think it was manufactured by a man by the name of Weaver.

[Much of Carson's advertising is run in the form of reading matter, being set in the same style of type and having the same general appearance as ordinary news items. The Kansas City *Journal* has long shared the illicit profits of quackery with "Dr." Carson who used that paper extensively to aid him in angling for his dupes. The following is interesting:]

Mr. Reed.—Doctor, did you have any written contract with the *Journal* with regard to you advertising with them, or was it oral?

Answer.—I have no memory of ever having had any written contract with the *Journal* for advertising. I am not able to answer that question directly. I can only say that I paid the *Journal* when they presented their bills to me to pay them.

Question.—Did you make any agreement, or did you during the month, including November 8, have any agreement with them as to the publication of matter for you?

Answer.—I have an agreement with them for publication of matter at any time.

Question.—How much do they charge you?

Answer.—They usually charge me for double ads—charge me ten cents a line—for matter they publish as reading matter they charge fifty cents a line; that is, on inside pages.

Question.—On outside pages what do they charge you?

Answer.—Until last year they charged less—a dollar and a half on the first page.

Question.—And what does the *World* charge you?

Answer.—The *World* charges me seven cents a line, I think, for display or reading. On reading matter I think they charge me inside twenty-five cents for reading matter, what they call reading matter; even common matter repeated they call reading matter.

CARSON'S ALMA MATER—THE AMERICAN HEALTH COLLEGE

[Carson claims his right to the title "Doctor" on the ground that he is a graduate of the American Health College of Cincinnati, O. In his recent letter to The Journal, he says that "the standing of the school and its right to issue diplomas" have been established. An investigation of this institution was made by the Ohio State Board of Medical Registration and Examination, several years ago. Some of the testimony taken at that investigation makes very clear the utter worthlessness of the American Health College and shows the ignorance of those conducting it. Briefly stated, the American Health College was founded and run by the picturesque old quack, John Bunyan Campbell. Campbell was the whole college and taught the "great Vitapathic system," which he originated and copyrighted! The Ohio State Board made their investigation in 1896. Campbell organized his college in 1874. It had, therefore, been in existence over twenty years at the time of the investigation. Here is what th Ohio State Board elicited from Campbell under oath:]

JOHN BUNYAN CAMPBELL'S TESTIMONY

Question.—Let me ask you one or two questions about your school, and then you can develop your system. How many teachers have you in your school?

Answer.—Well, I have been the principal teacher myself, but as I say, I am—

Question.—You fill the different chairs yourself?

Answer.—As I say, I am preparing others to take my place, as I am getting old. Then we will have a full school, of course, but I had to start this system in the first place—rather I had to revive it.

Question.—Have you no other lecturers there?

Answer.—No, sir.

Question.—Just yourself?

Answer.—Yes, sir; myself.

Question.—How long had you run this school?

Answer.—Well, that was incorporated, in the first place, in 1874.

Question.—Where was it located?

Answer.—Fairmount. [A suburb of Cincinnati.]

Question.—Have you been issuing certain announcements or circulars?

Answer.—Certainly.

* * *

Question.—Have you been graduating, or do you now graduate students and give them the degree of Doctor of Medicine?

Answer.—No, sir; we are not a medical school at all.

Question.—Not a medical school?

Answer.—No, sir; not at all. You need not examine us any further if you don't want to. We are not a medical school at all. We don't use "M.D."

Question.—Do you issue any certificate or diploma?

Answer.—Certainly we do—our school.

* * *

Question.—You say that you don't conduct a medical school?

Answer.—No, sir.

Question.—Did you publish this paper?

Answer.—Yes, sir.

Question.—If you do not run a medical school, what does this signify: "Closing exercises of the American Health College and Religio-Scientific Medical Institute of the Vitapathic System of Practice"?

Answer.—Yes, sir; "religio-medico"—that is the way we are chartered.

Question.—Do you undertake bringing about cure of disease?

Answer.—No, we don't do that, either.

Question.—In what sense are you a medical college?

Answer.—Not a medical college in any sense—only use remedics.

Question.—Or what do you use instruments for?

Answer.—Simply use electric batteries, that is all; we have a patent bath in the United States for which we have got patent rights.

* * *

Question.—Isn't it the truth that you undertake to treat poisons?

Answer.—We undertake to pull out poisons; that is all we do.

Question.—And treat cancers?

Answer.—We pull out poison and then they get well.

Question.—And snake and rabid bites?

Answer.—Yes, sir; we have the electric treatment process by which we can pull out poisons from a snake bite, mad-dog bite.

Question.—Isn't it the truth that you treat fevers, cholera and mental and nervous complaints?

Answer.—We are now not treating acute disease.

Question.—You practice in obstetrics, don't you?

Answer.—Not as a general thing. We teach our students very thoroughly about obstetrics because they may be taken in a hurry.

Question.—And all diseases of women?

Answer.—All diseases of women. They may be taken in a hurry.

Question.—You hold yourself out in this circular addressed "To all Physicians throughout the World" as teaching these various subjects?

Answer.—Yes; various subjects there on the card. We are not attempting to cure any disease. Our statement there is that poisons is the main cause of disease.

Question.—How do you treat and manage the poisons, Dr. Campbell?

Answer.—Well, I will tell you a very good way. Supposing you had taken some calomel and it was in you.

Question.—Now, how do you teach the poisons and the nature of them?

Answer.—Well, we teach them. Let me state and I will tell you. Now, supposing you had taken calomel or some other poison. I don't care if it is vegetable poison. You are full of it, sick and sufferer. I will draw that out at your feet and show you on a copper plate, and you can go to the chemist and show him; that is the way I prove it.

[The laboratory, clinical and teaching facilities of the "school" from which "Dr." Carson "graduated" are described by Campbell—who, it will be remembered, was the entire college—as follows:]

Question.—You don't have a laboratory?

Answer.—No, sir.

Question.—Do you teach histology?

Answer.—Oh, we teach it.

Question.—Do you mean that you have a histological laboratory?

Answer.—No, not particularly.

Question.—You have no laboratory of that kind whatever; nor pathological?

Answer.—Not to any extent.

Question.—How often do you have clinics at your college?

Answer.—Regularly once a week.

Question.—What clinics do you hold or conduct?

Answer.—Well, persons come in for free clinics, of course.

Question.—Yes, generally—

Answer.—And we take them just as they come, of course.

Question.—Do they come very often?

Answer.—Well, we have a number of them; yes.

Question.—Do you do any work in dissection?

Answer.—No; no dissection.

Question.—You have no connection with any anatomical society?

Answer.—No, sir; no society but our own.

Question.—Any instructions in anatomy and physiology in your school?

Answer.—Yes, sir.

Question.—Who gives them?

Answer.—I do myself, sometimes, and the Professor of Hygiene, Dr. Kalb.

Question.—How long since Dr. Kalb has been connected with your institution?

Answer.—Well, he testified, I believe, here he graduated in 1892; no, it was before that he graduated; I think in 1879.

Question.—How long since he has been connected with your institution?

Answer.—Well, he is now not connected with it.

Question.—How long ago did his connection cease?

Answer.—Well, he testified here, I think, in 1863. He was on the stand here and he testified.

Question.—You mean 1893?

Answer.—Eighteen ninety-three.

Question.—Who within the last two years has been filling his place?

Answer.—I have done it myself.

Question.—You have done that?

Answer.—Yes, sir.

Question.—Now, have you had any instructors in obstetrics?

Answer.—Yes, sir.

Question.—Who has given that?

Answer.—I have given it myself.

Question.—Have you had any instructors in the diseases of women and children?

Answer.—Yes, sir.

Question.—Who gives that instruction?

Answer.—I do; I am teaching the whole system myself. But I haven't got up to the point yet, if you will let me talk.

Question.—Just a minute, doctor. We will just ask you a few questions and then you can go on. Who teaches—or did you have any instructors in surgery?

Answer.—None. We don't practice surgery at all. If there is a surgical case, we turn that over to a surgical doctor.

Question.—Do you teach any materia medica?

Answer.—Not medicine; no.

Question.—Are you opposed to the use of medicines?

Answer.—Yes.

Question.—Opposed to the use of all drugs and medicines whatsoever?

Answer.—Opposed to the use of all drugs and medicines whatsoever.

Question.—And you substitute for them baths and water and electricity?

Answer.—No, we don't substitute nothing.

Question.—You use in place of them, then?

Answer.—No, sir; we don't use in place of them. We ain't on that basis. We pull out the poison as I have showed you, and the person gets well himself.

Question.—You pull that out by means of electricity?

Answer.—Yes, sir; our own engine. We have a specially invented engine for this purpose, and have a patent vapor bath that brings it through of the skin.

Question.—As I understand it, you have no instructors in your college except your own?

Answer.—That is all.

Question.—You treat all the branches that may be taught?

Answer.—Yes, sir.

[It is interesting to learn that "Dr." Carson—if his alma mater (or should it be "almus pater") is to be believed—obtained his diploma and all the "trimmings" for a mere paltry $150. Campbell testified:]

Question.—What tuition is required to enter your school?

Answer.—Well, we have a circular that tells it all. We sell our copyrighted system, our books, vitapathic library, our electrical apparatus, our own invented engine we have for extracting these poisons, our patent electrovapor baths and put it all in to the student at one hundred and fifty dollars. That is the price on the proclamation, and that is the maximum. The minimum is away down; less than half of that. Our object is to do good regardless of any money.

[Campbell's practice, at the time that he was conducting his diploma mill, was described by him as follows:]

Question.—Within the last few years of your practice of vitapathy, what class of cases have you treated?

Answer.—Well, mostly been pulling out poisons on our copper plate. We ain't curing disease at all; the person may not have any disease. He is simply full of poison, don't you see?

Question.—What do you consider poisons, doctor?

Answer.—Well, calomel is poison; strychnin is poison; iron is poison.

Question.—Would you consider disease germs poison in the same case?

Answer.—Well, I have a different idea about germs from most everybody else.

Question.—How would you destroy disease germs in the patient?

Answer.—My idea is the germ is not the cause of the disease at all, but the disease is the cause of the germs. You will never get any germs in anybody until there is separation or decomposition there, something. Put that down, you old doctors, as a fact, that germs don't make disease!

Question.—What would cause the disease, doctor?

Answer.—They didn't have the disease; they simply had the poison, and I pulled it out.

Question.—You say the disease was the cause of the germ?

Answer.—Yes, sir.

Question.—What produces the disease?

Answer.—Well, persons are liable off-hand to disease the world over, of course.

[The "vitapathic treatment" of small-pox was described by John Bunyan Campbell thus:]

Question.—What do your people do in case of small-pox?

Answer.—We don't use drugs, sure. Oh, no. No. Small-pox is a poison trying to get out as best it can in pustules. We simply take our patent bath and let it out and the man walks off well. We don't give poison as you fellows do.

[And the "Vitapathic Treatment" of some other conditions:]

Question.—Have you ever treated a case of rabies?

Answer.—Yes, sir.

Question.—You did?

Answer.—Yes, sir.

Question.—Did you ever have a case that was absolutely in the spasms?

Answer.—Yes, sir; had spasms.

Question.—And you cured the rabies?

Answer.—Yes, sir. Yes, sir; had spasms.

Question.—Ever treat lockjaw?

Answer.—Yes, a number of cases. That's blood poison, too.

Question.—Never had a case die?

Answer.—Never had a case die.

Question.—From lockjaw?

Answer.—No, sir.

Question.—Is that a fact?

Answer.—That is a fact.

Question.—How many cases have you treated?

Answer.—Well, at least twenty in my life.

Question.—You are sure they were real cases of lockjaw?

Answer.—Sure. Certain cases of lockjaw.

Question.—How did they get to your house?

Answer.—Didn't get there at all.

Question.—You went to them?

Answer.—Yes; the surgeons that had them in charge sent for me, and I pulled out the poison.

Question.—And you never lost a case?

Answer.—I never lost a case; no, sir.

Question.—Do you treat cancer?

Answer.—Yes, sir.

Question.—Did you ever cure a cancer?

Answer.—Yes, sir. I pulled out the poison and the parties would get well.

Question.—Supposing the cancer were very extensive, then what?

Answer.—I don't care how extensive it is. We remove the poison and they are certain to get well. Nature does the rest.

Question.—Can you name a doctor here who has ever sent you a real cancer in an advanced stage?

Answer.—No, sir.

Question.—Is there any doctor here who knows of a case you have cured?

Answer.—I don't know whether they do or not.

[As to the reputation of the American Health College of Cincinnati, the following portions of testimony given by a Cincinnati attorney—Mr. E. P. Dustin—before the Ohio State Board at the time of its investigation will be enlightening:]

ATTORNEY DUSTIN'S TESTIMONY

Question.—You are an attorney in this city and have been for some years?

Answer.—Twenty-five years; yes, sir.

Question.—Are you acquainted with the gentleman who just left the stand—Dr. Campbell?

Answer.—I am.

Question.—Are you familiar with his institution out in Fairmount?

Answer.—Somewhat.

Question.—Just state to the court what you know about this college, will you?

Answer.—Well, I know that it has had the reputation of being a fraudulent medical concern for years.

* * *

Question.—Do you know anything further about the institution?

Answer.—Nothing, except the general reputation. It has been bad for years. It has been a fraudulent concern for years.

Question.—Do you know whether or not any of the persons claimed to have graduated from that institution have practiced medicine?

Answer.—Yes, sir. Young Campbell practiced and claimed to have the right to practice under the diploma attached to that record.

Question.—In that case did other cases develop?

Answer.—There were other witnesses; persons who had a knowledge of the fraudulency of this so-called medical institution.

Question.—Were there other instances of persons practicing medicine under those diplomas?

Answer.—I am not positive that there were, but I know personally of several who have pretended to be graduates of this college, very ordinary looking and appearing and dressed people, who have pretended to be able to practice from these diplomas.

[As has been shown the "vitapathic system" consists essentially, in standing the patient on a copper plate, making some mesmeric passes with the hands and thus "drawing the poison out." Dr. J. W. Prendergast, a reputable physician of Cincinnati, was at the time of the investigation of Campbell's quackery, requested by the State Board to visit the American Health College and report his findings. Here they are:]

DR. PRENDERGAST'S TESTIMONY

Question.—State whether you visited this school of Dr. Campbell's at the request of the board and what you found.

Answer.—On May 26, accompanied by Dr. Haerr, at the request of the State Board, I visited the "vitapathic school" at Fairmount, and was received very cordially by Dr. Campbell, who told us just what he has told you gentlemen here on the stand. I don't know anything that I can add, other than that in the doctor's little office in one window was a pane of red glass and a pane of blue glass. I was curious to know what that was for, and the doctor explained it by saying they would vitalize the remedy they were to give the patient, or sometimes food, depending entirely on the nature of the disease; it would be placed beneath the red glass or blue glass. The doctor took us in the little lecture room and pointed out some of his charts, and showed me a copper plate he had some patient standing on, and there was a deposit on the plate that the doctor said was strychnin or calomel. I have been very much discouraged, however, since my visit there, at the school of medicine I have been practicing in. The doctor has a much more simple process of curing disease. As he says, he simply pulls it out!

Question.—Was there any other equipment for a medical college?

Answer.—No, sir.

It surely is not necessary to quote more to show the utter worthlessness and downright fraudulency of the American Health College of Cincinnati. So far as we know C. H. Carson bases his claim to the right to treat disease on the diploma that he received from this notorious parchment factory. A faker graduated by a faker; a quack instructed in quackery. Such is Carson, who for years past has deceived the sick, humbugged the suffering and capitalized the credulity of ignorance.

Miscellany

The Receding Birth-Rate.—Germany and France have happily settled their differences in regard to Morocco; but the German chancellor is charged in his own country with yielding not to France, but to Great Britain. France, which a hundred years ago lorded it over the Germanic nations and forty years ago believed that its military forces were superior to those of the German empire, has now almost lost its place among the great nations of Europe. Paris is nearly the same city it was forty years ago; Berlin is a new city. This alteration in the position of France is due to its stationary population. At the end of the last century the population of France formed one-quarter of that of the civilized powers of the world, while at present it has fallen to 7 per cent. This state of affairs is causing much anxiety in France; it is discussed in detail in a recent book by Dr. Jacques Bertillon, chief of statistics for the city of Paris. The data which he reviews in detail deserve much consideration not so much because, as he claims, they are peculiar to France, but rather because France has been first to exhibit a state of affairs likely soon to be evident everywhere. It is almost incredible that there should be departments in which there are three deaths for every two births. In Lot the population has in the course of twenty years decreased from 271,514 to 216,611. Every nation except France is increasing in population; but the birth-rate is decreasing everywhere. Statistics can be misapplied to almost any purpose. Thus since 1876 the birth-rate for France has decreased from 25 to 21 per 1,000, whereas for England it has decreased from 36 to 27, and it might be alleged that, should the same decrease continue, the birth-rate after an equal period would be about the same for France and England, and about a hundred years thereafter would be 5 in France and less than nothing in England. This is obviously absurd, but it is by no means unlikely that the birth-rate will fall below the death-rate in all civilized nations and later in other nations as they are brought within the circle of European civilization. The increase in population during recent years has been due to the decreased death-rate. This has resulted directly from the application of science to medicine and hygiene and indirectly from the improved conditions of living which science has made possible. In all civilized countries the birth-rate is now smaller than the death-rate was formerly. But the death-rate cannot decrease indefinitely; it has indeed possibly reached in Great Britain a lower level than can be maintained. A death-rate of 16 per 1,000 in a stationary population means that the average length of life is over 60 years and as one-fourth of those who die are under 5 years of age the average age at death of those surviving infancy would be about 80 years. Odd as it may appear at first sight, the decreased death-rate of a country such as Great Britain is largely due to a decreasing birth-rate combined with an increasing population. Such conditions give a population in which there are fewer children under 5 and fewer old people over 60, in which groups the death-rate is about 60 per 1,000, whereas between the ages of 5 and 35 it is below 5. In France there are fewer children than have ever existed in any population, which reduces the death-rate; but there are more old people—twice as many as in Great Britain—which increases it. The proportion of old people will further increase in France, and will be tripled in Great Britain. It should also be remembered that the death-rate of those over 45 has increased continually, owing mainly to the keeping alive of weakly people at earlier ages. It seems unlikely that the death-rate will ever be considerably smaller than it now is in England, whereas the conditions which have lowered the birth-rate seem destined not only to continue but to increase. The physiologic limitations will doubtless increase as children grow up who could not be born naturally or be nursed naturally or live through the harsher conditions that formerly obtained. The economic and social causes—the increase and wider diffusion of wealth, prudence and knowledge—will almost surely become more potent.—*Popular Science Monthly.*

Correspondence

Priority in the Use of Bismuth-X-Ray Method of Locating Stomach, Etc.

To the Editor:—Dr. Walter B. Metcalf (The Journal, Nov. 4, 1911, p. 1555) bases a claim to priority in the use of this method on a report in the *Philadelphia Medical Journal*, Aug. 26, 1899. During the winter of 1896-97, I was at work on this general problem, using first tablets of reduced iron in capsule (worth trying occasionally with the fluoroscope) which were easily demonstrated by fluoroscope in the mouth but, with the instrument at first used, not in the stomach. In the spring of 1897, radiography was tried before an audience in the Dental Department building, University of Buffalo, but was not successful. Later experiments revealed the tablets moved by peristalsis so that a radiogram was obviously impossible with an active stomach. After some further preliminary work, perfectly satisfactory fluoroscopic results were obtained, about July 1, 1897, in about a dozen cases by using suspension of bismuth, checked by auscultatory percussion, etc. This was published in *Medicine*, Chicago, in February, 1898. Boas and Dorn reported the same method, independently, during the same month, in a German journal. Roux is said to have succeeded late in 1896, a few months earlier.

I want to urge that fluoroscopy, using a lead-lined apron, a metal cover over the fluoroscope handle and an *x*-ray tube inclosed in a box and protected with paint or sheet-lead, is reasonably safe and, if a good clear screen of sufficient size is used, of great value, especially with regard to gastric movements. A radiogram, being instantaneous, may be literally correct, but it gives the same distorted conception as many instantaneous photographs. I watched the work of Dr. A. Beclere, of St. Anthony's Hospital, Paris, in 1908; he uses the screen very largely and obtains beautiful results, even pulmonary lesions being visible.

A. L. Benedict, Buffalo, N. Y.

"Ozonized Testimonials"—A Reply

To the Editor:—My attention was called this morning to the interesting article "Ozonized Testimonials" on pages 1629 and 1630 of The Journal for Nov. 11, 1911. The remarks made therein are to a certain extent correct, but your deductions are wrong. As a matter of fact, the whole idea conveyed by the article was erroneous; no attempt is being made to secure testimonials for any manufacturer.

I presume that the interests of the readers of The Journal will be conserved by publishing the following corrections which seem to be necessary. In the second paragraph you write: "Incidentally, the advertising pages of this non-medicinal publication are devoted *largely* to medicinal products!" I have taken the trouble to go through the advertising pages of the last number of the journal referred to, and find that altogether there is a total of 31½ pages of advertising. Of these, 9¾ pages are devoted exclusively to apparatus for the administration of the various physiologic measures; 4⅝ pages are devoted to biologic products such as bacterial vaccines, tuberculin, etc., 13⅝ are miscellaneous, including books, corsets, supporters, laboratory service, etc., and only 3½ pages are devoted to drugs. This means that of 31½ pages, 3½ pages, or approximately 11 per cent., constitute the pages which are devoted "largely" to medicinal products.

Further, you seem to condemn the fact that both of my journals carry advertisements—"large ones" as you say—of the device known as the Oxyoline apparatus. The "large" advertisement consists of a single page in one of my journals and half a page in the other. The insinuation, which is very evident, is entirely wrong; and your sources of information seem to be quite as faulty as your editorial expression.

In regard to your reference to the hinted infringement of the postal regulations regarding *bona-fide* subscribers to my journal. I would say that I have it direct from the postal authorities, that it is not improper to present collaborators or writers with subscriptions in remuneration for their services. Others do this, as I have frequently received medical journals in return for articles which I have written for them. Incidentally, "those who live in glass houses shouldn't throw stones." How large a proportion of those receiving The Journal subscribe for it personally?

In the last paragraph you write: "And yet this exhibition of venality only affected the public's pocket-book; it in no way jeopardized its health." I presume this last sentence is an insinuation that my belief in the use of ozone in medicine, or the advocacy of such a procedure, tends to jeopardize the health of the public. If this is so, it will be very interesting to know just how. On the other hand, if I am to depend on personal experiences and those of a large number of friends, the use of ozone *is* of decided therapeutic value, and the editorial published in The Journal, Oct. 21, 1911, page 1370, not only evidenced a paucity of information on your part, but was of a similar nature to a number of other things which have been published in The Journal.

To judge from the past experience of others, this letter will not be published in The Journal, although as a member of the Association, I respectfully request that this matter be given equal consideration with the other side.

Henry R. Harrower, M.D., Chicago.

Comment: We refer our readers to the article dealt with in this letter. Further comment is unnecessary.—Ed.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE NAME SPIROCHÆTA PREFERRED TO TREPONEMA

To the Editor:—I wish to call attention to an error in nomenlature in the editorial on "The Cultivation of the *Spirochæta pallida*" (The Journal, Nov. 18, 1911, p. 1698).

Throughout the article repeated reference is made to the *Spirochæta pallida* as the organism causing syphilis, whereas the correct name of the organism in question is undoubtedly *Treponema pallidum.*

The Journal is probably the most widely distributed medical periodical in this country and its influence in the dissemination of an incorrect statement is too great to permit the latter to pass unchallenged. Charles A. Pfender, M.D., Washington, D. C.

Answer.—The name *Spirochæta pallida* is not wrong. The nomenclature, as well as the systematic position of the pathogenic spirochetes, is as yet anything but definitely settled. There is considerable difference of opinion among investigators as to whether this important group of organisms should be classed with the protozoa, or with the bacteria, or placed in a separate, intermediate group. The tendency, if any, is to remove these organisms from the group of protozoa where they were placed by Schaudinn in 1904. Whether they will finally find their place among the spirilla or in an entirely separate group remains to be seen.

As is well known, Ehrenberg, as early as 1832, distinguished between flexible and rigid spirals. To the latter he applied the name *Spirillum;* to the former, *Spirochæta.* In this sense, these names continued in use until after the discovery by Schaudinn of the cause of syphilis (1905). On comparing *Spirochæta pallida* with Ehrenberg's type species, *Sp. plicatilis*, Schaudinn was led to believe that the latter possessed an essentially different structure. He described the *Sp. plicatilis* as being flat, possessing an internal structure, no flagella, but instead a marked undulating membrane. By contrast, the *Sp. pallida* was cylindrical, possessed terminal flagella and no undulating membrane. Hence, Schaudinn accepted the generic name *Spironema*, proposed by Vuillemin, but learning that this name had been applied previously to another organism he substituted a new one — *Treponema;* wherefore the designation — *Treponema pallidum.*

Assuming that there is a real generic difference between the two organisms, *Sp. plicatilis* and *Sp. pallida*, it follows that the first described species, the *plicatilis*, retains the original generic designation of *Spirochæta*, while the *pallida* acquires a new name. With such an assumption, and excluding possible affinities to the spirilla proper, one could easily and rightly assert that the correct name for the syphilis organism is *Treponema pallidum.*

It is worthy of note, however, that our knowledge of the structure and development of the various spirochetes cannot be considered complete, much less final. Only recently, the existence of the "splendid undulating membrane" which Schaudinn ascribed to *Sp. plicatilis* has been denied by competent workers. There still remains the internal structure, which in this large organism is apparently quite different from that in the minute pathogenic spirochetes, and this evidence, more than any other, is the basis of the recent classifications proposed by Gross and Dobell.

In the classification of Dobell (1911) all of the parasitic spirochetes (other than of molluscs) are placed in the genus *Treponema*, although some of these forms were specifically stated by Schaudinn to possess an undulating membrane and no flagella. Dobell, in fact, does not believe in the existence of flagella on spirochetes, but fails to indicate the nature of the organs of locomotion. Presumably as an argument against their bacterial nature, he states: "Two most important characters of the bacteria—the formation of endospores and the possession of flagella—are not encountered in the spirochetes." Neither are they present in micrococci and many bacilli.

It is clear that the several classifications proposed have only a provisional value, and hence are subject to change. Such being the case it does not seem to be wise to change from the more common name, *Spirochæta pallida*, with the possibility of having to change back later.

SKIN ERUPTION FOR DIAGNOSIS

To the Editor:—I am anxious to obtain information as to the possible diagnosis and treatment of a skin eruption which appeared in October, four years ago, on the back of the left hand. It was itching from the onset and would have to be scratched; then it would break open and become very tender. This condition would last for a week and then heal up, not appearing for two weeks, only to appear again in a similar manner. This lasted from October to June, when it disappeared, only to appear again in October the next year, and so on until the present time. The place of eruption is as large as a silver dollar and is itching almost all the time.

G. T. Bray, M.D., Vinson, Okla.

Answer.—One cannot make a positive diagnosis of an eruption without seeing it, but from the description there is little doubt that the case is one of eczema of the hand. The difficult thing to determine is whether it is purely of local origin or due to some general intoxication. Many of these cases of eczema occurring on the hands are a manifestation of some auto-intoxication usually arising in the intestinal tract, and treatment must be directed to overcoming this disorder. In the way of local treatment, the first thing to do is to prevent irritation as far as possible, to avoid much washing with soap and water, particularly in cold weather. If the patient is a physician, he should keep the hands out of antiseptics as much as possible and in general protect the hands. There are no local applications which are specific for such cases, but in general bland ointments are useful for their soothing and protective effect. One of the best ointments for such a case is a well-made diachylon ointment containing 10 grains of oil of cade, and ½ dram each of zinc oxid and calamine to the ounce of ointment.

TYPHOID VACCINATION

To the Editor:—1. What degree of heat is needed to destroy the *Bacillus typhosus* in making typhoid vaccines and how long should it be continued? 2. What is the best culture medium for the development of typhoid vaccine? 3. Does the milk of the female suffering from typhoid fever respond to the Widal reaction? Does the milk of a cow or goat treated with typhoid vaccine show the presence of agglutinins, opsonins or any of the elements of Ehrlich's side-chains? L. G. Leland, Newton Falls, Ohio.

Answer.—1 and 2. The typhoid vaccine now being used in the United States Army is prepared as follows, according to Russell (Bull. Johns Hopkins Hosp., 1910, xxi, 83): A typical typhoid strain is grown on agar in uniform tubes for eighteen to twenty hours, washed off in about 2 c.c. of physiologic salt solution for each tube, and carefully heated at 60 C. for one hour. The emulsion is now diluted so that each c.c. contains about 1,000,000,000 bacilli. Trikresol to the extent of 0.25 per cent. is added. Before the vaccine is used on human beings its absolute sterility is determined by cultures and inoculations of mice and guinea-pigs.

3. It would not be at all surprising if the milk of a woman suffering from typhoid fever should contain agglutinins for typhoid bacilli, because we know that other antibodies may pass into the milk. Ehrlich's classical experiments on inheritance and immunity were made on nursing animals, immunized with tetanus toxin, and their young.

FELLNER'S EXPLOITATION OF VASOTONIN

To the Editor:—Can you give me any information in regard to "Vasotonin"? It is reported to be a mixture of nitrate of yohimbin with uretone. It is stated to be the discovery of Dr. B. Fellner, Jr., who is said to have exhibited it in various clinics and meetings in New York City. LUCIUS C. KINGMAN, Providence, R. I.

ANSWER.—According to the *Pharmazeutische Zeitung*, lv, p. 869, Vasotonin was introduced by Prof. F. Muller and Dr. B. Fellner with the assertion that it was a compound of urethane and yohimbin nitrate, but it was found to be a simple mixture of these substances. Yohimbin is an alkaloid isolated from the bark of the yohimbehe tree which grows in German West Africa. The alkaloid occurs in needles, is almost insoluble in water, melting at 234 degrees C., and has the chemical composition $C_{22}H_{28}N_2O_3HCl$. For an opinion of its value see THE JOURNAL A. M. A., March 30, 1907. Information from the east indicates that Dr. Fellner has something to do with the bath at Franzensbad, Austria, concerning which he has spread information in this country. Either incidentally or as his chief work, however, he is advertising this nostrum referred to. The Sunday edition of the *New York Times* printed an article, November 26, by Dr. Fellner, which purported to have been read by him at a meeting of the Medical Association of the Greater City of New York, November 20. The article, however, was not so read and that association passed a resolution disclaiming it and stating that the character of the paper was such that the association would not have permitted it to be presented to its members. Letters from the east are not at all complimentary to Dr. Fellner's methods.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 2, 1911.

Stayer, Morrison C., lieut., November 24, is relieved from station in Manila, P. I., and is assigned to station at San Francisco in connection with his duties as surgeon, Transport *Logan*.

Hopwood, L. L., captain, November 25, granted thirty days' leave of absence.

Richardson, William H., captain, November 27, leave of absence extended one month.

Griffin, A. M., M.R.C., November 27, leave of absence extended one month.

Reynolds, F. P., major, November 28, orders detailing him to represent Medical Department of the Army at the sixteenth annual session of the Seaboard Medical Association of Virginia and North Carolina, Newport News, Va., is revoked.

Bowman, M. H., M.R.C., November 24, left presidio of Monterey, Cal., on thirty days' leave, with permission to apply for thirty days' extension.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Nov. 29, 1911.

Cumming, H. S., surgeon, detailed to represent the service at the annual meeting of the Seaboard Medical Association at Newport News, Va., Dec. 5-7, 1911.

McClintic, T. B., P. A. surgeon, directed to proceed to St. Louis on special temporary duty.

Schereschewsky, J. W., P. A. surgeon, directed to attend a meeting of the executive committee of the Industrial Congress on Hygiene and Demography to be held in New York, Dec. 1, 1911.

Draper, W. F., asst.-surgeon, relieved from duty on Revenue Cutter *Bear* and directed to report to Passed Assistant Surgeon M. W. Glover, San Francisco, for duty in the examination of arriving aliens.

Schwartz, Louis, asst.-surgeon, relieved from duty at Seattle, Wash., and directed to report to the medical officer in command at the U. S. Marine Hospital, San Francisco, for temporary duty and assignment to quarters, Dec. 1, 1911.

Boards of medical officers convened for the physical examination of commissioned officers of this service to meet as follows: Stapleton, N. Y., Nov. 14, 1911. Detail for the board: Surgeon H. W. Austin, chairman; Surgeon G. W. Stoner; Passed Assistant Surgeon M. C. Guthrie, recorder. Cincinnati, Nov. 29, 1911. Detail for the board: Surgeon R. M. Woodward, chairman; Surgeon J. O. Cobb; Passed Assistant Surgeon C. W. Wille, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Fourth Month—Second Weekly Meeting

BRONCHITIS

ACUTE BRONCHITIS

ETIOLOGY: Most frequent cause. "Inhalation" bronchitis. Associated with what acute infectious diseases? Microorganisms most frequently found on mucous membrane.

PATHOLOGIC ANATOMY: Changes in mucous membrane. Character of exudate. How do etiologic factors influence pathologic changes and exudate?

SYMPTOMS: Initial symptoms and course. Most frequent complications. Symptoms and signs of onset.

PHYSICAL SIGNS: Physical signs of different stages with relation to changes in mucosa.

TREATMENT: Internal, by inhalation.

CHRONIC BRONCHITIS

ETIOLOGY: After what diseases does acute form become chronic? Associated with what constitutional diseases? Bearing of climate and season.

SYMPTOMS: Age, symptoms and physical signs. Shape of chest.

CLINICAL VARIETIES: (a) Bronchorrhea, (b) putrid bronchitis, (c) dry catarrh, diagnostic symptoms and signs of each.

CONGESTION OF LUNGS

Active—Occurs in what conditions? Pathology. Symptoms. Differential diagnosis.

Passive—Mechanical. Usual cause. Pathology. Symptoms.

Hypostatic—Occurs in what class of cases? Factors in production. Pathology. Diagnosis.

HEMOPTYSIS

Causes, Significance. Mode of onset. Physical characteristics of blood. Course. Recurrence as a symptom.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, December 12. Secretary of the Medical Council, Dr. Henry W. Briggs, Wilmington.

KENTUCKY: The Armory, Louisville, December 19-21. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: Regular, 1211 Cathedral Street, Baltimore, December 12. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, St. Luke's Hospital, Baltimore, December 13-14. Sec., Dr. O. N. Duvall, 1326 N. Mount Street.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Harrisburg, December 12-15. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, December 19-22. Sec., Dr. R. S. Martin, Stuart.

Utah October Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, Oct. 2-3, 1911. The number of subjects examined in was 19; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 9, of whom 8 passed and 1 failed. One candidate was licensed through reciprocity. The following colleges were represented:

College		Year Grad.	Per Cent.
	PASSED		
Northwestern Univ. Medical School		(1911)	80.2, 82.3, 86.1, 87.5
Rush Medical College		(1911)	84.1
College of Physicians and Surgeons, Baltimore		(1911)	76.8
Washington University, St. Louis		(1911)	78.5
Jefferson Medical College		(1910)	81.1
	FAILED		
Tokio Medical College, Japan		(1905)*	

College.	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago		(1910)	Illinois

* No percentage given.

Book Notices

THE DISEASES OF INFANCY AND CHILDHOOD. For the Use of Students and Practitioners of Medicine. By L. Emmett Holt, M.D., ScD., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York, assisted by John Howland, A.B., M. D., Professor of Diseases of Children in Washington University, St. Louis. Sixth Edition. Cloth. Price, $6 net. Pp. 1112, with 240 illustrations. New York: D. Appleton & Co., 1911.

This book in its numerous editions has so long been ccepted as an authoritative work that an extensive review s not required. This latest edition, however, contains some uite radical changes, which are worth recording. A reference o the title-page and to the preface of this edition shows that Dr. John Howland, now connected with Washington Univerity, St. Louis, and a former assistant of Dr. Holt, has been ssociated with the latter in its preparation and is hereafter o be connected with the work as joint author. In order to nclude new and late material without increasing the size f the book, much old material has been eliminated, many rticles abridged and almost every page subjected to some evision. Much new material is found in the articles on ppendicitis, acute peritonitis, pyloric stenosis, endocarditis, ericarditis and the different forms of meningitis, including nfluenzal meningitis. Hereditary syphilis and tuberculosis ave also received considerable attention and the subject of cute poliomyelitis has been rewritten according to the later tudies of this disease. It is to the chapters on nutrition, nfant-feeding and intestinal intoxication, however, that most f the new and important additions have been made. With he work of Czerny and Keller, Landsteiner, and Finkelstein nd Meyer, as well as that of some American pediatricians, he conception of the nutritional disorders of infants and heir management has undergone a considerable change and hese ideas, without being wholly endorsed by the authors, ave been fairly set forth. The chapters on infant-feeding, he management of difficult cases, and the methods of milk nd artificial food modification, are simple and practical and n accordance with up to date ideas on infant-feeding, though he other subjects have not been neglected. The word "pracical" applies to every chapter of the book, and one is mpressed with the lateness of the information making this dition a real revision of this standard work.

PROCEEDINGS CONFERENCE ON MILK PROBLEMS UNDER THE AUSPICES OF THE NEW YORK MILK COMMITTEE, Dec. 2 and 3, 1910. t Assembly Hall, United Charities Building, New York. Paper. Price, $1. Pp. 200. New York: New York Milk Committee, 105 E. Twenty-Second Street, 1911.

This pamphlet contains a number of papers and discusions thereon by experts in the production, handling and xamination of milk; they are practical and illuminating and over all phases, including production, inspection, bacteriology, uberculin testing of cows, as well as their physical examinaion; pasteurization, transportation, distribution, cost of prouction and distribution, besides a number of other considertions entering into the important question of milk-supply, eneral health conditions as related to milk, infant mortality, tc. It is a valuable source of information on the milk uestion.

MANUAL OF PSYCHIATRY. By J. Rogues de Fursac, M.D., Formerly Chief of Clinic at the Medical Faculty of Paris. Translated nd Edited by A. J. Rosanoff, M.D., Second Assistant Physician, Kings Park State Hospital, N. Y. Third Edition. Cloth. Price, 2.50 net. Pp. 484. New York: John Wiley & Sons, 1911.

This manual is one of the best of its size; it gives much nd leaves out little. The present edition excels the preceding nes in that it is brought up to date and because of several dded features. Subjects having only an indirect connection ith mental diseases have received due consideration. Because sychotic manifestations are frequently produced by brain bscess, central neuritis, cerebral arteriosclerosis, these brain iseases are discussed from the psychiatrist's point of view. We are agreeably surprised to find a chapter not often seen ven in large books on psychiatry, namely, the one on the preention of insanity and the hygiene of the mind. Recognizing the great value of the Wassermann reaction in the diagnosis of the psychic disorders having syphilis as their basis, the editor and translator has added a splendid description of the Wassermann test as modified by Noguchi. We are grateful to the author for having reproduced in this volume Binet and Simon's measuring-scale of intelligence. The distinguishing feature is its general portion, which deals with symptoms of insanity from the psychologic viewpoint. This is of great assistance in an intelligent interpretation of the complex symptomatology of the individual disease.

What would be considered a fault in a book of pretentious size must be considered a virtue here, namely, its dogmatic tone; the student's attention is constantly held to the main issues of the subject without being troubled by the numerous theories tending to overthrow the few settled facts. The translation is good, the style clear and entertaining. All things considered, the book deserves unqualified commendation.

THE RELATION OF TETANUS TO THE HYPODERMIC OR INTRAMUSCULAR INJECTION OF QUININ. By Lieut.-Colonel Sir D. Semple, Kt., M.D., Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Department of the Government of India. New Series, No. 44. Paper. Price, 1 shilling 2 pence. Pp. 61.

In tropical countries and wherever the existence of pernicious forms of malarial infection require prompt saturation of the blood with quinin by means of hypodermatic injections, there are occasionally observed tetanus infections following these injections. As injections of morphin, atropin, and other drugs which are given hypodermatically much more frequently than quinin are not followed by tetanus, the evidence seems plainly to incriminate the quinin. This book is a monograph discussing the subject and reporting several series of experiments performed for the purpose of explaining the danger of tetanus from quinin injections. The evidence obtained by the author indicates that the quinin itself, and usually the fluids and instruments used in making the injections, are not infected, but rather the quinin acts indirectly by producing local necrosis and inhibiting phagocytosis. If an animal has been inoculated with washed tetanus spores, which of themselves cannot produce tetanus, an injection of quinin at some other place will cause the spores to localize at that place, where they develop into bacilli and produce tetanus. Tetanus spores can remain harmless but potentially active in the tissues at the site of a wound for months, and the human intestine frequently contains this organism among its flora; hence it is possible that quinin injections may cause tetanus by providing a localization where multiplication of spores from these sources can occur. This being the case, it is impossible to avoid tetanus with certainty by any degree of care in making quinin injections. The remedy must be to limit the use of quinin by injection in cases of pernicious malaria, and to malarial patients with absolute intolerance for quinin by mouth; and when quinin injections must be made they should be accompanied by a prophylactic injection of tetanus antitoxin.

WALSH'S PHYSICIAN'S CALL-BOOK AND TABLET. Flexible Leather, with Flap and Pocket. Price, $1.50. Washington, D. C.: Ralph Walsh, M.D., 1804 H Street N.-W.

WALSH'S PHYSICIAN'S HANDY LEDGER. A Companion to Walsh's Physician's Combined Call-Book and Tablet. Half Leather. Price, $3.50. Pp. 600. Washington, D. C.: Ralph Walsh, M.D., 1804 H Street N.-W.

The "Physician's Call-Book" is a most useful call-book for physicians in keeping track of their daily business. In the monthly form the record for an entire month is kept on two pages, and as the book is not dated, it will serve a large practice for a single year or a more limited one for several years. The usual data regarding dosage of medicines, etc., are given in a very compact, but practically serviceable, form. The "Handy Ledger" is intended as a supplement to the call-book, and is so arranged as to give the details of each individual's account for a whole year with a summary of debits and credits on a single page, so that not only the state of the account, but the individual items can be seen at a glance. The volume accommodates 600 accounts and will greatly facilitate the keeping of the accounts of a large practice.

Medicolegal

Duties and Malpractice Liabilities of Hospital Surgeons—Indirect Use of Medical Treatises as Evidence

(Burnham vs. Stillings and another (N. H.), 89 Atl. R. 927.)

The Supreme Court of New Hampshire reverses a judgment obtained by the plaintiff and grants a new trial on account of error touching a matter of evidence. The plaintiff was treated for a fracture of the left femur. The fracture was reduced by the defendants, who at that time and for thirty days thereafter constituted the surgical staff of the hospital, and attended the plaintiff during the continuance of their term of service. The plaintiff's complaint was that the thigh bone was misshapen and shortened, and that he had largely lost the use of the knee-joint. On the question of whether this result was due in any part to want of care of the defendants in reducing and treating the fracture the evidence was conflicting. There was delay in the union of the broken fragments. The defendants' evidence was that the bone was properly set and cared for and the parts in proper apposition when they gave up the case, although union had not then taken place. They ascribed the delay in union to a constitutional defect in the plaintiff's system, and the present condition to a change in the position of the parts of the bone after the plaintiff was discharged from the hospital, due to the same cause. The terms on which the plaintiff received the services of the hospital did not appear.

The court says that, so far as the plaintiff employed any one to treat him, he employed the hospital without advice or suggestion from the defendants. So far as the defendants were employed by any one, they were employed by the hospital. As there was no contract between the plaintiff and the defendants, they owed him no duty imposed on them because of, or in any way springing from, the contract of employment. They owed him, however, the duty in the course of their employment not to do anything they either knew or ought to have known would injure him. Having with his assent undertaken to treat the plaintiff, the defendants were bound to exercise care in what they did, and were liable if their failure to exercise ordinary care injured him. The confidence induced by undertaking any service for another is a sufficient legal consideration to create a duty in the performance of it. If the defendants received no compensation whatever, that fact, while material on the question of the care required of them, would not excuse them for their failure to exercise such care as the circumstances demanded.

If the defendants did not own or manage the hospital, or did not bring the plaintiff there or advise his coming, they were not chargeable for default in the hospital equipment or management; i. e., because of delay in setting the fracture due to the want of proper splints, the absence of a fracture bed, and the failure to use ether or an *x*-ray machine, if the hospital did not provide them. They were not responsible for the breaking of the bed unless there was evidence that they knew or ought to have known its condition was such that it was likely to break down as it did. They were not responsible for the use of the facilities furnished by the hospital unless in the exercise of ordinary care they should have refused to employ in such a case such as the hospital furnished and by like care they could have procured more suitable appliances. They, of course, also were not responsible for any default of other employees of the hospital in the management of the case before or after they ceased to have charge of it, or of each other.

Whether there was a change after the defendants gave up the case, and whether the lack of apposition of the parts, if it existed, could have been discovered by ordinary care, was for the jury. Also, whether the plaintiff's failure to inform the physicians of a bunch he claimed to have discovered after a fall of the bed was a part of the cause of all the injury of which he complained, so as to preclude him from recovering at all, was a question of fact, as well as the existence of the bunch itself.

In proof of the existence of the constitutional taint to which the defendants ascribed the plaintiff's poor recovery, they offered evidence that shortly after the administration of iodid of potassium (KI), a specific remedy for syphilis (the taint suspected), union of the bone began, or, in the language of the physicians, callus was thrown out. Hence, as the case turned, it became a vital question whether the improvement shown after the administration of that drug indicated the presence of syphilis, hereditary or acquired; or, in other words, whether iodid of potassium (KI) is a specific for syphilis. In the cross-examination of a Dr. Beaton, an expert called by the defendants, after he had answered that iodide of potassium is not one of the best remedies for softening of inflammatory products and the removal of exudates not of syphilitic nature, he was asked, "Isn't that laid down so in the United States Dispensatory, and is not that book in every drug store in the land?" Then in argument, the plaintiff's counsel said: "Now let us go into this KI a little more. Why, when they said KI is used for syphilis, we had to look it up, and we found this laid down in the United States Dispensatory book, which Dr. Beaton admits is in every drug store in the land, and he says they were obliged to have it. Perhaps you, gentlemen, have seen the big book on the prescription case. 'Iodid of potassium for softening inflammatory products and removal of exudates not of a syphilitic nature is one of the most reliable remedies we have.'" In that there was reversible error because the book was not received or offered as evidence. If medical treatises of authority are admissible as substantive evidence, they cannot be admitted without proof that they are regarded as authoritative, neither can their contents be shown except by the production of the book. Conceding that the reference to the dispensatory was properly in the case on the issue of Dr. Beaton's credibility because competent thereon, or because the defendants did not object when it was offered for that purpose, the statements of the dispensatory were not in the case as substantive evidence, for the simple reason that the dispensatory was not offered as such evidence.

Physician Without Power to Bind Employer for Expenses

(Southern Railway Co. vs. Grant (Ga.), 71 S. E. R. 422)

The Supreme Court of Georgia holds that where a physician is employed, under a written contract between him and a railway company, to give first medical attention to persons injured by it to attend them, but by the terms of the contract of employment he is prohibited from admitting any such persons "to hospital or private quarters on account of the company without specific authority from the head of the department to which such injury is accredited, or some other officer of the company," in the absence of such authority the physician cannot bind the company by contracting with a hotel keeper to furnish, on its account, board and lodging for such injured persons, or for those in attendance on them.

One dealing with a special agent is bound to take notice of the extent of his authority, and, in such a case as that stated, the physician is a special agent of the company, without authority to bind it by any agreement that it will pay for the board and lodging of injured parties, or any one serving them, and a hotel keeper is bound to take notice of the lack of such authority.

The fact that the company, acting on the recommendation of the physician, on a previous occasion paid the board of a person injured by the company, is an immaterial one, and proof thereof is inadmissable.

Sufficient Authority for City to Establish and Maintain Public Hospital—Not Liable for Injuries by Ambulance —Effect of Charging Fees

(Watson vs. City of Atlanta (Ga.), 71 S. E. R. 664)

The Supreme Court of Georgia holds that a municipal corporation is not liable for the injury of a pedestrian by being struck by a negligently driven ambulance belonging to and being operated for a public hospital of the municipality, and under its control through its board of officers.

First of all, however, the court says that it thinks the city of Atlanta is authorized to establish and maintain a public hospital by the section of its charter which provides that the "mayor and general council shall have power and authority to pass all by-laws and ordinances respecting public buildngs and grounds, workhouses, public houses, carriages, wagons, arts, drays, pumps, wells, springs, fire engines, care of the oor, suppression of disorderly houses, houses of ill fame, for he prevention and punishment of disorderly conduct and conduct liable to disturb the peace and tranquility of any citizen r citizens thereof, and every other by-law, regulation and rdinance that may seem to them proper for the security of he peace, health, order and good government of said ity." The maintenance of such an institution may well be egarded as in a measure incidental and necessary to the ecurity and preservation of the health and well-being of the itizens, who in the hour of need require the attention of uch skilled nurses and physicians as may be selected and mployed by tne officials who are elected or appointed by the municipal authorities to conduct the hospital and render the ervices requisite and proper for such an institution. And he operation of an ambulance is an incident to the main-enance and operation of the hospital itself, and is conse-uently to be classed with those acts in the performance of hich the municipality is exercising a governmental function.

Nor does the court think this was changed by an allegation hat in the maintenance of the hospital the municipality charges fees for patients entering therein." It says that it annot construe this allegation to be an affirmative allegation hat the city requires of all its patients payment for expense f board and treatment at the hospital, as would be the case f a private hospital maintained and operated for profit and he pecuniary advantage of those who own and operate it. or the hospital to demand fees from some of its patients is ot at all inconsistent with its character as a public institu-ion and one operated by the municipal corporation in the erformance of its governmental duties.

Injunction Against Unlicensed Private Insane Asylums

(*State vs. Lindsay* (*Kan.*), *116 Pac. R. 207*)

The Supreme Court of Kansas holds that, where a statute rohibiting the establishment of asylums or retreats for the are of the insane or persons of unsound mind for compensa-on and hire without first obtaining a license from the state oard of charities is continuously violated by receiving, keep-ng, maintaining and caring for persons of the classes named n an unlicensed asylum or retreat, thereby causing fear, con-ternation and disturbance of the peace in the community, an injunction may properly be granted to restrain such unlawful cts, and the court is not restricted to a prohibition of dis-urbances of the peace.

The court says that the legislature of that state has declared hat institutions for the care and treatment of the insane r compensation shall not be established without a license rom the proper officers of the state having the care and over-ght of the unfortunate, which license shall be issued only n a showing of suitable plans and facilities which the board ay deem adequate for such an important undertaking. This atute, it may be presumed, was designed for the protec-on of those in need of humane care, and also to protect the ublic from the danger, consternation and disturbances inci-ent to inadequate facilities or inefficient administration in rivate, unlicensed institutions. The cries of the mentally nbalanced and deranged and danger from their irresponsible cts are calculated to, and do, cause apprehension and distress, lthough no actual physical harm be done. Hence the wisdom the statute in seeking to secure proper places and facilities r the proper treatment of these unfortunate people and the mportance of obedience to its requirements.

The obligation of the government to promote the interest all and to prevent the wrongdoing of one resulting in jury to the general welfare, is often sufficient to give it a anding in court to obtain an injunction, and, where a statute ke the one under consideration is persistently and contin-ously violated, no good reason is perceived why the princi-es should not apply, although the place (with the offensive ghts and sounds removed) should not be held a public nuis-nce. A court cannot prescribe how an institution shall be perated which the law declares shall not be operated at all. ithout a license there is no right to maintain the retreat, owever wise its management.

Liability for Failure to File Certificate of Birth

(*Department of Health of City of New York vs. Dunn* (*N. Y.*), *129 N. Y. S. 29*)

The Appellate Term of the Supreme Court of New York reverses a judgment of the municipal court for the defendant in an action to recover from him a penalty of $100 for alleged violation of Section 1237 of the Greater New York charter, which makes it the duty of the attending physician to file a certificate of birth within ten days. The court says that the child in question lived but a short time, and the defendant filed a certificate of death, which gave the date of birth, but omitted to file the certificate of birth. The defendant, a reputable and well-known physician, pleaded that this omission was caused by the confusion of the mother's illness, etc. The charter provides that the commissioner of health may excuse the omission, but the municipal court has no such power.

Society Proceedings

COMING MEETINGS

American Association of Anatomists, Princeton, N. J., Dec. 27-29.
American Physiological Society, Baltimore, Dec. 27-30.
Southern Surg. and Gynecol. Assn., Washington, D. C., Dec. 12-14.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

SOUTHERN MEDICAL ASSOCIATION

Fifth Annual Meeting, held at Hattiesburg, Miss., Nov. 14-16, 1911

(*Concluded from page 1862*)

Diphtheria

DR. W. W. HARPER, Selma, Ala.: In diphtheria, an early diagnosis is essential to successful treatment. Not only can the disease be more promptly cured, but the patient can be spared the complications and sequelæ that follow the delayed administration of antitoxin. As to the treatment, if the patient is seen on the first day of the illness, I give 5,000 units of antitoxin as an initial dose in faucial, and 10,000 units in laryngeal and severe nasal diphtheria. This dose is repeated in twelve hours, unless there is marked improvement. I have seldom found it necessary to repeat the dose.

DISCUSSION

DR. P. W. ROWLAND, Oxford, Miss.: I do not know by what reasoning the essayist arbitrarily gives 10,000 units of antitoxin in all cases. No rule can be laid down for regulating the dose of antitoxin. I see no need of giving these enormous doses. It is true, we do not know how many toxic units are involved in any given case, and it is impossible to tell how many antitoxic units will be required to neutralize whatever number of toxic units there may be present. Reasoning in that way, we may as well give 1,000 as 100,000 units. The ordinary dose of antitoxin in any given case of diphtheria is from 3,000 to 5,000 units, and that is found generally sufficient.

DR. J. J. STEVENS, Hattiesburg, Miss.: I was called to see a case that had all the earmarks of laryngeal diphtheria, but careful inspection did not reveal any membrane. I gave liberal doses of calomel. Later the child was in great distress. The laryngeal symptoms were very prominent. I immediately asked for consultation and ordered some antitoxin. My consultant seemed surprised that I had not administered antitoxin at my first visit. We gave the child liberal doses of antitoxin some hours after the calomel was given. The child passed a number of very large worms, and was immediately relieved. I think this case fits in very well with the case of appendicitis which was relieved by the administration of antitoxin.

DR. P. R. BROWN, West Point, Miss.: I would emphasize the importance of the early use of antitoxin. I do not believe we would have one death in a thousand if we used it within the first twelve or twenty-four hours. I have never had to repeat the dose. I generally give calomel, and in some cases wash out the throat with some antiseptic solution.

DR. WILLIAM KRAUSS, Memphis, Tenn.: We sometimes have cases of diphtheria bacillus carriers that keep up infection for weeks and weeks and months, and it seems utterly impossible to eradicate the infection. It has been found that the application of a pure culture of *Streptococcus aureus* will destroy those diphtheria bacilli in the throats of these patients, and it is the only thing that has been found to do it.

Intubation

Dr. Joseph J. Waller, Oliver Springs, Tenn.: The three most common types of disease demanding intubation are the severe cases of acute laryngitis, laryngeal diphtheria and membranous croup. This operation has many advantages over tracheotomy. While possibly it may be more difficult to do and require greater skill for its proper performance, it is not a cutting operation. It is quickly done and is safe.

Dr. W. W. Harper, Selma: I would rather be able to do intubation skilfully than to do a Cesarean section, for one can oftentimes get competent assistance in performing the Cesarean operation, whereas the country doctor is by himself, in a place where he cannot get help, and if he is competent to perform intubation, he will save many lives.

The Value of the Clinical Laboratory in Diagnosis

Dr. E. S. Sledge, Mobile: Laboratory methods are invaluable in diagnosis, are a great aid in prognosis, and in the intelligent observation of the course of the disease. Results are to be considered only as symptoms with the other clinical manifestations of the case. Every physician should do as much laboratory work as is compatible with his time and equipment.

Acute Anterior Poliomyelitis

Dr. E. M. Mason, Birmingham, Ala.: The virus of poliomyelitis occurs most abundantly in the central nervous system, but has also been found in certain lymph glands and in the nasopharyngeal mucosa. In both man and monkeys one attack of poliomyelitis, even the abortive form, protects against subsequent infection. As to the pathology, the virus becomes implanted not only on the leptomeninges throughout the central nervous system, but especially in the region of the spinal cord and medulla, where it sets up infiltrative changes that are most marked in the perivascular lymph spaces of the arteries entering the nervous tissues. There is a diminution in the total leukocyte count, with a relative lymphocytosis.

Dr. Louis Leroy, Memphis: We have had acute poliomyelitis on the reportable list of the State Board of Health of Tennessee for some time in anticipation of an outbreak or epidemic. Up to the present, we have only had reported a few scattering, isolated cases. I have seen only half a dozen cases within the last six years in our state. Those cases started with the ordinary symptoms of an infection, with no one definite symptom that I can recall to mind. The patients have all been children.

Dr. W. G. Somerville, Memphis: In some epidemics of anterior poliomyelitis we have cases of the cerebral type in which coma may come on and last for several days, and the patients die or recover with infantile paralysis. In this type the upper neuron is affected and the patient gets spastic paralysis. Some of the cases cannot be diagnosed until paralysis comes on, unless we have an epidemic of the disease. The child has fever, convulsions, vomiting and it is only when the paralysis comes on we are able to make a diagnosis unless we are looking for the disease. It is possible, however, in the early stages, before paralysis comes on, to make a diagnosis by examining the cerebrospinal fluid, as pointed out by Flexner.

Dr. Willis C. Campbell, Memphis: The orthopedic treatment of infant paralysis is very important. There may be a slight weakness of the extremities or a total paralysis of all the extremities. More frequently there is paralysis of both lower extremities. A patient often recovers good use of one extremity, while the other remains more or less disabled. Orthopedic treatment should begin as soon as the diagnosis is made. There is nothing that will give better results in these cases than to begin treatment at an early period and thus prevent deformity from taking place.

Etiology of Pellagra

Dr. John L. Jelks, Memphis: Pellagra is not a new disease, nor a disease in fact, but a series of symptoms, with parasitic infection in the intestine, with consequent abrasions, and either absorption of or the conveyance of toxin-developing bacteria or the toxins themselves into the blood or to the central nervous system, the force of which seems mostly spent on the cervical and dorsal portions of the cord. The amebas seem capable of conveying these toxins or bacteria, and probably are the chief immediate hosts. Some form of ameba has been found in most of my cases, and usually many of these organisms have lost much of the hyaloplasm, are immotile, or almost so, and contain many dark particles, a fact and condition not so frequently found as in pellagrins, therefore believed to be significant. I have never observed the degree of prevalence of this morphologic alteration in other cases.

Pellagra in Tennessee

Dr. J. A. Albright, Nashville: The commission appointed to investigate the number of cases of the disease throughout the state of Tennessee, has published a pamphlet giving its findings. It found that first cases, as a rule, spring up in the most remote places. While some of these have been imported from other states, quite as many give no history of exposure to any person or place infected with pellagra. The disease has appeared rather simultaneously at widely different points, not in any way related to each other, either as to avenue of infection, or as to similarity of local conditions. While first cases may appear in disregard of any system or regularity, a large number of cases have apparently become foci for the development of secondary cases. In some counties there is as yet no evidence of secondary cases. Approximately 97 per cent. of the patients admit the use of corn-meal in some form. No case is reported of the complete absence of corn-meal from the premises for a term of years. A large proportion of cases appear in the wake of or in the course of some other disease. While this is a disease of poverty and bad hygiene, many cases have appeared in the well-to-do families with good hygienic surroundings. Arsenic, especially the arylarsonates, appears to have a specific curative effect when begun early and persisted in. The amelioration or disappearance of symptoms in cold weather suggests a strong climatic influence on the course of the disease. The theory of insect transmission does not fit the early isolated cases so frequently found. It is possible that food cereals, and especially corn-meal, serve as vehicles of transmission, and that the infection exists in granaries and elevators, and that the obstacles to its transmission in this way are great enough to account for the relatively few cases of the disease. Since this possibility has not been definitely disproved it is imperative that there be sanitary supervision of grain distribution.

Prognosis of Pellagra

Dr. C. C. Bass, New Orleans: Of all the pellagra patients I saw in New Orleans in 1909, over 50 per cent. died during the year. Of ninety-six patients seen this year, only four died, and with the coming of cold weather none of those now under observation would be expected to die. This changed condition, though due partially to the milder type of disease prevailing in the section around New Orleans, is due chiefly to the fact that mild cases are now recognized, whereas formerly only the severe and frequently hopeless cases were recognized. How long must a patient be free from attacks before he is safe from a return? My observation would lead me to answer that if an attack can be avoided for twelve months or longer, there is little danger of a return of the disease, provided all corn food has been avoided during the time, and that it is never resumed. Another guide to the prognosis in a given case is the condition of the reflexes. Whenever the knee-jerks are exaggerated, as they are in all moderate and early cases, indicating irritation of nerve tissue, it is always possible for the patient to recover. In Italy and Roumania, where pellagra has been recognized for a long time, the mortality is considerably less than 10 per cent. The type of pellagra seen in New Orleans, and coming chiefly from Louisiana and Mississippi, has a mortality not exceeding 5 per cent.

Skin Manifestations of Pellagra; Their Importance in Diagnosis

Dr. H. E. Menage, New Orleans: The skin eruption of ellagra is not always a late or terminal manifestation, but ay be a very early one. We should base a diagnosis of pella- ra on the skin lesions in the absence of the symptom-complex, ecause if an early diagnosis is made, therapeutic measures ay be instituted early. The aberrant forms of skin lesions ay be and are often due to accidental and incidental causes nd not inherent to the initial erythema itself.

Treatment of Pellagra

Dr. Louis Leroy, Memphis: My observation of salvarsan pellagra is such as to discourage its use, but I must admit at I have not had the chance to administer it according to e method recently recommended by Martin, who reports me good results in giving fractional doses of the drug, re- eated at intervals of from a day or so intravenously. For ternal administration, I believe I have had more satisfactory esults from Donovan's solution than from Fowler's solution, lthough both have at times been very satisfactory.

Discussion on Pellagra

Dr. Charles W. Stiles, Washington, D. C.: I know of no ss than ten or twelve different forms of amebiasis in man. hen a report is made that amebiasis is very prevalent in a ven district, it does not mean anything to us unless there companies that report a definite statement as to which par- cular kind of amebiasis is present. It is not strange that vestigators of pellagra have recently associated amebiasis ith pellagra. I have recently examined a large number of utherners for infection with amebas and I find that the sta- stics of infection have not been exaggerated. But an impor- nt point is this: the common amebiasis which we have in r southern states is the non-pathogenic form.

Dr. J. T. Searcy, Tuscaloosa, Ala.: One peculiarity about llagra is that the toxins that arise affect the psychic centers ore than does malaria, hookworm disease, typhoid or any her systemic disease; consequently pellagrins drift into our sane hospitals.

Dr. H. E. Menage, New Orleans: Quinin as a therapeutic gent in the treatment of pellagra has not been mentioned. e are indebted to Dr. Isadore Dyer for the suggestion to use inin in treating cases of pellagra. Patients have been eated with this drug with gratifying results.

Dr. J. A. Hayne, Columbia, S. C.: We have 2,100 cases of llagra under observation and treatment in South Carolina. the patients, a large proportion are females. So far as the rn theory is concerned, we have gone so far as to forbid the portation of corn that shows over 30 per cent. total acidity, d we do not allow that corn to be used. I have seen one se of pellagra in a nursing infant; whether the toxins are rried through the mother's milk or not, I do not know. e infant does not eat corn-meal or corn-bread. I have seen tients with pellagra who have had nothing to do with corn any form.

Dr. Charles R. Craig, Washington, D. C.: In 1905 I pub- hed researches on the examination of the stools of over 00 men in the city hospital of San Francisco, and 50 per nt. of them showed *Amœba coli*. These men were from all rts of the United States. Merely finding amebas in the ols does not mean anything. We ought to find out what ecies we are dealing with, and whether they are of the thogenic or non-pathogenic variety. As regards the occur- nce of pellagra in connection with amebic dysentery, at the esidio we had over 2,000 soldiers who had come back from e Philippines, and of the number of cases of amebic dysen- y admitted to the hospital, there was no evidence in any of ese cases of skin lesions being particularly common in ebic dysentery. I autopsied over 300 cases, but did not d pellagra.

Dr. William Krauss, Memphis: I have seen a case of pel- gra in a nursing infant, contracted at six months. The baby s getting its nourishment from a healthy mother. In one e the mother had pellagra, and was nursing her baby. Nursing was discontinued, and although the mother had for five weeks suffered from a virulent form of pellagra, and during four of these five weeks she nursed her infant, the infant was in perfect health, so that with respect to the transmission of any poison through the mother's milk, we have no proof here in either direction.

NEW YORK ACADEMY OF MEDICINE

JOINT MEETING WITH THE PHILADELPHIA PEDIATRIC SOCIETY AND THE NEW ENGLAND PEDIATRIC SOCIETY

Meeting Held Nov. 9, 1911

Dr. William Shannon in the Chair

Acute Duodenal Indigestion in Children

Dr. Fritz B. Talbot, Boston: Acute duodenal indigestion is a relatively common disease in young children. There have been during the past year twenty-four cases in the Children's Medical Out-Patient Department of the Massachusetts General Hospital. The onset of the disease may be sudden with fever, vomiting, pain in the stomach, jaundice, clay-colored stools, bile in the urine, loss of appetite, etc.; or it may appear insidiously, without fever, following some indiscretion in diet, more especially following the intake of an excessive amount of fats or sugars. The disease comes as a complication of such infections as otitis media, diphtheria, and the exanthemata in 15 per cent. of the cases. The onset was sudden in 75 per cent. of our cases; the liver was enlarged in 74 per cent., and tender in 13 per cent.; the spleen was not palpable in any case. Urobilinogen was absent from the urine in every case in which there was complete obstruction, and was present in excessive amounts when the obstruction was removed. The stools are recorded as white in 36 per cent., creamy in 14 per cent., and clay-colored in 50 per cent. of the cases during obstruction. When there was complete obstruction to the common duct, bile in the form of bilirubin was forced back into the circulation, colored the tissues and a portion overflowed in the urine. Urobilinogen could not be found in the urine because bacterial action on bile is necessary for its formation; this only takes place in the intestinal canal. The fat in the food is digested and absorbed only in part, and clay-colored and acholic stools composed almost entirely of fat result. In some of the cases there was constipation and in some diarrhea with mucus in the stool. The diarrhea was the result of prolonged irritation of the intestinal mucous membrane due to stagnation and decomposition of fat, thus complicating the duodenal indigestion with a secondary intestinal indigestion. When the bile again flowed into the intestine, the fat quickly disappeared and normal quantities of urobilinogen appeared in the urine.

As to treatment, metabolism experiments make it obvious that fats and sugars should be excluded from the diet. Proteins, especially meat, fat-free milk, and thoroughly cooked simple starches may safely be given. The appetite can be stimulated by tincture of nux vomica and the mucous plug in the bile-duct may be best reached by large doses of alkalies, such as bicarbonate of soda. The prognosis for life is always good, but recurrences are not infrequent. Much work must be done by the pathologist before we can know whether acute duodenal indigestion is purely a local disease or whether the liver tissue itself is involved.

Dr. Alfred F. Hess: By the use of a Nélaton catheter I have been able to pass through the pylorus and the cavity of the stomach and to enter the duodenum and obtain the duodenal juices. This has enabled me to study the duodenal secretions. The question of duodenal indigestion was a broader one than merely its relation to the secretion and the pouring out of bile. In the future it will be approached, not by an examination of the urine and of the ferments in the stools, but by a study of the ferments themselves in the duodenum.

Dr. Herman Schwarz: Catarrhal jaundice should be studied more, and especially in that class of cases which occur not infrequently, congenital stenosis of the bile-ducts. It is important that we should know just what happens to the fat and also what happens to the sodium, calcium magnesium and potassium which the fat drags with it.

Dr. Henry D. Chapin: About a year ago I made a study of the motility of the stomach in atrophic infants. The trouble is not so much with secretion as with deficient muscular action. I am trying duodenal feeding in that class of cases and think it very promising. I pass the food directly into the duodenum.

Dr. John Lovett Morse, Boston: Duodenal indigestion is much more common among young children than is generally supposed. I have seen a number of babies in which the condition was manifest at the beginning of the first week, and one should be on the lookout for it at any age. Dr. Talbot's statement, that these patients do not get well when given sugars but do when given starches, is very interesting.

Study of Streptococcus Antibodies in Scarlet Fever with Special Reference to Complement Fixation Reactions

Dr. John Albert Kolmer, Philadelphia: In my investigations of the glands in twenty-six cases of scarlet fever, I have failed to find any organisms resembling those described by Vipond. I believe from my investigations that the following deductions are correct: A streptococcus produces a specific antibody up to a certain limit. The specific nature of these antibodies is seen by complement fixation reactions in high dilutions between a streptococcus immune serum and its antigen. With low dilutions the specific nature of the antibody is not brought out. Not only do scarlet fever streptococci tend to produce their own specific immune serum but likewise streptococci causing septicemia and those causing non-scarlatinal angina, etc., tend to produce their own immune serums. Finding but 11.2 per cent. positive reactions in scarlet fever tends to show that streptococcus infection in scarlet fever severe enough to produce immune bodies is not so common as is generally believed. Only one of three toxic or malignant cases yielded a positive reaction. These severe cases are frequently due to an overwhelming effect of the true scarlet fever virus, whatever that is, without secondary streptococcus infection.

Since it has been practically proved that a streptococcus is not the cause of scarlet fever, it is difficult to understand how immunization with streptococci can prevent that disease. Such immunization might be valuable in preventing or mitigating secondary streptococcic infections which are present in at least 11 per cent. of scarlet fever patients. It seems possible that such protection might result by an increase in opsonins against streptococci, and consequently we undertook a study relative to the production of opsonins which has led us to the following conclusions: 1. It is possible to raise the streptococco-opsonic index by the injection of organisms killed by an exposure of 60 C. for one hour. This increase is very slight with three or less administrations and becomes apparent only after a relatively large number of injections. 2. The increase in the quantity of opsonin after three injections is so slight as to make the likelihood of establishing immunity against streptococcic infection very dubious. 3. The opsonins are more or less specific toward the strains used in the process of immunization.

We have also worked with the question as to whether streptococci stimulate the production of agglutinins and have concluded (1) that streptococcus agglutinins are produced slowly by experimental immunization and the quantity is quite variable; (2) that these agglutinins are apparently non-specific in character and of no value in differentiating streptococci; (3) that they are demonstrable in 12.5 per cent. of scarlet fever patients but only in a comparatively low dilution of serum; and (4) that there is no relation between agglutination and complement fixation antibodies or between agglutinins and opsonins. If they are to claim a specific streptococcus for scarlet fever, a similar claim may be made for every other streptococcus infection, and this seems to be out of the question. The streptococcus found in scarlet fever belongs to the general class of streptococci, and is modified in some way during the course of the infection so as to give it a somewhat specific antibody and occasionally temporary cultural characteristics. The same is true of several other streptococci. The reports of Russian physicians as to the efficacy of injections of streptococcus vaccine, although apparently convincing, should be viewed with skepticism.

DISCUSSION

Dr. Richard M. Smith, Boston: It is far from proved that the same type of streptococcus is always found in every case of scarlet fever. The lack of uniformity and consistency in the serum reaction of scarlet-fever patients seems to be another point against the specificity of a single strain of streptococcus. The opsonic index is low in scarlet-fever patients, not only for the streptococcus but also for the pneumococcus and staphylococcus. In passing judgment on the immunization work in Russia one should bear in mind that the natural immunity to scarlet fever is very great. An epidemic of scarlet fever occurred in an institution in Boston last winter but, despite the fact that all the children were vaccinated, no influence was evident on the spread of the disease. The children having the disease did, however, have a light attack, but whether the vaccination was responsible for this was undetermined. Giving the vaccines early with the hope of modifying the course of the disease and preventing complications seemed to promise something.

Dr. Matthias Nicoll: After considerable experience in the employment of streptococcus serum by the subcutaneous and intravenous methods I am unable to advocate its general use in scarlet fever, except in those cases which may be classed as general septicemia. I am thoroughly convinced of its great value when applied freely and at short intervals to the mucous membrane of the pharynx and tonsils.

Prophylactic and Curative Inoculation in Typhoid

Dr. J. M. Phalen, M.C. U. S. A., and Dr. James G. Callison, New York City, read a paper which will be published in The Journal.

Dietetic and General Management of Typhoid in Children

Dr. Charles G. Kerley: I have found it necessary at the onset of every illness in children to discontinue milk and solid foods for the reason that the capacity for food is lessened. I administer a laxative sufficient to produce a few watery evacuations. As a temporary diet, flavored gruels are administered and, perhaps, one of the dried milk-foods, until the nature of the illness is determined. In typhoid fever the diagnosis is rarely made under a week of observation, but when established, the intestines are free from distention with gas and undigested milk and we have a patient with a lower temperature and a less toxic condition than if freer feeding had been allowed. In typhoid fever my diet schedule includes gruels, made palatable and their nutritional value increased by the addition of broths, milk-sugar, or sherry wine. Milk foods are given only once a day and among those used are fermented milk, albumin milk and skimmed milk. The whites of two or three eggs are given daily with orange juice or frozen with orange juice and cane sugar and served in the form of a sherbet. Feeding should never be given oftener than at three-hour intervals, or less frequently than four hours. The cereals used should be well cooked. The caloric requirements, 60 to 70 per kilo, for a 5-year-old child may easily be supplied by these articles of diet, although the diet may not be an ideally balanced one. Milk, scraped beef, and soft-boiled eggs are not well borne by young typhoid fever patients. Carbohydrates, such as the cereals and different sugars, are readily cared for when properly prepared and administered. Emaciation is prevented through their action as proteid sparers. The abdomen must be kept flat if we wish to have a short and mild case of typhoid fever. On the milk diet tympanites is the rule; with the diet outlined it is the exception.

I have found drugs of no service, except to produce a bowel action when there were not two in twenty-four hours, and to control the evacuations when they were more than four in twenty-four hours. So long as the temperature does not go above 104 F., no attempt at reduction is made. If it goes higher, hydrotherapy in the form of a cool pack is employed The child's thorax and abdomen are wrapped in a towel wet with water at 95 F. and the towel kept cool by sprinkling with colder water. This method of management produces a milder course of the disease, shorter duration, more prompt convalescence and usually absence of complications.

DISCUSSION

Dr. Charles Fife, Philadelphia: I have not given up entirely the use of milk in the feeding of children with typhoid fever, though its use may be carried to such an extent as to be harmful. One should not draw any general conclusions but should study more closely the digestive powers of the child. Skimmed milk has a place in the treatment of typhoid fever. It helps the proteid content in food, a fact that should be kept in mind. Skimmed milk should be used more than once a day.

Dr. Warren Coleman: I assume that the metabolism reactions in a child with typhoid fever are the same as in the adult. I have been using a diet, the main object of which is to supply the patient with an amount of food sufficient to cover the amount of energy lost. In Bellevue and the Allied Hospitals, during the years 1908, 1909, and 1910, there have been 875 cases of typhoid fever and 137 deaths. During this period there have been 102 patients on a high caloric diet with eleven deaths. Among the 773 patients not on the high caloric diet, there were 126 deaths, or 10.8 per cent. mortality for the first class, and 16.3 per cent. for the second. The use of the high caloric diet has been followed by the subsidence of the diarrhea with which the patient entered the hospital. In those cases in which hemorrhage has occurred, the loss of blood was slight. We have lost but one patient from hemorrhage. With a high caloric diet convalescence is much shorter.

Dr. August Seibert: For twenty-two years I have not used milk in the treatment of typhoid fever. Diarrhea, intestinal disturbances and toxemia are increased when milk is given. I would emphasize the importance of thoroughly cleansing the alimentary tract: the bowels should be washed out every day.

IDAHO STATE MEDICAL ASSOCIATION

Nineteenth Annual Meeting, held at Boise, Oct. 11-13, 1911

The President, Dr. John W. Givens, Orofino, in the Chair

Officers Elected

A list of the officers elected was published in The Journal, October 14, p. 1464.

Medical Inspection of Schools

Dr. George E. Hyde, Rexburg: Seventy-six thousand children attended Idaho public schools last year, yet very little has been attempted in the way of medical inspection. An effort is being made to provide suitable buildings and apparatus for the pupils and improve the sanitary condition of the buildings and grounds, but practically nothing more has been done. The public school system of Idaho cost the state $2,575,506.10 last year, and, as it has been carefully estimated that 20 per cent. of the amount paid for the education of children in public schools is spent to enable backward children to repeat grades, Idaho is, therefore, probably spending over $500,000 yearly on backward children, most of whom are suffering from removable defects.

Careful and systematic examination of 400 school children gave the following results, which compare quite favorably with like statistics from eastern towns and cities. Of these 16 had deafness in some degree; 8 had adenoids; 54 had hypertrophied tonsils; 58 had mild defects of vision; 41 had defects of vision from 20/50 to 6/200; 31 had headache after reading; 12 had to change position to see to write their lessons; 11 could not see writing on blackboard from where they sat; 240 had defective teeth, one-fourth of these very bad; 5 had mitral regurgitation, with a history of rheumatism in 4; 112 showed no discoverable defects.

DISCUSSION

Dr. J. M. Taylor: To bring about medical inspection it is necessary to educate the people, and to accomplish this, thorough and easily understood demonstrations must be made to the public by the health authorities. An excellent argument is to show the parents how the cost of educating their children can be decreased by the discovery and removal of physical defects, and improving the sanitary environments surrounding their children.

Dr. August C. Behle, Salt Lake City: Medical inspection of schools is necessary; the question is, How can it be best brought about? Medical inspection should be under the control of the board of health, and health officers should have more authority. It is economy to conserve the health of our children. Defective children should not be seen in our schools, for one backward child takes as much of the teacher's time as twenty normal children; hence these defectives are a constant source of additional expense to the public.

The Importance of Intestinal Rest in Dealing with Acute Intestinal Conditions

Dr. C. N. Suttner, Walla Walla, Wash.: First should be considered psychologic rest, the avoidance of all things that may tend to excite the patient and the encouragement of confidence in the patient and the belief that he is going to get well. Second comes mechanical rest—complete relaxation of all muscles, with supports under knees and back. Third may be considered physiologic rest. Do not feed these patients. A little chewing-gum or good chocolate candy will satisfy and keep them busy. Opiates are seldom necessary. A hypodermic of sterile water will usually act just as satisfactorily. Fourth comes surgical rest. This is brought about by the use of a proper surgical bed, a comfortable operating table, with warm aseptic cushions or pillows for propping patient.

Discussion on Therapeutic Pneumothorax

Dr. C. N. Suttner, Walla Walla, Wash.: A patient of mine, who gave the clinical picture of pulmonary tuberculosis, secured the effect of compression of the lung by lying on one side for four and one-half months, but later developed an empyema which had to be drained; the patient recovered entirely.

Dr. A. C. Behle, Salt Lake City: Nitrogen gas is better than air because it is more slowly absorbed. The Röntgen ray should always be used in connection with this treatment to better control the amount of compression.

Dr. C. S. White, Portland, Ore.: Every case of tuberculosis should be sent to a sanatorium for at least a month or two for the education such stay gives. Every patient goes home as a missionary teacher of good hygiene; he not only learns how to take care of himself, but he has become watchful of others and can and will advise and instruct his family and friends.

Dr. R. C. Matson, Portland, Ore.: It is quite important to go thoroughly into the patient's personal and family history. The time and place of infection can often be determined. It is important also to inquire into the history of the home—the house or houses in which he has lived. In going into the personal history, remember that some previous illness diagnosed as typhoid, rheumatism or an atypical pneumonia, may in reality have been a tuberculous infection.

Discussion on Treatment of Tuberculosis

Dr. L. P. McCalla, Boise: Every state should have a sanatorium for the treatment of tuberculosis. It is the duty of this and every state to provide a suitable institution for that purpose. I have abandoned the use of tuberculin as a therapeutic measure, and only occasionally use it for diagnostic purposes. Climate has a beneficial preventive effect. Germs do not grow as well in Colorado or Idaho as they do in a low, moist, warm climate. Giving greater care to food and its preparation is important. The ideal kitchen should be a laboratory, presided over by an intelligent and well-trained and well-paid person.

Dr. J. W. Givens, Orofino: In reference to the relation climate bears to tuberculosis, I know from personal experience and knowledge that tuberculous patients form a greater proportion of admissions to the Oregon Asylum than they do to those in the Idaho insane institutions. Fewer cases develop in a dry climate than in the moist. The question what and how to feed these patients is all-important. The profession differs as to this, so they often fail to give proper advice to their patients. We know how to feed a cow to accomplish certain ends, but we do not understand yet the best method of feeding human beings, especially sick ones.

Discussion on the Pituitary Body

Dr. Wilson Johnston, Seattle, Wash.: We know that the secretions of the pituitary body and other ductless glands are absolutely essential to the development of normal men and women. The relation of the pituitary body to the hyperplasia of pregnancy in women and animals, regulating the type of body developed, is very interesting. Enlargement of the ovary may be a local manifestation of beginning acromegaly due to disease of this body. From a surgical standpoint our increasing knowledge of the functions of this and other allied glands means that we must make more careful and better diagnoses.

Dr. Frank Hinman, Spokane, Wash.: This subject is of more importance to the internist and general practitioner than to the surgeon. Surgical operation on the pituitary body is very difficult for even expert surgeons, and is dangerous to the patient, so we must look to the internist for a specific remedy. We now have a specific for myxedema, and the prospects are favorable for a specific for disease of pituitary body.

Youth and the Sex Problem

Dr. W. T. Williamson, Portland, Ore.: Children have a right to expect their parents to inform them concerning their sexual functions and the part sex plays in the scheme of life and procreation of our kind. It is impossible for children to develop to full adult life without acquiring this knowledge, and it is far better to have this information properly given them by responsible persons whom the child has been taught to respect and love, than to have the child acquire this knowledge from improper persons under unfavorable conditions. It is our duty as parents to protect the young from the evil influences of others and from their own ignorance. Many boys and girls are victims of diseases and immoral practices because of their lack of knowledge on this subject, and the great question is, how shall we educate our children? A society has recently been organized in Portland for the purpose of discussing this problem and carrying on a campaign of education among the people. As the parents have apparently manifested no interest in this subject, it is proposed that the physicians lend their aid in instructing the parents and teachers how best to reach the children. In the schools it ought to be easy to begin this study early in the child's school life by unfolding to him or her the first life plan of plants and the lower animals, and in a gradual manner explain and lead up to procreation and the relation the sexes bear to Nature's scheme of life.

Several social conditions exist which tend to further the evil consequences of this lack of knowledge of the sex question. Especially in the larger cities, many young girls work in department stores, shops and offices. Most of them are underpaid, yet expected to appear neat and well dressed, and many of these go wrong, first, through ignorance, and then because the leading of such immoral life enables them to have nicer clothes and get more enjoyment from their leisure hours. Then, too, many boys and girls are allowed to roam the streets at night. Enforcement of the curfew ordinance would in a great measure remove this source of temptation. Indiscriminate dancing is a third social condition found in all large towns and cities. Young men, and especially young women and girls, should not be allowed to attend public dances, where they are apt to meet undesirable acquaintances, without proper escort.

It is proposed to correct all these undesirable conditions so far as possible by education of the people. Ignorance is also undoubtedly to blame for a great deal of the sexual diseases afflicting men and women. Most of the operations done on women for pelvic disease are due to venereal disease. This is not surprising when we consider that probably 75 per cent. of men have been infected with gonorrhea in early life, and that from 5 to 18 per cent. of men have suffered from syphilis. Now, most all of these infections are the result of ignorance and may be traced to improper sexual relations, though it is not impossible to become infected without intercourse. So we are all in more or less danger from the general prevalence of these diseases.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Northwest Medicine, Seattle, Wash.

November, III, No. 11, pp. 303-334

1 *Some Causes and Prevention of Insanity and Feeble-Mindedness. J. W. Graves, Orofino, Idaho.
2 Specific Diagnosis of Tuberculosis in Children. R. W. Matson, Portland, Ore.
3 Should a Tuberculous Mother Nurse Her Child? M. MacLachlan, Portland, Ore.
4 Can Pure Milk be Obtained in Portland? C. S. White, Portland, Ore.
5 Intestinal Diseases in Infants. J. B. Bilderback, Portland, Ore.
6 Modification of Cow's Milk. E. J. Labbe, Portland, Ore.
7 *Treatment of Chorea. W. T. Williamson, Portland, Ore.
8 *Relation Between Diseased Tonsils, Rheumatic Fever and Heart Disease. A. K. Higgs, Portland, Ore.
9 Differential Diagnosis Between the Exanthemata. F. H Dammasch, Portland, Ore.
10 *Cure of Fistula in Ano Without Injury to Sphincters. K. A. J. Mackenzie, Portland, Ore.

1. **Insanity and Feeble-Mindedness.**—To prevent feeble-mindedness and insanity, Givens says, every child should be born of reasonably healthy parents. Every person should have the necessary elements of good nutrition, particularly an abundance of pure air, good water and proper food. All toxic substances from outside the body should be excluded so far as possible and all products of body waste should be regularly eliminated. Such habits of exercise of body and mind, rest and sleep, should be taught and observed as will tend to produce and maintain a sound mind in a sound body.

7. **Treatment of Chorea.**—The treatment recommended by Williamson consists of rest, nutrition, elimination and drugs to combat the symptoms.

8. **Diseased Tonsils, Rheumatic Fever and Heart Disease.**—The relation between tonsillar inflammation and acute rheumatism has been almost universally acknowledged by clinicians for several years, but it is only of late that it has been pointed out that there is a relation between tonsillitis and various lesions of the heart. Observers differ as to the percentage and as to certain details of rheumatic and heart complications following tonsillitis, but as a general proposition all are practically agreed that there is a relation between them. Although a specific etiologic factor has not been isolated, it is generally agreed that acute rheumatism proper is a specific infectious disease of uniform etiology and that the tonsil is often the portal of entry not only for the articular infection but also for myocardial infection. The offending tonsils are not necessarily large; in fact they are often small and submerged so that they may be overlooked entirely as a causative factor in any systemic affection. Higgs says that the patient is entitled to protection from tonsillar infection if it can be done without seriously jeopardizing life. Internal medication, cleaning out the crypts and local applications relieve the local inflammatory symptoms in certain cases and some cases may be practically cured by such treatment, but in most cases such measures are wholly inefficient either to relieve immediate symptoms or to ward off future attacks and in such cases one should resort to some surgical procedure.

10. Abstracted in The Journal, Aug. 5, 1911, p. 505.

Journal of Cutaneous Diseases, New York

November, XXIX, No. 11, pp. 569-616

11 Mottled Chin in Syphilis and Other Dermatologic Observations. W. B. Trimble, New York.
12 Erythema Nodosum Syphiliticum. F. J. Leviseur, New York.
13 Fatal Case of Blastomycosis. F. J. Shepherd, Montreal.

Interstate Medical Journal, St. Louis

November, XVIII, No. 11, pp. 1073-1160

14 Surgical Treatment of Puerperal Infection. P. Findley, Omaha, Neb.
15 Modern Trend of Psychiatry. J. V. May, Fishkill-on-the-Hudson, N. Y.
16 Atypical Mastoiditis. E. B. Dench, New York.
17 Chronic Relapsing Gonorrhea and Methods Used to Dete mine Its Cure. C. M. Whitney, Boston.
18 Nitrous Oxid Anesthesia in Adenoid and Tonsil Operations. C. A. Gundelach, St. Louis.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

November, XXXVIII, No. 11, pp. 641-677

19 *Inheritance of Epilepsy. C. B. Davenport and D. F. Weeks, Skillman, N. J.
20 *Imperative Pains. F. R. Fry, St. Louis.

19. **Inheritance of Epilepsy.**—One hundred and seventy-five families were studied carefully by Davenport and Weeks for the purpose of securing an accurate account of the mental history, environmental conditions, diseases and causes of death, if dead, of as many relatives of the patient as possible. This number gives no idea of the number of epileptics recorded in the pedigrees, since as many as four have been described in a single fraternity, and several fraternities with epileptic individuals have been described in the same pedigree. The number of fraternities eventually considered was 181. The total number of epileptics in the fraternities analyzed is 206, but there were many other epileptics recorded in the charts who could not be used for study because of the fragmentary knowledge of their parentages and their sibs (i. e., brothers and sisters). The results of this investigation are carefully recorded in tables for which the original article should be consulted. Briefly the authors hold that epilepsy and feeblemindedness show a great similarity of behavior in heredity supporting the hypothesis that each is due to the absence of a protoplasmic factor that determines complete nervous development. When both parents are either epileptic or feeble-minded all their offspring are so likewise. The conditions named migraine, chorea, paralysis and extreme nervousness behave as though due to a simplex condition of the protoplasmic factor that conditions complete nervous development, i. e., persons belonging to these classes usually carry defective germ cells. Such persons may be called "tainted." When such a tainted individual is mated to a defective, about one-half of the offspring are defective. When a simplex normal is mated with a defective, about half the offspring are normal; the others, defective or neurotic. When both parents are simplex in nervous development and "tainted," about one-quarter (actually 30 per cent.) are defective. The proportion of tainted offspring is not noticeably higher when both parents show the same nervous defect. Normal parents that have epileptic offspring usually show gross nervous defect in their close relatives. The data point to a poisoning in slight degree of germ cells by alcohol, but the evidence is hardly crucial. There is evidence that in epileptic strains the proportion of epileptic children in the latest complete generation is double that of the preceding; but there is no evidence that in these epileptic strains the average number of children in a fraternity is greater than in the population at large. Provided marriage matings continue as at present and no additional restraint is imposed the proportion of epileptics in New Jersey would double every thirty years. The most effective mode of preventing the increase of epileptics that society would probably countenance is the segregation during the reproductive period of all epileptics.

20. **Imperative Pains.**—The psychasthenic presents the chronic, insistent pains which Fry suggests might with propriety be called imperative pains, for the reason that they have the imperative features of the obsession and to his mind are the sensory counterpart, and often the accompaniment, of the tic or other compulsive motor phenomena of this type of psychopaths. Cases in point are cited.

Medical Fortnightly, St. Joseph

November 10, XXXX, No. 9, pp. 457-460

21 Dementia Præcox and Scientific Research. B. Holmes, Chicago.
22 The School Room. D. L. Field, Jeffersonville, Ind.

Ohio State Medical Journal, Columbus

November, VII, No. 11, pp. 515-545

23 Cooperation as a Factor in the Prevention of Typhoid. L. L. Lumsden, Washington, D. C.
24 Congenital Atresia of the Rectum, with Vesical Fistula. J. L. Ransohoff, Cincinnati.
25 Cancer of the Breast. G. M. Todd, Toledo.
26 Management of Labor When the Brim is Contracted in Its Antero-Posterior Diameter. W. Gillespie, Cincinnati.
27 Surgery of the Ureter. H. A. Baldwin, Columbus.
28 A General Consideration of the Tonsil Operation. A. J. Hill and G. F. Zinninger, Canton.
29 *Resection of Left Lobe and Portion of Right Lobe of Liver. E. M. Gillam, Columbus.
30 Radiotherapy in Dermatology with Stereopticon Demonstration of Cases. W. I. Lefevre, Cleveland.

29. **Resection of the Liver.**—In this case Gilliam made a provisional diagnosis of malignancy. A median incision was made extending from the ensiform cartilage to the umbilicus. The growth was firmly adherent to the parietal peritoneum and adjacent viscera, and seemed to spring from the liver. In endeavoring to liberate the mass the liver was extensively torn and an alarming hemorrhage ensued. The stomach could not be palpated. Thinking he had to deal with a primary neoplasm, a resection of the entire left lobe and a portion of the right lobe of the liver was made. The weight of the mass at the completion of the operation was found to be 3 pounds lacking 2 ounces. During the operation a very large portal vessel had been cut necessitating lateral suturing. Hemorrhage was controlled by crushing the liver substance with powerful hemostats, and the introduction into the cavity of six very large sterile towels. On removal of these towels, sterile gauze was substituted, the ends being brought out of the abdominal wound. Over 8 yards of gauze were required. The patient, at the completion of the operation, was somewhat cyanosed, had a pulse of 140, respiration 30; on the second day, pulse 96, temperature 100. From that time on her condition gradually improved and on the seventeenth day she was able to sit up. The microscopic diagnosis was spheroidal cell carcinoma of the liver (secondary). The patient appeared to improve for a time, but symptoms of gastric derangement persisted and between two and three months after the operation she died. Preceding her death she presented the clinical evidences of gastric cancer which caused her death.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

November, XXXI, No. 21, pp. 507-523

31 Sporotrichosis in North Dakota: Report of a Case. G. F. Ruediger, Grand Forks, and H. W. Miller, Jamestown, N. Dak.
32 Tuberculosis of the Kidneys. D. C. Balfour, Rochester.
33 Roentgenoscopy of the Kidneys and Ureter. A. B. Moore, Rochester.
34 Cystoscopic and Ureteral Diagnosis, with Special Reference to Tuberculosis and Calculus. G. J. Thomas, Rochester.
35 Neoplasms of the Kidneys. G. B. Eusterman, Rochester.

Cleveland Medical Journal

October, X, No. 10, pp. 795-880

36 *Treatment of Postoperative Septic Peritonitis. H. Robb, Cleveland.
37 *Open Method of Treatment for Fractures. A. F. House, Cleveland.
38 *Case of Acute Leukemia. M. J. Lichty, Cleveland.
39 Severe Puerperal Sepsis, Due to Gonococcus Infections. J. T. Smith, Cleveland.
40 Charities Clearing House, in Its Relation to Dispensary and Hospital Abuse. E. C. Foster, Cleveland.
41 Dispensary Practice with Suggestions for Its Control. F. C. Herrick, Cleveland.
42 Sources of Dispensary Abuse. A. R. Warner, Cleveland.
43 Dispensary Abuse. H. J. Gerstenberger, Cleveland.
44 Prevention of Hospital Abuse. J. C. Fox, Cleveland.
45 Etiology of Insanities. J. D. O'Brien, Canton, Ohio.
46 Cataract from Concussion. E. Lauder, Cleveland.

36. **Postoperative Septic Peritonitis.**—Robb's experience has taught him that critical cases of peritonitis developing after abdominal operations call for early operative interference before the condition becomes hopeless. In patients presenting serious symptoms he does not hesitate to reopen the abdomen and wash out the cavity and institute drainage. This procedure, he believes, has considerably lessened his mortality in such cases.

37. **Treatment of Fractures.**—House believes that we must be guided in the treatment of fractures, either simple or compound, by certain conditions, namely, should it be found that reduction cannot be accomplished in the usual way, or that coaptation cannot be maintained and that deformity with impaired function is unavoidable in any given case of fracture, there should be no hesitation in resorting at once to the open treatment, provided all other conditions, including the operator's training and technic, are favorable to the procedure. As regards fixation materials and appliances, experience has a

decided influence in the final results in many cases. Silver wire is too fragile and breaks too easily to be of much service. Bronze aluminum wire is much stronger, but is rather hard to manipulate. Wire nails become loose too soon to maintain accurate apposition until union of the fragments takes place, but in ununited or delayed union, the results are much better and they serve the purpose in a most desirable way. In recent fractures, screws act very much in the same way as nails, and are therefore not to be recommended. Picture wire has more tensile strength than either bronze aluminum or silver wire, it is much more pliable and answers the purpose much better. Kangaroo tendon and chromic gut lack certainty of strength and their durability is uncertain. House prefers those of aluminum. This metal possesses considerable flexibility and is sufficiently pliable to adapt itself to any inequality of the bone and is not so prone to break or to pull out the screws in putting on the splints and final dressings, which is frequently the case in the steel plate as used by Lane of London.

38. **Acute Leukemia.**—The case reported by Lichty seems rather unusual and worthy of report, not so much on account of the extreme rarity of acute leukemia, but on account of the history of malaria many years previously which might be considered sufficient cause for the very marked enlargement of the spleen and for some of the later developments. While the blood was examined carefully by several observers during the last six weeks of the patient's final illness, no blood changes such as one finds in leukemia, were found, until the last few days when there was a marked leukocytosis and peculiar nervous signs differing from those usually seen in the terminal stage of leukemia.

Western Medical Review, Omaha, Neb.

November, XVI, No. 11, pp. 553-575

47 Ruptured Intestine Due to Trauma. R. R. Hollister, Omaha.
48 Fixation Abscesses in Treatment of Sepsis. A. P. Condon, Omaha.
49 Therapeutic Use of Hydrochloric Acid and Pepsin. T. Truelsen, Omaha.
50 Simple Pleurotomy Versus Rib Resection in Recent Empyema. W. O. Bridges, Omaha.
51 History of Cancer. H. C. Smith, Franklin, Neb.

Canadian Medical Association Journal, Toronto

November, I, No. 11, pp. 1019-1113

52 *Preventive Insanity. W. H. Hattie, Halifax.
53 Operative Treatment of Glaucoma with Special Reference to Lagrange Method. C. A. Wood, Chicago.
54 Statistics of Infantile Paralysis. C. A. Hodgetts, Ottawa.
55 *Surgeon's Interest in Henoch's Purpura. R. E. McKechnie, Vancouver.
56 Treatment of Uterine Displacements. F. A. L. Lockhart, Verdun.
57 Traumatic Lesions of Cord Without Injury to Spinal Column. G. E. Wilson, Toronto.
58 Eclampsia. H. L. Reddy, Montreal.
59 Surgical Treatment of Anterior Poliomyelitis. A. M. Forbes, Montreal.
60 Prostatectomy: Suprapubic Route. W. J. MacDonald, St. Catharines.

52. **Prevention of Insanity.**—Hattie pleads for a more thorough recognition of the importance of psychiatry by our medical colleges. Unfortunately, our text-books describe only well developed insanity and give little account of the prodromata and earlier manifestations. Naturally the class-room and hospital teaching follow on very similar lines. The fact is that specialists in psychiatry, those who write our books, do not often see mental disease in its early stages. The general practitioner is the one thus favored and from him must come, largely by means of full and accurately prepared statements of the cases of mental patients, the data on which a better understanding of these cases must be based. He feels strongly that provision should be made for such patients in the general hospitals, to which patients could be admitted without certification, thus aiding in the collection of such information and also encouraging mental patients to seek hospital care at a very early period of their illness. A large proportion of insane patients could easily be cared for in this way and saved from the stigma and various disabilities which result from commitment to an asylum. The opportunities for extended study of intercurrent conditions, for consultation with various specialists and for laboratory research work, which the general hospital affords, should prove most helpful in the treatment of the mental patient, while the difficulties in the way of clinical teaching in psychiatry would be at once removed. The feasibility of this scheme has already been demonstrated in several cities and such notable results have been obtained as to attract attention.

55. **Surgeon's Interest in Henoch's Purpura.**—MacDonald attempts to prove that Henoch's purpura may in some cases, simulate some grave abdominal condition, that the abdominal symptoms may precede for several days the purpuric manifestation and so throw one off his guard, and that these cases so closely simulating intussusception, with vomiting, severe abdominal pain, constipation, blood and mucus in the stools, may yet be purely medical cases. On the other hand an intussusception can occur in a case of Henoch's purpura several days before the appearance of the rash, and also in a typical case of Henoch's purpura an intussusception is not infrequently present, and demands intervention.

West Virginia Medical Journal, Wheeling

November, VI, No. 5, pp. 147-165

61 Three Founders of Modern Medicine. C. O'Grady, Charleston.
62 Perineorrhaphy. W. W. Babcock, Philadelphia.
63 Significance of Albuminuria. J. M. Lovett, Huntington.
64 What Should be the Physician's Attitude Toward Civic Improvement? C. O. Henry, Fairmont.
65 Psoriasis. C. B. Williams, Philippi.

Therapeutic Gazette, Detroit, Mich.

November, XXXV, No. 11, pp. 761-783

66 Bismuth Vaselin Paste in Chronic Sinuses. DeF. P. Willard, Philadelphia.
67 Modern Treatment of Syphilis. J. F. Schamberg, Philadelphia.
68 *A Clinical Study of 292 Cases of Pulmonary Tuberculosis. K. Von Ruck and S. Von Ruck, Asheville, N. C.
69 Interstitial Keratitis with Temporary Total Blindness. A. Brav, Philadelphia.
70 Bearing of Pneumonia, Considered as a Terminal Infection on Treatment. H. A. Hare, Philadelphia.

68. **Pulmonary Tuberculosis.**—In this series of 292 cases, cough was present on admission in 251, or about 86 per cent. of all cases, and was still present on their discharge in 120, or 41 per cent. Expectoration was present on admission in 224 and developed during treatment in nineteen, a total of 83 per cent. of all cases in which expectoration was a symptom; while on discharge expectoration was still present in 117 cases, or in 40 per cent. Tubercle bacilli were found on admission in 211, and on subsequent examination in twenty-three, making a total of 234, 96 per cent. of the 243 cases which had expectoration. On discharge there was no expectoration or tubercle bacilli were absent in 119 cases, or in 50 per cent. of the 234 cases. Night sweats occurred regularly in fifty-one and occasionally in two cases, or 14.8 per cent. of all cases. On discharge, night sweats were noted in twelve cases. In the twelve cases in which night sweats were present on discharge there was also fever. In the great majority of the others in which sweating occurred regularly on admission, this symptom disappeared coincidentally with the subsidence of the fever, and in but few of them was symptomatic treatment necessary. Hemoptysis had occurred prior to admission in eighty-one cases, or 27.7 per cent., in three of which it was the first symptom to attract attention to the existing lung disease. Hemoptysis occurred during treatment in thirteen cases, or 4.5 per cent. In eleven cases the amount of blood lost exceeded 4 ounces. In one of the severe cases aspiration pneumonia followed and proved fatal. In a second severe case acute miliary tuberculosis developed, and this case likewise ended fatally. In the treatment of pulmonary hemorrhage the authors still believe it of material advantage to control the blood-pressure at frequent intervals by means of the manometer, keeping it constantly about 10 mm. Hg below normal for ten days to two weeks afterward. For this purpose small doses of tincture of veratrum viride appear to be suitable, but proper physical and mental rest in bed, laxatives to produce daily evacuations, relief of irritating cough, and a non-stimulating diet is considered as of still greater importance. The rest should be continuous, and especially after moderate or severe hemorrhage, two weeks should be the minimum before the patient is allowed to be up or to make any physical exertion. Of two patients with tuberculous affections of bones, one recovered and

the other was greatly improved at the time of discharge. In nine cases of tuberculosis of the intestine tubercle bacilli occurred regularly in the stools. The pulmonary affection was far advanced in four, moderately so in five cases. No lasting improvement was obtained in the former; of the five other cases the symptoms and tubercle bacilli had disappeared in three, one was greatly improved, and one improved at the time of discharge. Among the 292 cases of pulmonary tuberculosis there were 143, or 49 per cent., in which undoubted tuberculous changes were present in the larynx. In 103 recovery occurred. In the treatment of the cases included in the present report there has been no change from the methods pursued heretofore.

Mississippi Medical Monthly, Vicksburg

November, XVI, No. 7, pp. 127-142

71 Cooperation and Legislation. R. L. Mercer, Shelby.
72 Mississippi Practice Act as Compared with Other States. T. A. Carder, Lula.
73 Varicose Veins with Special Reference to Schedes' Operation. E. C. Parker, Gulfport.
74 Thymol. A. O. Beadles, Stonewall.
75 Value of Enemata in General Practice. L. B. Sparkman, Cleveland.

Boston Medical and Surgical Journal

November 25, CLXV, No. 21, pp. 781-797

76 *An Economic Study of 500 Consumptives Treated in the Boston Consumptives' Hospital. E. A. Locke and C. Floyd, Boston.
77 *The Gilman-Coca Vaccine Emulsion Treatment of Cancer. E. H. Risley, Boston.
78 Metabolism Studies in a Case of Diabetes Insipidus. H. W. Goodall, Boston.
79 Open-Air Rooms and Hospital Schools. G. S. C. Badger and J. B. Hawes, Boston.
80 The Copenhagen Institution for Cripples. Its History, Work and Results. D. C. McMurtrie, New York.

76. **Treatment of Consumption.**—The group of 500 cases studied by Locke and Floyd includes 244 dead and 256 living. All cases were selected without reference to the stage of the disease at the time of observation. Twenty-eight and six-tenths per cent. were between the ages of 20 and 29; 33.2 per cent. between 30 and 39, or 61.8 per cent. between 20 and 39; 89.2 per cent. were under 50. The average age of the 500 cases when the patient first came under observation was 34.85 years, and the average age at time of death of the 244 fatal cases, 36.21 years. The average duration of the disease in the 244 patients who died was approximately two years and one month, and of the 256 living May 1, 1911, two years and ten months. These averages are somewhat smaller than those ordinarily given. The authors are convinced that the figures for the duration of the disease are much too small. In their experience, dispensary patients seldom realize that they are sufficiently ill to visit the clinic for examination until the disease is well advanced. This is well illustrated by the fact that in 188 of the 500 cases, the date of onset of the disease was stated by the patient as the same as that of giving up work. A majority of the 500 cases investigated ultimately reached the stage of dependency. Only 60, or 13 per cent. of the total number passed through the period of partial working capacity. All of the 244 patients who died, and 251 of the 256 living May 1, 1911, finally reached a condition of complete disability. In the former group, the average duration from the onset of the disease to giving up work was 39.89; in the later, 56.08 weeks. While a few continued at their regular occupation for a considerable number of years, the majority worked but one or two years after the disease was diagnosed. Only twelve of the 500 patients worked for six years or longer after onset.

The average period of complete disability in the group of fatal cases was 58.03 weeks, and for the 251 living who stopped work 89.30 weeks. The longest recorded period of unimpaired working capacity in this series of fatal cases is ten years, and the second longest, eight and one-half years, while but twenty-seven survived three years or longer, and nineteen four or more years after entering this period. Seventy-seven of the total 495 who stopped work subsequently returned.

The rate of wages among the 500 patients was with few exceptions surprisingly uniform. Sixty-one received $6 or less per week. 104 more than $6 but less than $10 per week, and 335, $10 or more per week. The average rate of wages for the fatal cases was $11.89, and for the living, $11.38, and the total wages lost, $170,965 and $255,074 respectively. Of the total $426,039 lost, $88,560 was contributed by the twenty-seven patients who were unable to work for a period of three or more years. Two hundred and fourteen (88 per cent.) of the dead and 192 (75 per cent.) of the living, or 406 of the total 500 cases (81 per cent.) were given assistance from private sources. The number receiving public aid other than care in hospitals was much smaller; i. e., 97 (39.3 per cent.) of the dead and 88 (34 per cent.) of the living, or a total of 185 (37 per cent). Three hundred and twenty-six, or 65 per cent. of the total 500 cases, were cared for in public hospitals for varying periods. The average length of stay of the 175 fatal cases was 20.76 weeks, and the average total cost $177.56, making a total cost for the entire group of $31,072. For the 151 living, the figures are: Average length of stay, thirty-three weeks; average total cost, $248.18; and total cost, $42,912, making a total cost for both groups of $73,984. Seventy-eight or 15.6 per cent., were without family or dependents, a fact which indicates the far-reaching influence of the disease on others than the consumptive. The average number in the family of the remaining 422 cases was 4.39, which families alone represent 1,853 individuals necessarily more or less affected by the ill-health of the consumptive member. In 180 of these families the patient was the sole wage earner, and with comparatively few exceptions the contribution to the family income by other members was small. The direct result on the family income of the disability of the chief breadwinner is well shown by the comparison of the total and average weekly income of the 422 families before the onset of illness and after the beginning of the stage of complete disability. In the first instance the total weekly income from all sources was $6,807.29, or an average of $17.50, while in the latter the total weekly income was only $3,055.60, or an average of $7.86, a decline of 65 per cent.

One hundred and sixty-one families were without income of any sort during the period of complete disability of the patient, while the total weekly income previous to this stage was $1,877.75. In ninety families the burden of support was wholly or in part assumed by one or more other members, usually the wife, not previously working. A few families were found in which the attempt was made to replenish the family treasury by taking lodgers. The reports on the home conditions which we have obtained have very generally indicated a more or less rapid descent of the family in the economic scale other than in the respects mentioned above.

This investigation shows that the total losses in wages, together with the cost of care in public institutions, of the 500 consumptives represents an aggregate of $500,023. This figure does not include the cost of private or public aid other than hospital care, the numerous expenses incident to illness and death, or the potential loss occurring after death.

77. **Treatment of Cancer.**—The tumors removed at operation were placed at once with aseptic precautions in sterile towels in cold storage for twenty-four hours until partially frozen, when all surrounding fat and fibrous tissue could be more easily cut away; the tumor was then cut into as small pieces as possible with scissors and ground with mortar and pestle for one to two hours, after adding 10 to 30 c.c. of salt solution, depending on the weight of the tumor. If the tumor weighed 5 gm., 10 c.c. of salt solution were added. If it weighed 10 gm., 20 c.c. were added and so on, so that an emulsion of uniform strength was produced. When thoroughly ground, the emulsion was strained through fine-meshed gauze and put away on the ice in a flask till used.

Risley's cases were divided into two classes: (1) Cases of recurrent cancer, operated, and given an emulsion of their own tumor: an autogenous preparation, or vaccine. (2) Cases of inoperable cancer given an emulsion, or in certain instances an extract, made up from a freshly excised cancer from another case: an heterogenous preparation or vaccine. The series is a very small one, the same in number as Gilman's and Coca's, twenty cases, but the results are strikingly negative with respect to cure and, on the other hand, suggestive of the development of increased activity in the growth of the tumors. In no case in Group 1 was recurrence prevented, or delayed longer than five months (one case). In certain cases there was no visible effect at all from inoculation, either local or general. In neck and jaw cases such a condition of apparent increased activity of tumor cells was produced that there seemed to be a marked rapidity of growth rather than a retardation. The danger of abscess formation, even with the most carefully prepared emulsions, is great and the danger of serious sepsis always present.

Journal of Ophthalmology and Oto-Laryngology, Chicago

October, V, No. 10, pp. 307-340

81 Ocular Migraine. D. T. Vail, Cincinnati.
82 Diplo-Bacillary Infection of Eye. H. S. Gradle, Chicago.
83 Chronic Otitis Media and Its Treatment by Radical Mastoid Operation. J. J. Pattee, Pueblo, Colo.
84 Force Used in Removal of Adenoids. J. Syzmanski, Chicago.

Laryngoscope, St. Louis

October, XXI, No. 10, pp. 971-1050

85 Pathology of Ear. G. Bruehl, Berlin.
86 Vertigo of Vestibular Paralysis. P. D. Kerrison, New York.
87 Eleven Cases Operated on by Yankauer Method for Closure of Eustachian Tube. S. McCullagh, New York.
88 Yankauer Method of Closing Eustachian Tube. G. C. Hall, Louisville, Ky.
89 Some Obstructions to Speech Development. G. Hudson-Makuen, Philadelphia.
90 Oro-Pharynx as Portal of Entry for Infection. L. F. Frissel, New York.
91 Vincent's Angina. Study of Invasion of Tonsil. W. P. Wherry, Omaha, Neb.
92 Diagnosis of Associated Diseases of Eye and Nasal Accessory Sinuses. F. Brawley, Chicago.
93 Removal of Laryngeal Polypus Under Guidance of Pharyngoscope. O. Glogau, New York.
94 Tube for Closing and Removing an Open Safety-Pin. H. P. Mosher, Boston.
95 New Instruments for Submucous Resection of Nasal Septum. C. J. Koenig, Paris.
96 Radiography in Otolaryngology. J. C. Beck, Chicago.

Archives of Ophthalmology, New Rochelle, N. Y.

November, XI, No. 6, pp. 569-699

97 Four Cases of Acute Disseminated Myelitis with Retrobulbar Degeneration of Optic Nerves. W. A. Holden, New York.
98 Intracapsular Extraction of Cataractous Lens. R. Sattler, Cincinnati.
99 Use of Serum in Sympathetic Ophthalmia. G. S. Derby, Boston, and H. N. Pratt, Louisville.
100 Ring Sarcoma of Ciliary Body. A. N. Alling and A. Knapp, New Haven, Conn.
101 Phantom Intra-Ocular Tumor. A. Knapp, New York.
102 Operation for Improving Position and Action of Eyelids in Congenital and Paralytic Ptosis. G. T. Stevens, New York.
103 Influence of the Size of Pupil, the Accommodation and Convergence on Tension of Glaucomatous and Normal Eyes. V. Grönholm, Helsingfors, Finland.
104 Case of Sarcoma of Chorioid in Tuberculous Subject. D. Webster, New York.

New York State Journal of Medicine

November, 11, No. 11, pp. 507-554

105 Cerebellar Syndromes. S. E. Jelliffe, New York.
106 Preconceptional Intra-Uterine and Congenital Factors in the Production of Handicapped Children. L. Kerr, Brooklyn.
107 Medical Education. J. L. Heffron, Syracuse.
108 *Fracture of the Tarsal Bone. F. H. Albee, New York.
109 Gunshot-Wounds of the Pregnant Uterus. R. S. Fowler, Brooklyn.
110 Conservative Treatment of Acute Infections. C. W. L. Hacker, Albany, N. Y.
111 Diagnosis and Treatment of Epilepsy. W. T. Shanahan, Sonyea, N. Y.
112 Chronic Gastric Symptoms. G. W. Cottis, Jamestown, N. Y.
113 Physicians and the Legislature. R. P. Bush, Horseheads, N. Y.
114 A Plea for a More Liberal Diet in Typhoid. J. F. Humphrey, Saratoga Springs, N. Y.
115 Growing Importance of Understanding Physical and Chemical Laws in Medical Practice. A. A. Gillette, Rome, N. Y.
116 Syphilis of the Nervous System. E. A. Sharp, Buffalo.
117 Location of the Hospital for the Insane, at Ogdensburg. J. Van Duyn, Syracuse.
118 Oxypathy; Exudative Diathesis. C. G. Leo-Wolf, Niagara Falls.
119 Acute Unilateral Hematogenous Infection of the Kidney. M. Hartwig, Buffalo.

108. **Fracture of the Tarsal Bone.**—Albee urges that every case diagnosed flat foot, whenever a slight injury has occurred, should be examined for a fracture of the tarsal bones. This should include a Roentgen ray examination. An important feature in the treatment of fresh fractures is to keep patients from weight bearing for at least six weeks and then only with the aid of an arch support for two or three months longer. The best results are obtained in the treatment of fresh tarsal fractures.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

November 11, 2654, pp. 1241-1336

1 Use of Our Authority. S. Paget.
2 Factor of Commonness in Diagnosis of Cancer. W. Gordon.
3 *Torsion of Great Omentum. J. P. Hedley.
4 *Case of Antenatal Pneumonia. A. T. I. Macdonald.
5 Case of Hemochromatosis, or Pigmentary Cirrhosis of Liver with Glycosuria. M. D. Roberts.
6 Removal of Eyeball: A Quick and Easy Method. W. Robinson.
7 Spread of Plague. C. J. Martin.
8 Recent Experiments on Transmission of Sleeping Sickness. A. G. Bagshawe.
9 Yellow Fever on West Coast of Africa. J. W. W. Stephens.
10 Infective Granule in Certain Protozoal Diseases. A. Balfour.
11 Demonstration of Specimens Relating to Culture of Leprosy Bacillus. H. Bayon.
12 *Mechanism of Production of Suppression of Urine in Blackwater Fever. W. Yorke.
13 Sanitation of Villages and Small Towns, with Special Reference to Efficiency and Cheapness. W. J. R. Simpson.
14 Pellagra: Treatment by Direct Transfusion of Blood. H. P. Cole.
15 Origin of Pulmonary Anthracosis. L. Findlay.
16 Postoperative Drowning. A. S. Grünbaum and H. G. Grünbaum.
17 Comparative Value of Certain Microscopic Methods of Demonstrating Spirochæta Pallida. M. Phillips and E. E. Glynn.

3. **Torsion of Great Omentum.**—The recorded cases of torsion of the great omentum are still comparatively few and Hedley found references to only ninety-three cases, although the condition was first observed and described nearly thirty years ago. He has been able to obtain details of seventy-three cases. Among these there either was or had been a hernia in sixty and in almost all of them the hernia was present at the time of the operation. In the remaining thirteen there was no history or evidence of a hernia having existed. In nearly all the cases collected by Cernezzi rotation had occurred between two fixed points, the upper being where the twisted mass became continuous with the omentum and the lower where the omentum had become attached by old adhesions. The lower attachment was usually near the hernial sac. In the sixty cases associated with hernia of which Hedley has details, the twisted mass of omentum was fixed below in fifty-two; in forty-eight it was actually in the hernial sac or attached to its neck, in three the adhesion was to the bowel and in one to the Fallopian tube. Old adhesions were absent in only eight of the cases. In his case the mass was not connected in any way with the hernia, nor were there any old adhesions. It appeared from the examination of the specimen removed that an omental tumor had been produced by the matting and chronic thickening of that part which had from time to time descended into the sac. The normal omentum above such a tumor would constitute a long and thin pedicle and thus the conditions favorable to rotation of the tumor would be produced. In only a small proportion of the cases has the rotation been attributed to any particular exciting cause; repeated attempts to reduce the hernia have been considered responsible in a few cases and violent efforts in some others. In Hedley's case the patient fell three days before the onset of abdominal pain and this appears to have been the immediate cause of the rotation of the tumor. The only treatment is by operation.

4. **Antenatal Pneumonia.**—In McDonald's case the mother was found to have lobar pneumonia two days before term. There was considerable physical embarrassment during the labor and the patient was freely stimulated and oxygen was administered at intervals. The child was feeble, but cried soon after birth. It was slightly cyanosed during the night, but this improved in the course of the following morning. Later the breathing became labored and increasing cyanosis was noticeable. There were only one or two attempts at coughing. Respiration quickly became sighing and mucus accumulated in the larynx; death occurred twenty-eight hours after delivery. From the advanced inflammatory changes present in the fetal lungs so soon after birth it is probable that the pneumonic condition originated *in utero*. Films from the lung were stained and in them large numbers of pneumococci were present, similar in morphologic character to those in the mother's sputum.

12. **Suppression of Urine in Blackwater Fever.**—Experiments have convinced Yorke that under certain conditions the mere passage of hemoglobin through the kidneys of a healthy animal is sufficient to cause suppression of urine owing to occlusion of the lumen of the renal tubules by plugs of granular material derived from the hemoglobin. The process is considerably facilitated by any factor which tends to lower the blood pressure of the animal and, as a result, the secretion of water by the Malpighian capsules. On the contrary, when the blood-volume is sustained by the injection of saline solution and by feeding the animal on moist food, a large amount of hemoglobin (41 grams) may be injected without any tendency to suppression of urine. It appears that these observations have an important bearing on the treatment of suppression of urine in blackwater fever in man. On the earliest sign of any diminution in the volume of urine voided radical measures must be adopted. The patient should be given large quantities of fluid, by the mouth, if possible, or rectum and cardiac stimulants, such as digitalis and caffein administered. Should these not produce a copious flow of urine, recourse ought at once to be had to large intravenous injections of normal saline solution. Yorke's experiments indicate that it is useless delaying the adoption of these measures until suppression of urine has actually commenced. At this stage it is highly improbable that any procedure will be adequate to displace the casts. This is in agreement with the clinical observation that late intravenous saline injections usually fail to relieve suppression. When suppression has once developed and continued even for a short period the injury done to the kidneys is such that the result must of necessity be almost invariably fatal.

Lancet, London

November 11, CLXXXI, No. 4602, pp. 1316-1384

18 Recent Developments in Recognition, Treatment and Prophylaxis of Syphilis. H. C. French.
19 *Diagnosis and Treatment of Kidney Tuberculosis. S. West.
20 Wassermann Reaction in General Paralysis. J. P. Candler.
21 *Epidemic of Conjunctivitis. J. P. McGowan and W. M. Taylor.
22 Intestinal Obstruction Caused by Gall-Stones. E. Owen.
23 *"Comforter" Caries. E. H. R. Harries.
24 Blood Changes in Bilharziasis. H. B. Day.
25 Comparative Value of Various Methods of Antisyphilitic Treatment as Estimated by Wassermann Reaction. H. W. Bayly.
26 Modern Methods of Diagnosis. N. Dalton.
27 Memorandum on Medical Education. F. von Miiller.

19. **Kidney Tuberculosis.**—The fact that tuberculosis of the kidney remains for so long a local disease, West says, naturally raises the hope that removal of the diseased kidney may effect a cure. Unfortunately, the other kidney is frequently affected too and it is most difficult, if not impossible, to be even moderately certain that the other kidney is sound. To remove a kidney, though the mere operation may not be difficult, is in itself a grave procedure, for it at once deprives the patient of one-half of the total stock of a gland which is essential to life. It is true that there is a great reserve of kidney substance in the healthy body. Yet it is also true that the reserve is not unlimited. Two-thirds of the kidney substance may be destroyed before the limit is reached, that is to say, that men can live so long as they have one-third of the kidney substance still in functional activity. Even in a very diseased kidney portions of it may still be doing useful work, and this, little as it may be, may be just the amount necessary in conjunction with the other kidney to ward off grave symptoms of renal inadequacy. When the disease in one kidney is advanced enough to be capable of certain diagnosis, the chances of the other kidney being affected too are very considerable and the removal of a kidney then would be only palliative treatment and not likely to lead to cure. Again, when the bladder is also tuberculous, removal of one kidney would not cure the bladder nor prevent secondary infection of the other kidney even if it had been free of disease at the time of operation. Removal of the kidney would thus seem to be reserved especially for those cases in which the tuberculous disease is strictly limited to one kidney and then the diagnosis is rarely made early enough. West protests against regarding the removal of a tuberculous kidney as an operation to be lightly decided on.

21. **Epidemic of Conjunctivitis.**—From five cases of an epidemic of conjunctivitis in an institution the author obtained in each case a pure culture of a Gram-positive diplococcus, with elongated and lancet-shaped elements. The superficial examination ordinarily employed in ophthalmic practice is insufficient to distinguish it from the pneumococcus, from which it really differs markedly.

23. **"Comforter" Caries.**—Harries has noted dental caries occurring in children who are allowed to use a "comforter." Whether the condition is produced by some direct action of the rubber on the teeth, or whether it is due to the introduction of septic matter which is scraped off by and worked around the upper incisors, he is unable to say.

Australian Medical Journal, Melbourne

October 7, I, No. 12, pp. 123-134

28 Vaccines and Serum Therapy. H. B. Allen.
29 Pyodermata and Vaccines in Skin Diseases. A. W. F. Noyes.

Quarterly Journal of Medicine, London

October, 5, No. 17, pp. 1-155

30 *Premature Contractions Arising in Junctional Tissues in Heart. T. Lewis.
31 *Paroxysmal Tachycardia Accompanied by Ventricular Form of Venous Pulse. T. Lewis and M. D. Silberberg.
32 Origin of Electric Oscillations and Direction of Contraction of Ventricle in Instances of Complete Irregularity of Heart (Auricular Fibrillation). T. Lewis.
33 *Factors in Etiology of Oral Carcinoma. C. Singer.
34 Lymphadenoma with Relapsing Pyrexia. A. S. MacNalty.
35 Kala Azar and Tropical Sore. W. B. Leishman.

30. **Premature Contractions in Cardiac Junctional Tissues.**—An instance of premature contractions arising in the junctional tissues of the heart is described by Lewis. The impulses probably originated in the auriculoventricular bundle. He says that premature contractions arising in the junctional tissues do not necessarily affect the auricular rhythm.

31. **Paroxysmal Tachycardia and Venous Pulse.**—A case of paroxysmal tachycardia is described by the authors in which during the attacks the ventricular form of venous pulse was present. The paroxysms were of supraventricular origin and probably arose as an ectopic rhythm from some portion of the auricular musculature.

33. **Etiology of Oral Carcinoma.**—It is thought by Singer that carcinoma beginning in the oral mucous membrane may form a separate clinical entity, in which carcinoma of the esophagus should perhaps be included, but from which epithelioma of the lip should probably be excluded. The cases forming this oral group of cancer do not, as a class, form an average sample of the general population. They appear to differ from the general population in the following particulars: (a) There is an overwhelming preponderance of males over females among them. (b) A large percentage have suffered from syphilis, often of very severe type. (c) Many are stout, heavy, plethoric men, of the type well illustrated in actual life by our police and soldiers. They are most often men of exceptionally robust previous health. (d) That their metabolism is probably not that of the normal population is suggested by the fact that a considerable percentage of them have suffered more or less severely with gout, usually of a typical and easily recognizable form. (e) Although apparently healthy except as regards the local disease and the effects of syphilis and gout, these patients exhibit evidence of renal interstitial change and arterial degeneration. The liability to oral carcinoma at various ages differs from that of cancer of other regions in a special manner; this difference may be graphically expressed in death-rate curves which are characteristic of this malady and are typified by the curves for cancer of the tongue. It is suggested that these peculiarities may be in part explained by assuming that the earlier cases are more frequently of syphilitic origin, while the later have other associations, among which gout is to be reckoned. Aneurysm and certain vascular diseases present certain analogies to some types of oral carcinoma, especially as regards age distribution, and it seems not unlikely that these analogies may be related to similar etiologic factors.

Clinical Journal, London

October 25, XXXIX, No. 3, pp. 33-48

36 Feeding of Infants. E. I. Spriggs.
37 Vaccines in Aural Practice. C. E. West.

November 1, XXXIX, No. 4, pp. 49-64

38 Danger of House-Fly. F. M. Sandwith.
39 Feeding of Infants. E. I. Spriggs.
40 Case of Malignant Edema. M. Chisholm.

November 8, XXXIX, No. 5, pp. 65-80

41 Demonstration of Two Cases of Nervous Disease. P. Stewart.
42 Danger of House-Fly. F. M. Sandwith.

Journal of Laryngology, Rhinology and Otology, London

November, XXVI, No. 11, pp. 561-616

43 Treatment of Tuberculosis of Larynx. D. Grant, P. Watson-Williams and G. S. Hett.

Bulletin de l'Académie de Médecine, Paris

October 31, LXXV, No. 35, pp. 193-208

44 *Salvarsan in Syphilis. (Mort par le 606.) E. Gaucher. (Résultats donnés par le salvarsan à la Clinique Tarnier.) P. Bar.

44. **Salvarsan in Syphilis.**—Gaucher here reports the details of two fatalities after intravenous injection of salvarsan to which he referred in a previous communication, summarized in these columns November 18, page 1727. Both patients were robust and without other taint than an ordinary secondary syphilis. One was a girl of 18, the other a man of 19. The latter died with symptoms of subacute arsenical poisoning affecting the kidneys and entailing uremia, fatal the sixth day after intravenous injection of 0.06 gm. salvarsan. Bar reports the application of salvarsan at the Tarnier maternity, the results convincing him that in adults this drug rapidly clears up syphilitic lesions on mucous membranes, that it is liable to render more intense the seroreaction, and that the injection in a pregnant woman is not entirely free from danger for the fetus. A healthy child was born to one syphilitic woman five months and a half after the first injection of salvarsan, but a child born after an interval of seventy-two days was syphilitic. Severe albuminuria in one case was the only mishap observed in the salvarsan treatment of syphilitic pregnant or nursing mothers. Bar's experience with the syphilitic children born at term seems to indicate that salvarsan may cure quickly the pemphigus and banish the spirochetes from the pemphigus lesions, and that it may cure rapidly and permanently hydrocephalus of syphilitic origin, but he warns that the subsidence of symptoms and of the Wassermann reaction does not necessarily imply that the constitutional syphilis is eradicated. His experience further suggests the possibility that the salvarsan reduces the resisting powers of the infants to other infections. (See Paris Letter, Dec. 2, p. 1849.)

Lyon Chirurgical, Lyons

November, VI, No. 5, pp. 493-616

45 The Artery Supply of the Thymus. (La vascularisation artérielle du thymus.) A. Latarjet and J. Murard.
46 *Strangulated Hernia Without Local Signs. (Des hernies étranglées crurales et inguinales à signes locaux frustes.) H. Muller.
47 Experimental Nerve Grafts. (Greffes nerveuses expérimentales.) E. Duroux.
48 *Operations on the Cervical Sympathetic in Treatment of Exophthalmic Goiter. (Le traitement de la maladie de Basedow par les opérations dirigées sur le sympathique cervical.) A. Chalier. Commenced in No. 1.

46. **Strangulated Hernia Without Local Signs.**—Muller reports four puzzling cases of vomiting and abdominal pains for three to eight days during which there had been no passage of stools or flatus. No signs suggesting strangulation of an existing small inguinal or femoral hernia could be detected, but an incision showed that the hernia of the terminal portion of the ileum was strangulated; in each case the hernia was on the right side and the mesentery connected with the loop involved was unusually short. The small, old hernia was not painful even under pressure, and did not feel tense, but the lateral strangulation was sufficient to arrest functioning. In one case the hernia became spontaneously reduced on the way to the hospital. In two of the cases the patients were unaware of the tendency to hernia and palpation was likewise negative except for discovery on deep palpation of an elastic tumor in the inguinal region no larger than a pigeon's egg, not painful nor tender. Treatment is the same as for strangulated hernia under other conditions; the vitality of the loop had not been compromised in any of his cases.

48. **Operations on the Cervical Sympathetic in Exophthalmic Goiter.**—Chalier's review of the thirty-one operations of this kind done by Jaboulay has been previously mentioned in these columns (October 7, page 1246). He here reports the present condition of the patients years after the operation and describes various points in the technic. The article is accompanied by thirty-two illustrations. Jaboulay resects the superior ganglion and 2 or 3 cm. of the nerve trunk on each side. He is of the opinion that this operation is easier, more logical and more benign than removal of the thyroid, while it does not expose to such dangers as the latter. Benefit was realized in every case without exception, and the improvement was rapid and generally durable in 95 per cent. of his cases; thyroidectomy is not so constantly successful. He explains exophthalmic goiter as the result of intense stimulation of the cervical sympathetic, this nerve being the intermediate link between the primal cause of the disturbance and the disturbances themselves. Whatever the cause, by cutting out the intermediate link, the symptoms are arrested. Consequently stretching, severing or partially resecting the nerve improves or cures the exophthalmic goiter. The age has no influence on the outcome, but the results seem to be better in women than in men, four of the eight male patients dying in four months to five years after the operation; only two are in good condition to date six months and two years since. The women patients make a far better showing. No trophic changes were noted in any case during the twelve to fourteen years since he has been resecting the sympathetic. The heart symptoms and the goiter are influenced most slowly, but none of the symptoms, physical, functional or general, resists the operation although the exophthalmos and the mental state are influenced first and most. Improvement occurs very gradually after the first phase of rapid benefit; but progressive improvement for months and years generally terminates in a complete cure, he states.

Lyon Médical, Lyons

October 29, CXVII, No. 44, pp. 885-944

49 *The Schauta-Wertheim Operation in Treatment of Genital Prolapse. H. Violet.

49. **The Schauta-Wertheim Operation for Genital Prolapse.**—Violet has applied this technic in ten cases and has compiled over 300 cases from the literature. He has been much impressed with the simplicity and ease of the method and states that no postoperative complications follow and that in the entire list of cases there was but one death (Döderlein). Sterilization of the vagina and perineum with tincture of iodin has much simplified the technic, as also spinal anesthesia. The latter is a special advantage as the women requiring the operation are elderly and frail. The operation aims to pivot forward the fundus of the uterus and suture it in the space below the bladder, the uterus thus bearing the bladder on its back.

Presse Médicale, Paris

November 1, XIX, No. 87, pp. 881-888

50 *Tardy and Serious Hemorrhage After Application of Leeches. (Hémophilie hirudinée.) E. Weill and G. Mouriquand.

November 4, No. 88, pp. 889-904

51 *Serodiagnosis of Syphilis. (Le séro-diagnostic de la syphilis d'après les résultats enrégistrés à l'Institut Pasteur au cours de l'année 1910-1911.) C. Levaditi and A. Latapie.
52 Aseptic Milking. (L'hygiène du lait ou la traite aseptique.) M. G. Fischer.
53 Fixation of Complement Test for Echinococcus Disease of the Brain. (Diagnostic des kystes hydatiques du cerveau par la recherche des anticorps spécifiques dans le liquide céphalo-rachidien.) T. Legry and M. Parvu.

50. **Tardy Severe Hemorrhage After Application of Leeches.**—Weill and Mouriquand have had occasion to use leeches in about 100 cases in the last six years, and in six cases they were surprised to note uncontrollable oozing of blood from the puncture points made by the leeches, starting from three to fifteen hours after the leeches had been removed. Comparing the data in these six cases has shown that in every instance there was some affection of the liver; the youngest patient in the group was 10, the oldest 50, and they were all much debilitated by some chronic disease, heart disease with much enlarged liver in five and gall-stone trouble with dam-

ged liver in the sixth. The leeches, in sucking the blood, pparently deposited some of their poison in the tiny wound nade, and this poison had an influence on the blood, reducing ts coagulating power, and thus inducing hemorrhage which it roved almost impossible to arrest. Experimental research n animals has confirmed this assumption that leech extract s able to induce artificial hemophilia in this way.

51. **Laboratory Experiences with the Wassermann Reaction.** —Levaditi and Latapie review the lessons learned from 4,000 ests of serum sent to the Paris Pasteur Institute during 1910. The interval since infection with syphilis and the previous reatment modify the findings, and they cannot be regarded s absolutely conclusive as to the persistence or cure of the yphilis until we learn the ulterior fate of the persons free rom lesions or symptoms and yet giving a positive seroreac-ion, and whether or not recurrence follows when they have een given systematic treatment. These questions, the writ-rs declare, can never be answered in the hospitals or the aboratories. The attending physician is the only one who an finally decide them from his note-books, by keeping track f his patients through years, controlling the clinical data by esting the serum. Until this has been determined, their ersonal impression is that it is wise to continue regular reatment and have the serum tested at least once a year.

Revue de Chirurgie, Paris

October, XXXI, No. 10, pp. 519-662

54 *Abscess in the Liver of Appendicitic Origin. (Les abcès du foie consécutifs à l'appendicite aigue et leur traitement chirurgical.) E. Quénu and P. Mathieu.
55 *Ameba Abscess in the Brain. (Des abcès amibiens du cerveau observés au cours de l'hépatite suppurée dysentérique.) O. Jacob.

54. **Appendicitic Abscess of the Liver.**—It is not long since Dieulafoy stated that infection of the liver from acute appendicitis is always fatal, but Quénu and Mathieu have been able o find fourteen cases in which the infectious focus was single r there were but a few foci, and in which operative measures ured twelve of the patients. The operation was done through he pleura in eight cases, generally on account of a vomica r because the tumor pushed up the diaphragm. Three pre-iously unpublished cases are described in detail. The patients vere a man of 32, a woman of 36 (syphilitic) and a child ver 10. All are in good health to date, years after the oper-tion. The right lobe is the one usually involved, and the bscesses generally develop insidiously; the first signs of sup-uration do not become evident until several weeks or months fter the lesion has commenced, but the reports often mention hat the general health was not quite satisfactory after the emperature had returned to normal and all local signs of ppendicitis had disappeared. Persisting pallor and emacia-ion should suggest trouble. Jaundice is inconstant but may ppear transiently. After this latent period of the foci of uppuration, characteristic symptoms then rapidly develop. n one of Körte's cases the confluence of several foci per-nitted rapid evacuation. Radiography may show the dia-hragm bulging over the liver, and when the diaphragm is tationary on this side, trouble in the liver may be suspected. Exploratory puncture is misleading and dangerous.

55. **Ameba Abscess in the Brain.**—Jacob reports two cases rom his own experience and nine from the records in which meba dysentery was complicated by an abscess in the brain. le thinks that his two cases are the first in which the lesion vas differentiated and located before the operation. There vas also suppuration in the liver in all these cases. None of he patients recovered.

Semaine Médicale, Paris

November 8, XXXI, No. 45, pp. 529-540

56 Plastic Operations on the Esophagus. (De l'oesophagoplastie et de ses diverses modifications.) H. Vulliet.

Archiv für klinische Chirurgie, Berlin

XCVI, No. 2, pp. 253-555. Last indexed November 25, p. 1804

57 *Differential Diagnosis of Gastric Cancer and Ulcer. (Die Differentialdiagnose zwischen Magengeschwür und Magenkrebs; die pathologische Anatomie dieser Erkrankungen in Beziehung zu ihrer Darstellung im Röntgenbilde.) V. Schmieden.
58 *Invagination of the Intestine. (Ueber Darminvagination.) Osmanski.
59 *Transplanting of Articulating Parts of Fractured Joints. (Ueber Umpflanzung von Gelenkenden.) R. Klapp.
60 *Operative Treatment of Exophthalmic Goiter. (Ueber Basedow.) T. Kocher.
61 *Horn Pegs and Bolts in Treatment of Fractures. (Die Hornbolzung im Experiment und in ihrer klinischen Verwendung.) E. Rehn and Wakabaiashy.
62 Roentgen Rays in Treatment of Rhinoscleroma. (Zur Behandlung des Rhinoskleroms mit Röntgenstrahlen.) N. M. Nemenow.
63 Non-Malignant Tumor of the Gall-Bladder, Without Cholelithiasis. (Ueber einen seltenen Tumor der Gallenblase.) M. Dominici.
64 Reliability and General Superiority of Tincture of Iodin Sterilization of the Skin. (Werth der Jodtinctur als Desinfectionsmittel der Haut.) Y. Noguchi.
65 Fracture of the Internal Epicondyle of the Femur. (Die frische traumatische Absprengungsfractur am Epicondylus internus femoris.) M. Draudt.
66 *Removal of Entire Stomach. (Zur Frage der totalen Exstirpation des Magens.) N. Trinkler.

57. **The Differential Diagnosis Between Gastric Ulcer and Cancer.**—Schmieden devotes nearly a hundred pages to the presentation of forty-two Roentgen ray pictures and description of the corresponding cases in which the diagnosis wavered between ulcer and cancer in the stomach and the operation disclosed the true condition. The work issues from the university clinic at Berlin in charge of Bier, and concludes with the warning that the Roentgen picture alone should never serve as the exclusive basis for the diagnosis but, on the other hand, a difficult diagnosis should never be considered complete without Roentgen ray examination. He gives a diagram for making out the case report to aid in uniform statistics, the findings being listed under Case History: pains; eructation; vomiting; blood in vomit; blood in stools; loss of appetite; constipation; emaciation. Palpation: Inflation findings: Stomach Contents: 1. Morning, fasting: amount of residue; blood; microscopic findings. 2. Test breakfast: Qualitative: reaction; free hydrochloric acid; lactic acid. Quantitative: total acidity; free hydrochloric acid. Stools: Roentgen ray findings: ? gm. bismuth; ? gm. gruel. Clinical diagnosis: Final diagnosis and operation.

58. **Intestinal Invagination.**—Osmanski remarks that at the large Urban hospital at Berlin in charge of Körte there have been only twenty-one cases during the last ten years, the list including twelve infants, seven children between 2 and 15, and two adults. He discusses the causes and the usual site for the invagination. The more acute the condition the more striking is the early symptom of bloody mucus or pure blood in the stools. The indications for treatment, he says, are the same as with incarcerated hernia. As the invagination generally is small at first, early diagnosis and intervention are essential, and not until general practitioners become convinced of the necessity for early operative measures when invagination is once diagnosed, will the outcome be more satisfactory. In the twenty-one cases reported, eight of the infants and two of the children succumbed.

59. **Transplantion of Articulating Surfaces of Joints.**—Klapp thinks that the interposition of soft parts to prevent or cure ankylosis is not logical. The aim should be to imitate Nature and strive to retain the actual joint, although possibly reducing it to its simplest forms. He has been studying the subject for the last four years and reports several cases showing excellent results from treatment of stiff joints on this principle. The most frequent indication for the procedure is a flexion fracture of the humerus above the condyle, leaving complete ankylosis. The broken-off bone is dug out of the callus and all the latter and ossifying tissue are removed, cleaning out the joint completely. Then the articulating surfaces are resected to provide less complicated conditions and the broken-off tip is replaced on the articulating surface and is held in place by suture material passed through holes drilled in the bone. The tip of the other articulating long bone is then resected to provide simpler conditions for the modified joint. Some cases are illustrated to show the technic and excellent outcome after such operations on elbow and shoulder.

60. **Operations on the Thyroid for Exophthalmic Goiter.**—Kocher's article was read at the recent annual meeting of German surgeons, the first time, he remarks, that local operative

treatment of exophthalmic goiter has been discussed at this forum, although in 1907 A. Kocher presented the subject at the annual meeting of the A. M. A., and the British Medical Association devoted a sitting to it in 1910, as also the French Congrès de chirurgie. Rehn, the president of the German Surgical Association has been a pioneer in operative treatment of exophthalmic goiter, no one equaling his energy in this line outside of Switzerland, Kocher remarks, except the surgeons of North America. Kocher's further experience has confirmed his previous assertions in regard to the characteristic blood-picture as the simplest and most reliable means of confirming the diagnosis of exophthalmic goiter. (See The Journal, April 9, 1910, page 1242.) Further experience has also confirmed the differential importance of determination of the coagulating power of the blood, as coagulation is retarded with hyperfunctioning of the thyroid and is accelerated with hypofunctioning. Still further differential aid is the response to thyroid treatment as evidenced in the blood picture. The thyroid is the source of the persisting evils, and its anatomic changes parallel disturbances in its functioning. Kocher insists therefore that removal of thyroid tissue is the logical treatment for exophthalmic goiter and that the improvement from the operation will parallel the amount of thyroid tissue removed; he has had a number of patients who were not completely cured until after the third or fourth operation on the thyroid, the obstinate tachycardia, for instance, keeping up until the last operation and then rapidly subsiding. He adds that Halsted of Baltimore has told him of similar experiences. Kocher has performed 4,629 goiter operations but only 721 were on patients with exophthalmic goiter—a total of 535 Basedow cases, with mortality of 3.1 per cent. Three of the fatalities were due to anesthesia accidents; local anesthesia should be the rule, he asserts, preceded by slight psychic narcosis such as Crile has introduced. Three other patients succumbed to preexisting nephritis, which should have excluded the patients from operative measures on the thyroid, and three other patients to "thymus death." Five other patients with the status thymolymphaticus died suddenly during the period of preparation for the operation. It may be possible to modify the status thymolymphaticus by appropriate treatment so that an operation is feasible; if not, operative treatment of exophthalmic goiter should not be attempted.

61. **Horn Pegs and Bolts in Treatment of Fractures.**—Rehn and Wakabaiashy state that their attention was attracted by an article in The Journal, Jan. 29, 1910, p. 349, advocating the use of human hair as suture material as this is a substance that is not foreign to the organism and hence is liable to be absorbed. This stimulated them to seek for a substance of similar character to use in treatment of fractures, the work to date with absorbable alien substances, such as magnesium, not having given satisfactory results. They selected horn as an epidermoid substance admirably adapted for the purpose, and their experimental and clinical research, they say, has established its value in this line and its superiority to other substances as they show by clinical examples.

66. **Removal of Entire Stomach.**—Trinkler reports a case and summarizes twenty-five cases he has found in the literature in which the entire stomach was removed, with recovery of thirteen of the patients. The mortality was 57.1 per cent. in the cases in which the duodenum was united with the esophagus, but only 28.5 per cent. when the junction was between the esophagus and the small intestine. In his case he sutured the duodenum to the esophagus without difficulty, reenforcing the suture behind with a flap of omentum and leaving the front of the junction unsutured except to the lips of the skin wound. This permitted oversight of conditions and feeding; he intended to suture this fistula at a second sitting but the patient succumbed to inanition the eighth day. He thinks that this two-sitting technic offers many advantages. He credits the first attempt at total resection of the stomach to Connor, but Schlatter's in 1898 was the first successful operation of the kind. Five of the other surgeons in the list are Americans.

Berliner klinische Wochenschrift

November 6, XLVIII, No. 45, pp. 2009-2052

67 *Is the Alexander-Adams Operation Still Needed? (Ist heutzatage die Alexander-Adams'sche Operation noch berechtigt?) A. Dührssen.
68 Bacterial Anaphylatoxin and Toxic Bacterial Extracts. (Ueber die Entstehung des Bakterienanaphylatoxins und über giftige Bakterienextrakte.) H. Dold.
69 *Nervous Symptoms in Syphilis Before and Since the Salvarsan Era. (Neuerliche Bemerkungen zur Behandlung der Syphilis mit Salvarsan und Häufigkeit der Nervenerkrankung durch Syphilis in der Zeit vor Anwendung des Salvarsan.) M. v. Zeissl.
70 Action of Salvarsan on Eye Disease. (Wirkung des Salvarsan auf die Augenerkrankungen.) W. Dolganoff.
71 Eclampsia. (Ueber Eklampsie.) A. Wolff-Elsner.
72 Antitoxin in Diphtheria. (Fortschritte in der Behandlung der Diphtherie.) F. Meyer.
73 *Importance of the Spleen in Immunization Against Tumors and in Treatment. (Bedeutung der Milz in der Geschwulst-Immunität und -Therapie.—Ein neues Verfahren der Krebsbehandlung.) A. Braunstein.

67. **Treatment of Retroflexion of the Uterus.**—Dührssen declares that the Alexander-Adams operation should be abandoned for methods which permit treatment of lesions in the internal genitals or peritoneum without enhancing the seriousness of the operation. These conditions are provided by the technic which he calls laparo-colpohysterotomy, that is, a short incision in the flank which permits also appendicectomy while leaving intact the inguinal canal. He tabulates the details of twenty-four cases, the immediate and ultimate outcome confirming, he says, the superiority of this method; it does not require the introduction of fingers or of a compress into the abdominal cavity and the round ligaments can be shortened through an incision only 4 cm. in length and the retroflexion can be corrected by the Menge or Simpson methods. The latter can be applied on the right side alone, after the left round ligament has been shortened by one or two button sutures according to Bode.

69. **Nerve Involvement in Syphilis.**—Zeissl has been looking over Schmidt's year-books from 1845 to 1904 and found summaries of articles by nineteen authors describing from one to twenty-five cases of a syphilitic affection of the optic or auditory nerve and a compilation by L. Gros and Lancereaux in 1861 of eighty-six cases of neuroses induced indirectly by syphilitic changes in the environment. Even from this incomplete review, he says, the frequency of nerve trouble in the course of syphilis long before the discovery of salvarsan is established beyond question. He adds that he knows of ten cases of extragenital syphilis in physicians and in six of these cases severe nervous affections developed with intense pain. the severe affection of the central nervous system soon proving fatal. He has noticed that extragenital infection often runs a severer course, and that when any part of the nervous system is already enfeebled from any cause, superposed syphilis injures the nervous system the more readily. He has had no neurorecurrence with his 279 injections of salvarsan; no benefit was obtained with inoperable sarcoma except the subsidence of pain in the limbs in one case.

73. **The Spleen as an Immunizing Force.**—Braunstein report experimental research during the last four years seeking t cure cancer by antibodies based on the antibody-producin power of the spleen. His premises are the extreme rarity o malignant metastasis in the spleen; the absorption of transplanted embryonal tissue in the spleen; the high immunizin power of the spleen against cancer; the rapid death of splenectomized animals after treatment with alien cancer tissue, an the assumption that the spleen is the main source of production of antibodies, both of bacterial and non-bacterial nature

Correspondenz-Blatt für Schweizer Aerzte, Basel

November 1, XLI, No. 31, pp. 1057-1104

74 Histology of Progressive Atrophy of the Muscles. (Zur Histologie der Dystrophia musculorum progressiva.) F. v Werdt.
75 *Banti's Disease. (Ueber den sogen. Morbus Banti.) F Seiler. Commenced in No. 29.

75. **Banti's Disease.**—Seiler insists that the form of spleni anemia attended with cirrhosis of the liver, enlargement o the spleen and ascites, generally called Banti's disease, is no a special morbid entity. It is merely a syndrome which ma be due to various known etiologic influences. The syndrom from various causal factors may be apparently identical. a

also the necropsy findings in various organs. In the four cases reported in detail the clinical course was very insidious, the anemia, enlargement of the spleen and tendency to hemorrhages being the first symptoms; this stage may last for years and then be accompanied by digestive disturbances and complicated by jaundice. Then in the course of a few months ascites and cachexia develop, the terminal stage. Nothing could be found to explain the syndrome in two of his cases except severe digestive disturbances a few years before, with jaundice and intense indicanuria. In the second case a severe trauma was accepted as the causal factor but the discovery of a positive Wassermann reaction suggested inherited syphilis, confirmed by the history of the death in infancy of three brothers. Inherited syphilis was the presumable cause of the syndrome also in cases reported by Marchand and Chiari. The third patient was a man of 40 and the retrospective diagnosis was that the Banti syndrome had developed in consequence of an abdominal affection seventeen years before, causing thrombosis in the portal vein with development of an extensive collateral circulation. Under the influence of the portal thrombosis the digestive processes had been altered in such a way that toxic injury of the liver and spleen resulted, with the Banti syndrome as the outcome. Necropsy revealed extensive communication between the portal circulation, the inferior and the superior epigastric veins, the veins much enlarged, and thus realizing spontaneously exactly what surgeons strive to accomplish with the Talma operation, omentopexy, and yet there was extreme ascites. This seems to indicate that the Talma operation to cure ascites in these cases has no logical basis.

Deutsche medizinische Wochenschrift, Berlin

November 2, XXXVII, No. 44, pp. 2017-2064

76 *Cholangitis. B. Naunyn.
77 *Treatment of Cancer. (Die Therapie des Krebses.) V. Czerny.
78 *Obstetric Methods for Dilating the Cervix Uteri and Their Indications. (Die Methoden zur Aufschliessung der weichen Geburtswege und ihre Indikationen.) H. Fehling.
79 Paralysis Agitans. (Zur Symptomatologie der Parkinsonschen Krankheit.) F. Schultze.
80 *Nervous and Psychic Disturbances After Great Catastrophes. E. Stierlin.
81 Paroxysmal Hemoglobinuria. (Zur Kenntnis per paroxysmalen Hämoglobinurie.) E. Grafe.
82 Abortive Treatment of Syphilis by Excision, Salvarsan and Mercury. (Die bisherigen Ergebnisse der Abortivbehandlung der Syphilis mittels Exzision, Salvarsan and Quecksilber.) H. Hecht.
83 Present Status of Legislation in European Countries on Attenuation of Criminal Responsibility. (Der Stand der europäischen Gesetzgebung über verminderte Zurechnungsfähigkeit.) W. Kahl.
84 Hypophysis Tumors. (Ueber Dystrophia adiposo-genitalis bei Neubildungen im Hypophysengebiet, insbes. vom praktisch-chirurgischen Standpunkt.) L. Pick. Commenced in No. 42 and concluded in No. 45.

76. **Cholangitis.**—This address was delivered as the first annual Leyden lecture provided by an endowment in the Verein für innere Medizin at Berlin. Naunyn discusses the primary process in cholangitis, which he says is the presence of bacteria and infection of the bile, the inflammation of the walls of the bile passages being a secondary phenomenon. The cholangitis may develop as a gall-stone-producing catarrh or as a calculous cholangitis in the course of cholelithiasis. The cholangitis may also be of blood-borne origin, as when it is complication of typhoid fever. It may develop also in connection with cirrhosis of the liver. In acute infectious diseases many of the bacteria find their way into the bile and the olon, influenza, typhoid, cholera and plague germs seem to hrive in it, but not pneumococci and streptococci, while nthrax bacilli die off rapidly in it. This infection of the bile enerally passes over without harm but occasionally it sets up inflammation in the bile system. Nothing is known of uch from plague bacilli but all the above germs are able to nduce a suppurative cholangitis with frequent mixed infecion. Cholangitis has even been observed with diphtheria. In he acute infectious diseases the special symptoms of the cholngitis are lost in the general syndrome, but they might be etected by agglutination tests and examination of the blood. The old conception of idiopathic catarrhal jaundice has been bandoned, as the disturbance in such cases has been shown o be the work of various germs acting on the bile system; he trouble is merely a general infection with jaundice as the symptom showing mischief in the bile apparatus. Naunyn's experience is convincing him more and more that jaundice is the result exclusively of absorption of bile from the bile passages; this has been proved beyond question for the jaundice with phosphorus poisoning, and poisoning with toluylendiamin and arsenuretted hydrogen. With cholangitis the conditions are especially favorable for absorption of bile. The obstruction of the smaller bile ducts is the main factor, but destructive processes in the walls may also favor absorption and the inflamed mucous membrane lining may become permeable for the bile. Jaundice may also result from compression of the bile passages by a tumor, and he has derived great benefit in a number of cases of carcinoma in this region by diverting the bile through a temporary fistula into the bile passages above the tumor, thus arresting the jaundice and the evils liable to follow from the otherwise inevitable cholangitis. Spirochete infection of the bile has not yet been studied; febrile liver disturbances in late syphilis have many points suggesting cholangitis, possibly from compression of the walls of the bile passages by a syphilitic lesion in the walls. Internal treatment is the same for cholangitis from all these various causes, and fine results may be attained not only in the gall-stone form but also with that complicating cirrhosis and the so-called idiopathic form.

77. **Treatment of Cancer.**—Czerny has been making a special study of electric measures in treatment of cancer, and thinks that they may prove powerful adjuvants in radical or palliative treatment. He remarks that cancer seems to be on the increase in civilized countries, but there is not a regular increase; it seems to occur only in certain localities, and the increase concerns mostly cancer of the stomach and intestines while superficial cancers are growing less numerous. The evidence to date seems to favor the assumption of some external cause, possibly some infecting agent with a long protracted period of incubation, not transmitted from man to man, but connected in some way with the house or soil. After excising a cancer he makes a point of leaving the wound open for two or three months, during which time he applies the Roentgen or radium rays, fulguration or diathermia, aiming to prevent local recurrence, and when all is seen to be doing well he closes the wound with a plastic operation. He insists on the superior advantages of excising with the electrocautery (the de Forest cold cautery needle), as excision with the knife, he says, is liable to disseminate germs. He has often been able to remove successfully after a course of radium or Roentgen ray exposures cancers which had previously seemed inoperable. The pain is favorably influenced by these exposures so that he often applies them to relieve the pain even when no objective benefit is apparent. Radiotherapy is still in its infancy, he declares, but the results to date are extremely encouraging. Some cancers respond to radiotherapy and others better to injections of some drug into the veins or into the tumor; he tries one measure after another. The patients like to feel that something is being done.

In conclusion he reports a number of cases to illustrate the benefit possible from various measures applied directly to the stomach or other organ drawn out and exposed for the purpose. One patient with inoperable cancer of the cecum was so improved by this temporary eventration for Roentgen exposures that he was able to resume his professional duties. Czerny is convinced that the success of these physical measures in arresting or inducing the retrogression of cancer shows that the impulse responsible for this proliferating anarchy of the cells may be conquered in turn by physical influences. Another case described is the first on record, he thinks, in which a cancer in the cardia and esophagus was exposed to the Roentgen rays through a fistula in the stomach. In another case the external genitals were removed for cancer and the urethra sutured in the perineum and the patient is still free from recurrence a year since the supplementary Roentgen exposures.

78. **Obstetric Dilatation of the Cervix Uteri.**—Fehling's conclusions are all in favor of laminaria during the first few months, with application of the Bossi dilator in emergencies. During the last half of the pregnancy these measures should

be avoided, and the preference given to the inflatable bag, the metreurynter, and vaginal Cesarean section. The main indication for the latter is eclampsia or danger of sudden suffocation of the mother in heart and lung disease or nephritis. The classic Cesarean section is better with contracted pelvis. The anterior cervical hysterotomy requires at least three and possibly four assistants, with general anesthesia. There is little bleeding and this only from the incision in the vagina; he sometimes supplements it with a median slit in the posterior lip of the cervix, suturing all the incisions at once after delivery of the fetus and not expressing the placenta until the operation is concluded. Nature shows us the advantage of incising the cervix with rigid tissues, as few births occur without tears in the cervix.

80. **Nervous Disturbances After Catastrophes.**—Stierlin had the opportunity to examine on the spot or soon afterward the survivors in a recent railroad accident (fourteen dead and thirty-three injured); in the Courrières mining accident in 1906 (1,100 dead); the Radbod similar catastrophe in 1908 (360 dead); the Valparaiso earthquake in 1906 (3,000 dead), and the Messina earthquake in 1908 (75,000 dead). He was impressed with the small number of actual psychoses that developed among the survivors; disturbances in sleep persisted for some time, but usually only in those with other signs of nervous instability. In some of the survivors the date of the shock was recorded in a groove across the nails as they grew out afterward. The nails dropped off entirely in some of the miners who were rescued after twenty-one days. Sudden graying of the hair was noticed in a number of the survivors after the earthquakes in Italy and Valparaiso. He states that one woman's hair became slightly gray in the course of two weeks in the hospital after the Müllheim railroad accident, as also that of a man of 37 during a stay of several weeks in a convalescent home. Among the survivors of this accident eight have already developed traumatic neuroses. Immediately after the earthquakes it was frequently noted that the survivors were strikingly tranquil, even gay; although presenting a vasomotor syndrome, there was none of the usual depression after a severe shock. These disturbances generally soon subsided but in some this euphoria blended into a typical neurosis two or three months later.

Medizinische Klinik, Berlin

November 5, VII, No. 45, pp. 1721-1758

85 Progress in Local Anesthesia. (Fortschritte auf dem Gebiete der Lokalanästhesie.) G. Hirschel.
86 Injection of Uric Acid to Stimulate Phagocytosis in Treatment of Gout. (Zur Heilung des akuten Gichtanfalls und der chronischen Gelenkgicht.) F. A. J. Falkenstein.
87 Influence of Radium on Production of Antibodies. (Einfluss des Radiums auf die Produktion von Antikörpern im tierischen Organismus.) A. Schütze.
88 Auscultation Findings with Open Fistula into the Lung. (Amphorisches, systolisch-diastolisches Doppelgerausch über linksseitigem Pneumothorax als Symptom offener Lungenfistel.) A. v. Decastello.
89 Urethroscopic Findings with Spermatorrhea and Prostatorrhea. (Urethroskopische Befunde bei Spermatorrhoe und Prostatorrhoe.) O. Scheuer.
90 Symbiosis of Fungi. (Ueber die Pilzsymbiose der Pflanzenwurzeln Mycorrhiza.) W. Wangerin.

Münchener medizinische Wochenschrift

October 31, LVIII, No. 44, pp. 2313-2368

91 *Muscular Mechanical Excitability in Tetany. (Verhalten der mechanischen Muskelerregbarkeit bei der Tetanie und das Zungenphänomen, nebst Bemerkungen über die Wirkung der Epithelkörpersubstanz.) F. Schultze.
92 Oxidizing Cell Ferments. (Die oxydierenden Zellfermente.) E. v. Gierke.
93 Positive Wassermann Reaction in Experimental Dourine. (Ausfall der Wassermannschen Reaktion bei mit Dourine infizierten Kaninchen.) F. M. Meyer.
94 Length of Sojourn in the Stomach of Various Foods. (Die Verweildauer der verschiedenen Nahrungssubstanzen im Magen.) Wulach.
95 *Cancer in Baden. (Neue Ergebnisse der badischen Krebsstatistik.) R. Werner.
96 Infarct in the Mamma. (Infarktbildung in der Mamma.) G. B. Gruber.
97 Infusion of Blood Plus Roentgenotherapy in Treatment of Hemophilia. (Behandlung der Hämophilie.) W. Schilling.
98 Salvarsan in Syphilis. (Einige Beobachtungen bei der Salvarsanbehandlung im Garnisonlazarett Windhuk, Deutsch-Sudwestafrika.) Westphal.
99 Two Cases of Severe Intoxication After Injection of Salvarsan. M. Voss.
100 The Hemolytic Blood Tests. (Untersuchungen über Isolyse.) E. Grafe and D. A. L. Graham. Commenced in No. 43.

91. **The Tongue Sign in Tetany.**—Schultze discusses the muscular response to mechanical stimuli which occurs in tetany and gives an illustration of what he calls the tongue phenomenon, that is, a deep groove that forms in the side of the tongue when it is tapped. Tapping on both sides of the tongue or on a spatula lifting up the tongue induces a waist-like constriction across the tongue. This tongue sign he found constantly in tetany in adults. He has also been impressed with the persistence of the muscular contraction in tetany after mechanical irritation of certain muscles. He gives two illustrations of a particularly characteristic case, showing the groove in the margin of the tongue and the contraction of the facial muscles. In a case of tetany developing three months after removal of a goiter compressing the air passages, a human parathyroid body was implanted in the abdominal wall and a certain gradual but slight improvement was manifest for a time but proved transient.

95. **Lessons from Cancer Research in Baden.**—Werner's exhaustive study of conditions in the state of Baden in regard to the occurrence of cancer, seems to show that external factors, physical, chemical or parasitic, completely overshadow in importance the biologic-hereditary factors. In the cases of conjugal cancer, the organs involved excluded direct contact as the growths were generally in the stomach, and never on the skin, lip or genital organs. Contact infection is rendered improbable further by his figures showing that cancer is least prevalent in the predominantly industrial communities. It seems to occur according to the laws which have been seen to prevail in the occurrence of the non-contagious infectious diseases connected with local conditions. This fact affords new evidence as to a possible parasitic origin of cancer. An inherited predisposition is not the prominent factor previously assumed or the influence of heredity would have been more apparent in the data he has collected. In some of the districts the number of cases is steadily decreasing, in others increasing; twelve communities were entirely free and 1,001 had much less than the general average, while 575 had much above the average, but no common geologic, hydrographic, climatic or architectural factors could be detected as responsible for this frequency or scarcity of cancer, nor age, sex, social standing, race, occupation or diet, nor distribution of the fauna and flora of the district. Werner's recent more detailed study of twenty-seven of the places where cancer is most prevalent and forty-six where it is least so has demonstrated anew that the difference in prevalence of cancer cannot be explained by the differences in the proportion of elderly persons, but seems to be connected in some way with the place. One of Werner's tables shows that in twenty-six cancer districts with a cancer mortality of 22.6 per 10,000 living, only 3.82 cancer deaths occurred among blood relations; 1.32 in married couples (and always in the digestive tract); 1.27 among persons related by marriage; 1.32 among groups of married couples living in the same house; 0.76 among groups of blood relations living in the same house; 5.56 among groups of persons living in the same house or immediate vicinity, and 2.56 among persons living in the same house. In forty-six communities that had only a total average of 1.92 deaths from cancer among 10,000 living, only 0.12 occurred among relatives by blood; 0.04 in relatives by marriage, and 0.24 in persons occupying the same house or living close by. These data completely disprove the assumption of cancer families but add new support to the assumption of cancer houses and neighborhoods.

Therapie der Gegenwart, Berlin

November, LII, No. 11, pp. 481-528

101 *Febrile Abortion. P. Kroemer.
102 Salvarsan in Liver Disease, Chronic Malaria, Polyarthritis, Etc. (Einige Fälle von Salvarsananwendung in der Inneren Medizin.) L. Golubinin.
103 *Treatment of Pleurisy. (Zur Therapie der Pleuritis.) H. Arnsperger.

101. **Treatment of Febrile Abortion.**—Kroemer declares that every febrile abortion is suspicious of criminal procedures, and minute local examination is especially important on this account to detect internal injury. Bacteriologic examination is a means to promote our knowledge of the various clinical

ictures for which the different germs are responsible, and ould be carefully recorded for future collective summaries. ut in the individual case the bacteriologic findings are merely ne element for the prognosis; more important is the correct nterpretation of the clinical picture, not overlooking signs ndicating that the infection has passed beyond the confines f the uterus and involved adjoining tissues, the peritoneum, dnexa or veins. If there are no complications, thorough vacuation of the uterus and a single sterilization with 50 er cent. alcohol answer the indications. At the Greifswald linic the mortality in the thirty-seven febrile streptococcus bortions has been 10.8 per cent., while it was only 3.2 per ent. in the thirty-one cases in which germs other than strepococci were involved.

103. **Treatment of Pleurisy.**—Arnsperger reports excellent esults from treatment of pleurisy by early aspiration of the ffusion and introducing between the sheets of the pleura rom 150 to 600 c.c. of nitrogen to keep them apart and check urther production of effusion and of adhesions. The details f seven uncomplicated cases. are tabulated and of four with arious complications. Two punctures and injections of nitroen were required in one of the first group, and three in two thers. He combined this method with autoserotherapy, that , reinjecting subcutaneously 1 or 3 c.c. of the patient's own ffusion as the needle is drawn back after the puncture. He careful to refrain from injecting enough nitrogen to comress the lung unnecessarily as this might favor infection of he lung, and generally introduced the nitrogen under visual ontrol with the fluoroscope. He has never applied the method treatment of pleurisy without effusion although logically it indicated to prevent development of adhesions later. Supurative cases require treatment on another basis, but the spirating puncture and insufflation of air might prove effecual in the same way as a laparotomy aids in the healing of uberculous peritonitis.

Wiener klinische Wochenschrift, Vienna

November 2, XXIV, No. 44, pp. 1519-1550

04 Hereditary and Familial Splenomegaly. (Zur Kasuistik der heredofamiliären Splenomegalie.) Z. Bychowski.
05 Technic for the Meiostagmin Reaction in Cancer. (Vergleichende Untersuchungen über die Brauchbarkeit verschiedener Organextrakte für die Ascolische Meiostagminreaktion bei Krebskranken.) G. Kelling.
06 *Etiologic Factors in Arteriosclerosis. (Ueber die Aetiologie der Arteriosklerose.) M. Herz.

106. **Origin of Arteriosclerosis.**—Herz sent out a questionlank to his confrères throughout Austria asking their opinion regard to the factors involved in the production of arteriolerosis. He received 822 replies, many of them accomnied by detailed comment. From these replies it is seen at the physicians regard as the most important factor notional and nervous influences (150); physical exertion 146); the age (138); alcohol (133); tobacco (88); syphilis 77); heredity (72); metabolic disturbances (19); coffee or a (13); infectious diseases (4), and temperature influences 3). Some others cited the influence of drinking water, xual excesses, etc. It is remarkable, Herz says, that the ews as to the main factor differ so widely, not one of the bove factors being endorsed in this way by even one-fourth the total. Herz comments that this is a discouraging fact, experience, instead of providing a broad base for convicons, seems to lead to so many different views. One physian wrote that he practiced mostly among farmers and workn: the farmers have comparatively little means or oppornity to drink liquor, in comparison with the workmen, and t the farmers are the ones who suffer from arteriosclerosis. ne physician wrote that in a neighboring village the children rink brandy (*Branntwein*) and adults one or two liters daily, d yet arteriosclerosis is almost unknown. Another writes at for thirty years he has been the medical attendant of a vernment tobacco factory, and all the officials connected ith the factory smoke a large number of cigars daily; yet l have reached advanced age without signs of arteriosclerosis. rades exposing to great heat, bakers, stokers, etc., and the equent use of steam baths are mentioned by some physicians apparently predisposing to arteriosclerosis in their practice. Heredity is denied by some, but direct instances of it are reported by others, one mentioning a family in which three brothers died suddenly between 40 and 44 and the fourth brother has severe arteriosclerosis; another, a family with six male members, all with severe arteriosclerosis. In the cases of intermittent limping, abuse of tobacco was almost invariably mentioned as the chief factor.

Zentralblatt für Gynäkologie, Leipsic

November 4, XXXV, No. 44, pp. 1521-1552

107 *Unreliability of Pulse as Evidence of Internal Bleeding. (Ein weiterer Beweis für die Unzuverlässigkeit des Verblutungspulsphänomens.) W. L. Nacke.
108 Two Cases of Vulvar Carcinoma Without Recurrence for Five and Three Years. (Zwei Fälle von geheiltem Vulvakarzinom.) A. Machenhauer.

107. **The Pulse with Internal Hemorrhage.**—Nacke has observed cases in which the pulse instead of being accelerated was remarkably slow, with internal bleeding, and in a case described the pulse was the typical pulse of internal hemorrhage, with other symptoms, but no trace of bleeding was found when the abdomen was opened.

Gazzetta degli Ospedali e delle Cliniche, Milan

October 31, XXXII, No. 131, pp. 1387-1394

109 Pneumococcus Endocarditis. (Endocardite diplococcica metapneumonica della valvola semilunare polmonare destra.) R. Pellegrini.

November 5, No. 133, pp. 1403-1418

110 Fixation of Complement Test for Cholera. (La diagnosi rapida del colera per mezzo della ricerca di antigeni specifici nelle feci di colerosi col metodo della fissazione del complemento.) A. Connio.

Policlinico, Rome

October 29, XVIII, No. 44, pp. 1385-1416

111 Oysters in Etiology of Cholera. (Ricerche sperimentali sulla importanza delle ostriche nella etiologia del colera.) M. L. D. Vida.

November 5, No. 45, pp. 1417-1448

112 Hemorrhagic and Anemic Cirrhosis of the Liver. (Cirrosi emorragiche e cirrosi anemiche.) G. Jona.

Riforma Medica, Naples

October 30, XXVII, No. 44, pp. 1205-1232

113 Experimental Research on the Thyroid. (Ricerche istopatologiche sperimentali sulla ghiandola tiroide.) M. Redaelli.
114 *Nerve Grafting for Facial Paralysis. (Le anastomosi nervose nelle paralisi del facciale.) L. Dori.

114. **Nerve Anastomosis for Facial Paralysis.**—Dori reports a case of old and severe facial paralysis in a robust girl of 18; he sutured the peripheral stump of the facial nerve to the central stump of the spinal accessory nerve and then sutured the central stump of the facial to the spinofacial junction thus made. The results were extremely satisfactory, he says. He tabulates or summarizes more fully the details of eighty-five cases of nerve grafting operations on the facial which he has found on record, grouping them according as the anastomosis was made with the accessory or the hypoglossal nerve. The list includes five operations of the kind done in Italy during the last five years.

Hygiea, Stockholm

October, LXXIII, No. 10, pp. 1105-1200

115 *Tuberculosis After Pleurisy. H. Allard and H. Köster.
116 Dislocation of the Ankle with Fracture of Fibula. (Ett fall af s. k. eversionsluxation af foten med högsittande spiralfraktur af fibulan.) W. Gårdlund.
117 Recurrence of Secondary Manifestations of Syphilis Ten Years After Infection. (Till kännedomen om sena sekundära recidiv vid syfilis.) H. I. Schlasberg.

115. **Tuberculosis After Pleurisy.**—Allard and Köster noticed wide divergence among examiners for life insurance in regard to the importance of pleurisy in estimating life expectancy. In order to get a better idea of the subject, they have recently reexamined the patients who had pleurisy in their service and they also investigated in 2,123 cases of tuberculosis to learn whether there was a history of pleurisy. The total number of cases of pleurisy with effusion was 514; without effusion 57; rheumatic pleurisy 46, and nephritic and typhoid pleurisy in 12 and 4. The data are tabulated from various standpoints; they confirm the assumption that in at least half the cases tuberculosis may be counted on to follow within five years as a rule, but in this respect the young are better

situated. Under the age of 15, tuberculosis follows much more rarely and the course is much less severe and slower than in persons over 30. On the other hand, when the pleurisy develops as a complication of an acute infectious disease or other non-tuberculous affection, tuberculosis follows only exceptionally. An idiopathic pleurisy should therefore be regarded as an extra risk and acceptance of the candidate be postponed for at least five years, but pleurisy as a complication of acute infection need not be considered in estimating the risk.

Norsk Magazin for Lægevidenskaben, Christiania

November, LXXII, No. 11, pp. 1059-1168 and Supplement

118 The Various Methods for Cesarean Section. (De forskjellige kelsersnit, deres teknik og indikationer.) K. Brandt.
119 *Injection of Paraffin for Incontinence of Urine. (Parafin-injektion ved incontinentia urinae.) O. Semb.
120 Surgery of the Lungs. (Generelle betragtninger over lungernes kirurgiske behandling.) S. Widerøe.
121 Question Blank for Records of Epidemic Poliomyelitis. (Vedrørende poliomyeliten.) C. Leegaard.
122 Diphtheria Toxin and Antitoxin in Light of Colloid Chemistry. (Difteritoxin og antitoxin i lyset af kolloidkemien.) M. v. Krogh.

119. **Injection of Paraffin for Incontinence of Urine.**—Semb reviews the history of injection of paraffin around the urethra in case of laceration or other lesion of the sphincter, inducing insufficiency, first introduced, he says, by Gersuny in 1900. Semb has applied the method himself in one case, and compares the outcome with that in eleven other cases on record. Continence was constantly secured by the procedure which in several of the cases was the last resort after failure of all other measures. The final outcome is known only in two of the cases; in one of Gersuny's after an interval of three years and in Semb's case after nearly two. In Sembs' patient, a woman of 32, the paraffin was found apparently unmodified at the points injected, answering its purpose just as well after nearly two years as it did at first. He injected a total of 9 or 10 gm. of paraffin with a melting point at 42 C., at six sittings. The fluid paraffin was taken up into the syringe and was allowed to cool to the consistency of a thin salve to avoid danger of embolism. The incontinence in his case was due to laceration of the urethra during the first childbirth; the urine still dribbled notwithstanding six operations during the five years afterward striving to restore normal conditions in the urethra.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Die Experimentelle Bakteriologie und die Infektionskrankheiten mit besonderer Berücksichtigung der Immunitätslehre. Von Dr. W. Kolle, Professor der Hygiene und Bakteriologie an der Universität und Dr. Hetsch, Medizinalabteilung des Kriegsministeriums in Berlin. Third Edition. Volumes I and II. Paper. Price, $8.50. Pp. 968, with 180 illustrations. New York: Rebman Co., 1911.

Lehrbuch klinischer Untersuchungsmethoden für Studierende und Aerzte. Von Dr. Theodor Brugsch, Universitätsprofessor, und Dr. Alfr. Schittenhelm, Professor der Klinischen Propadeutik und Geschichte der Medizin in Erlangen. Second Edition. Paper. Price, $4.25. Pp. 712, with 341 illustrations. New York: Rebman Co., 1911.

Text-Book of Ophthalmology. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized Translation from Twelfth German Edition by Alexander Duane, M.D., Surgeon Ophthalmic and Aural Institute, New York. Fourth Edition. Cloth. Price, $6. Pp. 989. Philadelphia: J. B. Lippincott Co., 1911.

Case Histories in Neurology. A Selection of Histories Setting Forth the Diagnosis, Treatment and Post-Mortem Findings in Nervous Diesase. By E. W. Taylor, A.M., M.D., Instructor in Neurology, Harvard Medical School, Boston. Cloth. Price, $3. Pp. 305. Boston: W. M. Leonard, 1911.

The Intensity of Natural Selection in Man. By E. C. Snow, M.A., Biometric Laboratory, University College, London. Drapers' Company Research Memoirs. Studies in National Deterioration. VII. Paper. Price, 3 shillings. London: Dulau & Co., 37, Soho Square, W., 1911.

Untersuchungen über die Struktur der Blutzellen. Von Dr. Alfred v. Decastello, Assistent, und Dr. Alexander Krjukoff (Moskau) derzeit Hospitant der medizinischen Klinik in Innsbruck. Paper. Price, $4. Pp. 119, with illustrations. New York: Rebman Co., 1911

Serum Diagnosis of Syphilis and the Butyric Acid Test for Syphilis. By Hideyo Noguchi, M.D., M.Sc., Associate Member of the Rockefeller Institute for Medical Research, New York. Cloth. Price, $2.50. Pp. 238. Philadelphia: J. B. Lippincott Co., 1911.

Life, Death and Immortality. By William Hanna Thomson, M.D., LL.D., Author of "Brain and Personality," etc., Consulting Physician to the Roosevelt Hospital, New York. Cloth. Price, $1 net. Pp. 117. New York: Funk & Wagnalls Co., 1911.

The Diagnosis of Nervous Diseases. By Purves Stewart, M.A., M.D., F.R.C.P., Physician to Out-Patients at the Westminster Hospital, London. Third Edition. Cloth. Price, $4.50. Pp. 477, with 225 illustrations. New York: E. B. Treat & Co., 1911.

Die Methoden der Untersuchung des Magens und ihre diagnostische Verwertung. Von Dr. Emil Schutz, Privatdozent an der Universität Wien. Paper. Price, $2.75. Pp. 240, with 29 illustrations. New York: Rebman Co., 1911.

Meine Präparationsmethode des Operationsfeldes mittels Jodtinktur. Von Dr. Antonio Grossich, Primarchirurg am Ospedale civico in Fiume. Paper. Price, 75 cents. Pp. 80. New York: Rebman Co., 1911.

Diagnose und Therapie der inneren Krankheiten. Von Dr. Georg Kühnemann, Oberstabsarzt a. D., prakt. Arzt in Berlin-Zehlendorf. Cloth. Price, 6 marks. Pp. 329. Berlin: J. Springer, 1911.

First Annual Report of the Neurological Institute of New York. For the Year Ending Nov. 30, 1910. Paper. Pp. 43, with illustrations. New York, 149-151 E. Sixty-Seventh Street.

Annual Report of the Society of the Lying-In Hospital of the City of New York. From Oct. 1, 1909, to Sept. 30, 1911. 1910. Paper. Pp. 94. 1912.

The Practitioner's Visiting-List, 1912. Thirty Patients Per Week. Leather. Price, $1.25. Pp. 192. Philadelphia: Lea & Febiger, 1911.

The Medical Record Visiting List or Physicians' Diary for 1912. Leather. Price, $1.50. New York: William Wood & Co., 1911.

Report of the Trustees of the Woonsocket Hospital. An Account of Its Work in 1910. Paper. Pp. 51, with illustrations.

The Healer. By Robert Herrick, Author of "Together." Cloth. Price, $1.35 net. Pp. 455. New York: The Macmillan Co., 1911.

Thirty-Seventh Annual Report of the Maternity Hospital, 734 South Tenth Street, Philadelphia. 1911. Paper. Pp. 23.

New Patents

Patents of Interest to Physicians

1,001,236	Electromagnetic sound wave, therapeutic apparatus Emile Bachelet, New York.
1,001,501	Massage vibrator. Frederick H. Brautigam, New York.
1,001,247	Extraction of lecithin from the seeds of lupines and other pulses. Heinrich C. Buer, Bonn, Germany.
1,001,356	Artificial limb. Bartholomew Conor, Buffalo.
1,001,517	Pasteurizing apparatus. Otto Eick, Baltimore.
1,001,216	Sanitary cuspidor. Emma Nickum, Philadelphia.
1,001,218	Drinking tube. Napoleon Parenteau, Worcester, Mass.
1,001,437	Invalid's bed. Frederick R. Payne, Marinette, Wis.
1,001,175	Hand-operated massage device. Charles M. Siebert, Jr. Columbus, Ohio.
1,001,089	Invalid bed. George H. Stone, Colorado Springs, Colo.
1,002,127	Emulsifying apparatus. Henry N. Brawner, Jr., Washington, D. C.
1,001,641	Ankle joint. Noble F. Harrison, Grand Rapids, Mich.
1,001,964	Making a disinfectant. Ernest Leonhardt, Barwinkel near Neuhardenberg, Germany.
1,001,873	Generating oxygen. Max Mauran, Niagara Falls, N. Y.
1,002,005	Resilient ambulance. John F. Smith, Jersey City, N. J.
1,001,786	Endoscope. Reinhold H. Wappler, New York.
1,001,787	Endoscope. Reinhold H. Wappler, New York.
1,002,625	Truss. Littleton L. Baker, Denison, Tex.
1,002,499	Pasteurizing apparatus. Robert M. Cauffman, Centerville, Mich.
1,002,390	Anode for *x*-ray tubes. Henry Green, Hartford, Conn.
1,002,589	Head rest. Nick W. Kline, Ventura, Cal.
1,002,293	Medicine bottle. Richard P. McGrann, Lancaster, Pa.
1,002,437	Surgical instrument. Frederick R. Mueller and L. Rehthaler, Chicago.
1,002,468	Massaging device for the gums. William F. Strangman Salem, Mass.
1,003,393	Fumigator. Perry S. Bauer, Chicago.
1,003,325	X-ray system. Eugen Blum, Union Hill, N. J.
1,003,170	Cutting forceps. Solomon J. Brandeis, New York.
1,003,232	Urethroscope. Ferdinando Cerbo, Providence, R. I.
1,002,826	Bone forceps. Allen De Vilbiss, Toledo, Ohio.
1,003,347	Digestive medicine. Rudolf Ehrmann, Charlottenberg Germany.
1,003,103	Attachment for crutches. Kathryn D. Harding, Evanston, Ill.
1,002,854	Stable hydrogen peroxid. Otto Liebknecht, Frankfort-on the-Main, Germany.
1,003,151	Producing non-hygroscopic albuminous preparations Fritz Quade, Berlin, Germany.
1,003,161	Plaster bandage. Wilhelm J. Teufel, Stuttgart, Germany.
1,002,950	Metallic frame for soda fountain counters. George W Wise and H. A. Wise, Cleveland.
1,003,865	Adjustable support. Arthur R. Barnett, Portland, Or
1,003,935	Combined respirator and pressure equalizer. William F. Merryman, Denver, Colo.
1,003,646	Pharmaceutical product from the suprarenal glands Willard Ohliger, Detroit, Mich.
1,003,821	Vaginal appliance. Anton Svejnar, Chicago.
1,003,676	Electrotherapeutic device. Julius B. Wantz, Chicago.
1,003,848	Emulsifier. Edward C. Wood, Somerville, Mass.

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SUPRACLAVICULAR SUBCUTANEOUS LESIONS OF THE BRACHIAL PLEXUS NOT ASSOCIATED WITH SKELETAL INJURIES

WITH THE REPORT OF A CASE OF AVULSION OF THE ANTERIOR AND POSTERIOR SPINAL ROOTS *

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Avulsion or rupture of the brachial plexus is not a ommon accident. Bowlby[1] was able to collect reports but nineteen cases, and from that time to 1902, ristow[2] was able to find by correspondence with a umber of active surgeons and from the files of liter-ture but three more. A large majority of these cases ere due to indirect violence and were associated with me injury to the skeleton, the more common being islocation of the shoulder, and fracture of the clavicle nd humerus. Avulsion of the plexus without injury the skeleton had been observed up to 1907, according Kalb,[3] only four times; from a more exhaustive vestigation of the literature, from 1873 up to the resent time, we have been able to collect altogether venty-one cases of rupture of the brachial plexus, par-al or complete, all without skeletal injuries in which e precise nature of the lesion has been verified by peration. In every one of these cases the operative pro-dure was confined to the region of the plexus and in ery instance the point of avulsion was found some-here between the transverse process of a vertebra and e clavicle. While we have seen, in all, three cases of bcutaneous injuries of the plexus, the case which forms e basis of this report is the first in which the lesion roved to be an avulsion of the anterior and posterior inal roots *within the dural sac,* and was uncovered rimarily by a laminectomy. Because of its unique aracter and of the possible bearings the operative find-gs might have in accounting for the grave prognosis of rachial plexus injuries, the case is placed on record.

REPORT OF CASE

History.—G. F. R., a physician, was admitted to the Univer-ty Hospital, May 10, 1910, under the care of Dr. Charles K. ills, to whom the patient had been referred by Dr. Theodore Diller of Pittsburgh. Feb. 14, 1910, while walking along a street in Pittsburgh, the patient was struck on the left shoulder and head and crushed to the ground by a man falling from the fourth story of a building.

Examination of Affected Region.—The movement of the head to the left was somewhat restricted. When it was rotated as far as possible in this direction, there was some pain in the back of neck a little to the right of the median line. In movement to the right, the left sternocleidomastoid muscle did not come out distinctly; it seemed atrophied, but in movement to the left the right sternocleidomastoid muscle was very distinct. There was some pain on pressure and percussion over spinous processes of the sixth and seventh cervical and first thoracic vertebræ. There was no involvement of the third, fourth, fifth or seventh cranial nerves.

Sensory Disturbances: The following is a description of the pain given by the patient himself: "The pain is continuous; it does not stop a minute either day or night. It is either burning or compressing (like a vise) or dragging (a sense of weight) in character, or a combination of all these at the same time.

"Every few minutes this pain is intensified in a paroxysm lasting from a few seconds to a minute or longer. In addition there is, every few minutes, a jerking sensation similar to that obtained by touching, in the proper way, a Leyden jar, namely, a jerk, or a succession of jerks, either in the hand only or running the whole length of the arm and at times very severe.

"I have a graphic picture of it in my mind; it is like zigzag made in the skies by a stroke of lightning. The pain is felt sometimes in the very arm itself, but most of the time away from the arm, in what I got into the habit of calling an imaginary arm. The upper part of the arm is mostly free from pain; the lower part from a little above the elbow to the tips of the fingers, never. Pain of every character, burning, compression, dragging or jerking is increased by walking, standing or even sitting up, so that the recumbent position is a necessity for most of the day."

Examination for Disturbance of Sensation.—The subjective sensory disturbance seems to be in the distribution of the intercostohumeral nerve, and is indicative of involvement of the second left thoracic posterior root, and possibly the third.

Exceedingly interesting is the statement that rubbing or rough manipulation of the left side of the trunk above the nipple on the anterior surface produces the sharp pain on the inner side of the left arm. This seems to imply that irritation of the trunk or a portion of the intercostohumeral nerve causes pain referred to the other distribution of the nerve. Sensation for touch and pain is entirely lost in the left hand and forearm, and in the arm for about 2 or 3 inches below the elbow. From this point to about 3 or 4 inches below the shoulder, sensation for touch and pain is much impaired. Sensation, therefore, seems to be affected in the distribution of the entire plexus; it is impaired in the distribution of the intercostohumeral both on arm and trunk, and in the distribution of the fifth and sixth cervical roots. There is hyperalgesia in the distribution of the fourth cervical root, that is, in the left shoulder.

Examination for electro-sensibility with the wire brush shows loss of this form of sensation in all the region in which there is loss to touch, pain, heat and cold, and also deep sensibility. The loss of sensation merges into impaired sensation in the upper arm, as the shoulder is approached.

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* Read in the Section on Surgery of the American Medical Asso-ation, at the Sixty-Second Annual Session, held at Los Angeles, une, 1911.

* Owing to lack of space, the article is here considerably abbre-iated, but it appears in full in the Transactions of the Section and the authors' reprints.

1. Bowlby: Injury and Diseases of the Nerves. Blakiston, 1890.
2. Bristow: Ann. Surg., 1902, xxxiv, 411.
3. Kalb: Deutsch. Ztschr. f. Chir., 1907, lxxxviii, 572.

In testing for cold (ice-cold test-tubes), the answers for the different areas were practically the same as for extreme heat. In testing for tactile discrimination, the compass-points were not felt over the area of complete anesthesia. Over an area of partially retained sensation the dull points were distinguished at a distance of 2¾ inches, the sharp at 1¾ inches, and in the hyperesthetic area the dull points at ¾ inch and the sharp at ½ inch.

On the right arm, the dull points were distinguished below the elbow at a distance of ½ inch, the sharp at 2/5 inch; above the elbow, the dull at 1 inch, the sharp at ½ inch; above shoulder, the dull at 1 inch, the sharp at 2/5 inch.

Motor Disturbance.—Inspection and examination showed a complete flaccid palsy of the entire left upper extremity; no movement in the limb, from and including the deltoid down. Patient could elevate the whole arm, as in shrugging the shoulders, but this was done by the scapular muscles, chiefly the supraspinatus and the rhomboideus major. The arm was somewhat wasted throughout the upper arm, forearm and hand. With the faradic current there was a loss of faradocontractility in all the muscles of the hand and forearm and upper arm, to a current of considerable strength. A current of moderate strength produced slightly marked contractility in all the corresponding muscles in the right arm.

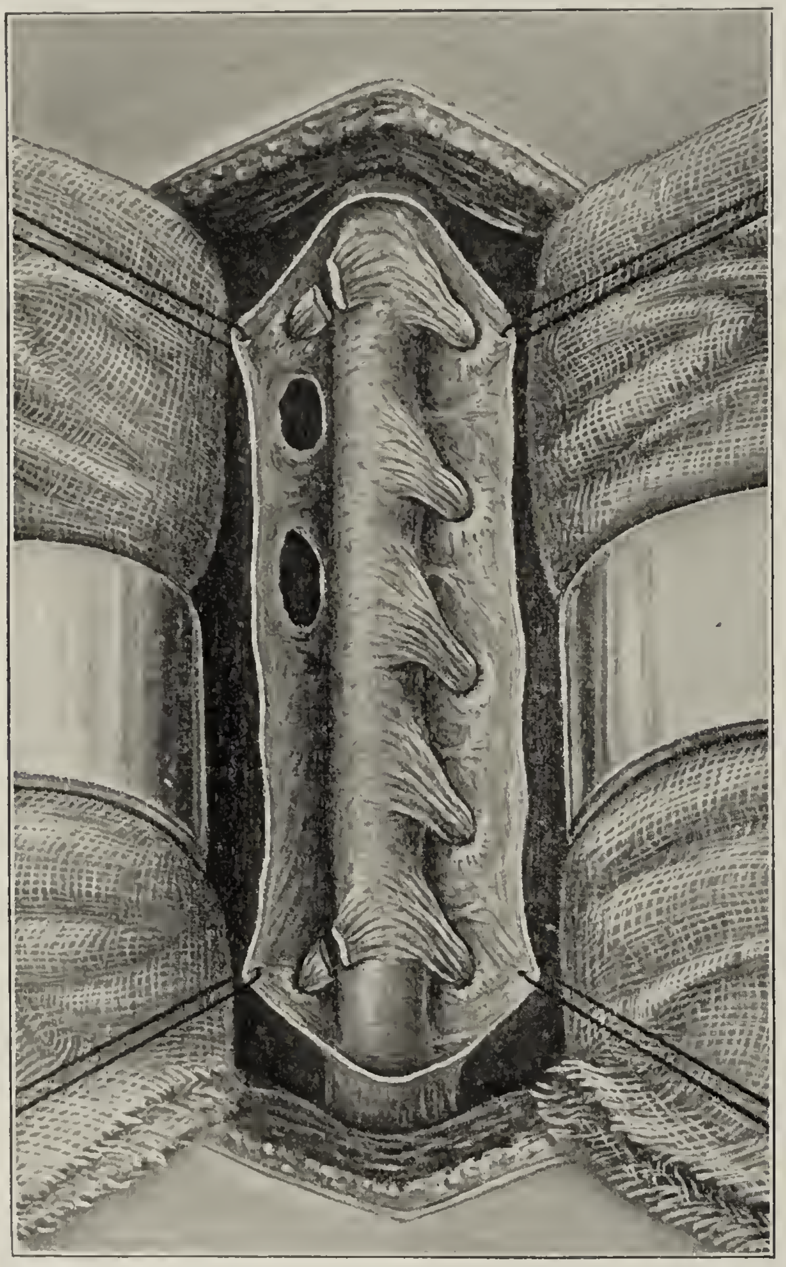

Illustration showing findings at operation. Note two defects in dura and absence of their spinal roots, C_6, C_7, C_8.

Reflexes—Upper Extremity: The reflexes of the shoulder and upper extremity, including the von Bechterew, scapulohumeral, coracobrachial, triceps, and all muscle-jerks of arm, forearm and hand, were completely abolished.

The patient had lost entirely the sense of position and passive movement in the arm, except as regards movement in the shoulder joint. He was unable to tell anything as to position of the thumb, fingers, hand, wrist or forearm.

Reflexes—Lower Extremity: In the lower extremity the reflexes, especially on the left side, were greatly exaggerated. Knee jerks were plus, plus. Foot-clonus present but not very persistent. No Babinski response, but unusual plantar irritability. The von Bechterew metatarsophalangeal reflexes were present and very prompt.

Radiographic Report (Dr. Pancoast).—There is a possibility of some separation of the seventh cervical and first thoracic vertebræ on the left side. The articular facet of the seventh cervical vertebra is more readily seen than that of the other vertebræ. The radiograph shows also an atrophy of the head of the humerus and adjacent portions of shoulder joint. The clavicle is apparently intact.

Ocular Examination (Dr. Langdon).—There is a difference in the palpebral fissures, the right being about 2 mm. wider than the left. The lid motions seem to be normal.

The left pupil is smaller than the right. The left eye does not uncover as well as the right, in looking straight ahead, downward or upward. It appears as if the eye might be somewhat retracted, or the condition might be expressed as ptosis or pseudoptosis. This appearance of the left eye, a sort of anophthalmos, gives by contrast to the right eye the appearance of slight bulging or exophthalmos.

Operation (Laminectomy—Dr. Frazier).—May 23, 1910, under nitrous-oxid ether anesthesia, preceded by a hypodermic of morphin and atropin, with the patient in reversed Trendelenburg position and on his side, a curved incision was made through the skin down to the aponeurosis, beginning at the spinous process of the fourth cervical and extending to the spinous process of the second thoracic vertebra. On reflection of the cutaneous flap, a linear incision was made in the aponeurosis in the median line, the muscles separated from the spinous processes of the fifth cervical to the first thoracic vertebræ, which, together with the laminæ of the sixth and seventh, were removed. On opening the dural sac the cerebrospinal fluid was found to be under considerable tension and about 1½ to 2 ounces immediately escaped. Inspection revealed the following conditions: On the left lateral aspect of the canal corresponding to the level of the sixth cervical and the first thoracic vertebræ there were two defects in the dura, each as large as a ten-cent piece. On the left side both the anterior and posterior roots of the sixth, seventh and eighth cervical nerves were absent. The roots evidently had been torn completely from the cord. There were some adhesions between the cord and dura on the posterior surface at the level of the seventh cervical and first thoracic vertebræ. These may have been the site of subdural hemorrhage at the time of the accident. The operation was undertaken with the intention of carrying out a purely palliative procedure. We planned to cut the posterior roots of the fifth, sixth, seventh and eighth cervical and the first thoracic nerves. As the sixth, seventh and eighth were absent and I had just divided the first thoracic, it remained only to divide the fifth cervical. The latter was reached by removing only half the lamina of the fifth cervical vertebra. The dural incision was closed with continuous catgut sutures, the muscles with interrupted, and the aponeurosis with a continuous catgut suture. A stab wound was made for the introduction of a small cigarette drain and the cutaneous wound closed with a continuous silk suture.

Postoperative History.—On the third day after the operation, the patient developed some congestion of the lungs, at which time there was a rise of temperature, some moist râles and expectoration of mucus. This condition rapidly subsided and on the eighth day the stitches were removed and the patient returned again to the service of Dr. Mills.

June 20, 1910, twenty-seven days after the operation, he left the hospital. In the interval between the operation and his discharge from the hospital the amount of opium was gradually reduced until for a few days he was able to pass both the day and night in reasonable comfort with none at all, a condition which had not existed since the time of his injury three months before.

The patient still had many of the subjective sensations in the arm, including pain of which he had complained before the operation, but the pain was more bearable and the burning sensation or hyperalgesia in the distribution of the fourth cervical and second thoracic had, in a large measure, disappeared.

He had the reflex pain excited in the arm by stroking the hyperalgesic area on the chest. The general morale of the patient was in slight measure improved, so that he was able in the fall of 1910 to resume his practice to a limited extent.

DISCUSSION OF CASE

The determination of the precise seat of the lesion, that is, whether within or without the dural sac, was, however, a matter of the utmost importance in this case. The pupillary phenomena are, when present, absolutely conclusive evidence that there is an intradural lesion at least of the eighth cervical and first thoracic. On the other hand, though the sensory disturbance pointed clearly to the involvement of the fifth, sixth and seventh cervicals, that is, the superior portion of the cervical plexus, the absence of paralysis of the rhomboidei, the levator anguli scapulæ and especially the serratus magnus was equally conclusive that these three nerves could not all have been injured within the dural sac. Even after the character and extent of the lesion were revealed it was not altogether easy to account for the sensory and motor phenomena as elicited before the operation. For example, the presence of anesthesia in the cutaneous supply of the intercostohumeral nerve was somewhat perplexing as was the hyperesthesia in the distribution of the cervical plexus. However, there was evidence in the lower extremity of an injury to the anterior horns of the cord itself, and it is quite possible that in the avulsion of the roots the posterior segment suffered also. The discovery with the radiograph of some separation of the seventh cervical and first thoracic vertebræ was at least suggestive of an intraspinal lesion. There were at all events some perplexing features and if we add to these the neurotic and emotional temperament of the patient we increase still further the difficulty of accurate localization.

For the purpose of relieving the intense neuralgia of which the patient was complaining, we planned to cut the posterior roots of the fifth, sixth, seventh and eighth cervical and first thoracic nerves. Accordingly, on May 23, 1910, a laminectomy was performed and when the dural sac was opened, we were astonished to find the conditions as above noted.

DIAGNOSIS

For purposes of convenience in discussing the diagnosis of supraclavicular injuries of the plexus, we may divide the plexus into three portions: (1) the intravertebral portion contains the separate anterior and posterior roots within the dura mater; (2) the intervertebral portion where the nerve roots leave the spinal canal enclosed in a separate sheath of dura mater and the spinal ganglia lie in the intervertebral foramina; (3) the extravertebral portion comprising that portion of the nerves from the intervertebral foramina to a point where, at levels varying in different subjects, they unite to form the various trunks.

In the extravertebral lesions the symptoms will depend on whether the nerves are injured distal or proximal to the point at which branches are given off to the rhomboids, the serratus magnus, and the levator anguli scapulæ, or still farther from the cord to the supra- and infraspinatus muscles. If these muscles are not paralyzed and the pupillary phenomena are absent, it is to be presupposed that the lesion is extradural. In extravertebral lesions of C_5, C_6 and C_7 with or without C_8 and T_1, the supra- and infraspinatus muscles may be paralyzed because the suprascapular nerve leaves the C_5 and C_6 after their exit from the dural sac.[4] If the serratus magnus, rhomboidei and levator anguli scapulæ are paralyzed, especially the serratus magnus, it is conclusive evidence that the lesion involves the fifth and sixth cervical roots either intervertebral or just distal to that point. Of the intravertebral or intervertebral lesions the most important diagnostic sign is the so-called pupillary syndrome first described by Poirier[5] in 1727, the contraction of the pupil on the affected side, the narrowing of the palpebral fissure and the pseudoptosis and sinking of the eye-ball (anophthalmos). These ocular phenomena indicate involvement of the ciliospinal fibers to the sympathetic, which accompany the first thoracic and sometimes the eighth cervical nerve. These branches to the sympathetic leave the roots just at the point of emergence from the cord. And while in most intravertebral lesions these ciliospinal fibers would be involved, it is possible to conceive of an injury to the roots within the spinal canal distal to the detachment of the ciliospinal fibers. While the presence of oculopupillary symptoms is positive evidence of an intravertebral lesion, their absence must not be interpreted as precluding the possibility of a lesion within the spinal cord in contradistinction to one without. As above mentioned, the ciliospinal fibers accompany sometimes both the eighth cervical and first thoracic, sometimes only the first thoracic, so that we are always safe in assuming that at least one (T_1) if not both (C_8 and T_1) are the seat of injury. It must be remembered, however, that there are notable and marked exceptions. For example, in none of Vandenbossche's cases[6] were these symptoms present, and they were absent in the cases of d'Astros, Guillemot, Duval and Quillain, and de Peters (quoted by Vandenbossche).

Usually both the anterior and posterior roots are involved to an equal degree. The anterior are more apt to be torn than the posterior because, as Duval and Guillain[7] showed on the cadaver, when the arm is abducted from the body and the head rotated in the opposite direction the tension is greater on the anterior than on the posterior roots, and if the tension is increased, the anterior roots will be torn first. Therefore, *a priori* the predominance of motor over sensory disturbances would seem to bespeak an intradural lesion.

Applying what has already been said as to differential diagnosis to the case we have reported, one is struck at once with certain contradictory symptoms. In the first place the presence of pupillary phenomena at once indicated a lesion intravertebral either of the eighth cervical and the first thoracic or of one of these, and as a matter of fact we found at the operation that the eighth cervical roots both anterior and posterior were torn. On the other hand, the absence of paralysis of the serratus magnus, the supra- or infraspinatus or the muscles which elevate the shoulder was strong presumptive evidence of an extravertebral lesion at least of the motor roots. But as we have seen, the anterior roots of the sixth, seventh and eighth cervicals (C_6, C_7 and C_8) had been completely torn from the cord. One can only explain this complex situation by assuming that the above-mentioned muscles received adequate innervation from the fifth cervical. The presence of anesthesia in the territory of the branch of the intercosto-humeral, supplying the inner aspect of the arm, would not have been expected unless the second thoracic was involved. It may have been traumatized by traction at the time of the accident, but the posterior roots of neither the first nor second thoracic had been ruptured.

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[4] Grenet: Arch. gén. de méd., 1900, clxxxvi.
[5] Poirier: Jour. de Petit, 1727.
[6] Vandenbossche: Rev. de chir., 1910, xii, 817.
[7] Duval and Guillain: Arch. gén. de méd., August, 1898.

One of the most difficult conditions to distinguish from an organic lesion of the plexus is hysteria, not so much where the functional disturbance is limited to a single root, trunk or cord, as where two or more are involved. Even the results of the electrical reactions are misleading, as in the case of Rendu.[8] The sensory disturbance is, as a rule, a better guide, as in hysteria, when it is more accentuated than the corresponding disturbance of motion. The absence of other signs of a general neurosis should not be credited against an hysterical lesion of the plexus, contrary to the statement of Thorburn,[9] who writes that the absence of other hysterical manifestations, taken together with the completeness and unaltering character of the symptoms, renders such error impossible. According to Raymond,[10] in cases of pure hysteria one should find on the internal aspect of the arm a triangular zone, where there is no anesthesia, corresponding to the distribution of the intercostohumeral nerve (int. cut. branch). The symmetrical distribution of anesthesia in hysteria is usually very different from the areas of anesthesia represented in organic lesions.

In our own case, hysteria was not at first excluded, and very properly so. The patient was of an emotional and highly nervous temperament; the shock of the injury, dreadful as it was, was magnified by the death of the patient's wife two weeks after the injury. The areas of disturbed sensation did not, when tested by Dr. Theodore Diller, conform altogether to the distribution either of a peripheral or spinal cord lesion. Dr. Diller expressed his opinion at the time of his examination that the case was one of hysteria, a diagnosis which he did not make, however, without reserve. The form of sensory disturbance, the emotional state of the patient, and the absence at that time of any considerable atrophy suggested hysteria. Even though at the operation we found a serious organic lesion, the existence of severe pain before the operation and its persistence after the severance of the remaining sensory roots supplying the brachial plexus, certainly gave to the case an hysterical perspective.

MECHANISM

It was at one time thought that direct rather than indirect violence was responsible for subcutaneous injuries of the brachial plexus. The nerves, it was said, were squeezed or crushed between the clavicle and first rib or transverse processes of the cervical vertebræ. This seemed a reasonable explanation especially in those cases in which the clavicle was broken or the injury was sustained by a blow from a heavy falling object or where the subject fell or was thrown with force striking the shoulders. Subsequent observations, however, both clinical and experimental have proved beyond question that in all cases the essential element in the mechanism of the lesion is traction. The nerves are put on the stretch and altogether or partially severed. For example, in one case, the lesion was produced by a blow on the forearm forcing the upper extremity away from the body in such a position as to put the plexus on the stretch. When at the same time (as in Kalb's case) the head is forcibly inclined toward the opposite shoulder the tension on the plexus is still greater.

PATHOLOGY

More important than the mechanism and place of injury is the pathology. Two varieties are met with, the first in which the continuity of the nerve-trunk appears to be preserved although function may be altogether abolished, and the second in which there is an actual loss of continuity. In the first the perineural sheath may be torn and there is a complete or partial rupture of the nerve fibrils. This is followed by an extravasation of blood within the nerve and an acute hyperemia, which together resolve themselves into cicatricial tissue, the ingrowth of which into or between the nerve fibrils offers an insurpassable barrier to the regeneration of nerve tissue and is the most potent factor, when rupture is incomplete, in preventing spontaneous restoration of function. In this variety the nerve is usually described as having the appearance of a fibrous cord. In the second variety, with actual separation, the distal end will be found some distance away, often beneath or below the clavicle.

The complete palsy occasionally observed when the continuity of the nerve has not been destroyed and the rather unsatisfactory results often following a properly executed neurorrhaphy, suggest a further elaboration of the pathology of brachial plexus injuries. The possibility of an associated injury to the spinal roots, as seen in our own case, may very properly be considered. The combined lesion, complete severance intraspinal, and partial severance extraspinal, is not inconsistent. Furthermore, it is quite within the range of possibility that forcible traction on the plexus may damage the cells within the cord itself and determine a degenerative process. These two hypotheses are not without significance if we should attempt to account for the many failures following reconstruction and repair of the injured plexus.

PROGNOSIS

Generally speaking, the nearer the lesion to the spinal cord the more grave the prognosis. As a rule, one is unable to draw any inference from the degree of violence as to the ultimate prognosis. When sensation for pain, temperature and touch are lost, when the reactions of degeneration are complete and there is complete loss of conductivity the prognosis is correspondingly grave. Spontaneous recovery should not be expected, according to Warrington and Jones,[12] if some improvement has not been observed within some months. Of secondary suture of the nerve, Bowlby[13] says, and with this Sherren agrees, that there has never been a successful case if undertaken four years or more after the injury. *While there are certain exceptions, spontaneous recovery without operation after subcutaneous injuries of the plexus should not be anticipated.*

It is very difficult to express in anything like exact terms the end results of the surgical treatment of brachial plexus palsy. The difficulty is usually twofold; in some instances the reports are very imperfect as to detail; in others the final note is made often too soon after the operation, a few weeks or so, before one could expect any material advance in the process of regeneration and restoration of function. No doubt if an examination were made at a much later period greater improvement might have been observed, but a general review of the whole situation leaves one with a very vivid impression that with the procedures now in vogue the results of the operation will be found on the whole far from ideal. It is only fair that due allowance should be made for the length of time which has elapsed from the date of the accident to that of the operation. It is generally conceded, and with reason, that the shorter the interval between the date of the nerve injury, whether it be rupture or contusion, and the date of the operation, the greater the chances of complete regeneration. The embedding of the nerve in a mass of cicatricial tissue for any length of time must have of itself a deleterious influence. To postpone operation a year after such an injury is preposterous, to say the least, and yet in the tabulated cases six, seven, eight, nine months and a year were not exceptional. In rendering a prognosis, one should not forget that there is the widest variation in the time at which improvement may first be noted, and that in some cases more than a year may elapse before there is the slightest evidence of return of function, either motor or sensory. In this connection Tubby's case was especially interesting; the operation was not performed until six months after the injury and while but one nerve was involved (C_5) the first signs of improvement were not detected until two years had elapsed. In one of Sherren's cases of nerve suture after division of the upper and middle trunks,[14] return of sensation was not observed until 182 weeks after the operation, and only after the lapse of 333 weeks (over six years) did all the previously paralyzed muscles respond to faradization. This should impress on us all the importance of insisting on the continuance after operation without interruption for months, of those measures designed to preserve muscle tone until voluntary power is restored. We refer especially to massage, passive motion and electricity.

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[8] Rendu: Soc. méd. d. Hôp., July 10, 1891; Arch. Neurolog., September, 1887.

[9] Thorburn: Brit. Med. Jour., April 28, 1900.

[10] Raymond: Clin. d. Mal. du Syst. Nerveux, 1896, 1st Series.

[12] Warrington and Jones: Lancet, London, 1906, ii, 1644.

[13] Bowlby: Lancet, London, 1902, ii, 198.

TABLE OF RESULTS OF OPERATION

Operation	No.	Return of sensation	Return of motion	Effect on pain
Suture of 3 cords...	4	slight	feeble movements (3)	......
Suture of all trunks.	3	slight (2) none (1)	none (2) slight (1)	......
Suture of all nerves.	1	none	none	......
Suture C 7.........	1	slight	none	......
Suture C 5 and C 6.	1	none	none	......
Graft dog's sciatic ..	1	none	only in biceps	......
Suture à distance...	1	partial	partial	......
Dissection of cicatrix	1	......	......	......
Excision of plexus...	1	......	......	......
Division sensory roots C_5. T_1...........	1	......	......	partial relief
Amputation	2	......	......	partial relief
Separation too great to suture	1	......	......	......

Even in the cases in which operation was performed we fail to find a single instance in which either sensation or motion was restored to anything approaching normal conditions. Of ten cases of suture (see table) of nerves, trunks or cords, in six there was no restoration of motion, and in three, feeble movements are reported as restored to a limited group of muscles. In the same series, sensation was restored in a limited degree to six and not at all to four. In one case after grafting a piece of a dog's sciatic nerve, there was partial return of sensation and motion. While the difference is proportionately slight and perhaps only a coincidence, there was a larger percentage of recoveries of motion after suture of the trunks than after suture of the cords. As is well known, sensation is almost invariably recovered before motion and to a greater or less degree in a larger percentage of cases.

TREATMENT

As with many other operable lesions of the nervous system, there is an unpardonable delay between the time the diagnosis is established and resort to operation. Subcutaneous injuries of the plexus must be regarded as a serious injury either with or without operative interference. The number of spontaneous recoveries is exceedingly small and yet it is extraordinary how many patients have been allowed to progress to a hopeless state without operation and how many are not operated on until months have elapsed. In view of the gravity of the lesion, of the resulting disability and of the occasional intractable neuralgias, surgeons should insist on resort to operation, if not immediately, at least as soon as it can be demonstrated with reasonable certainty that spontaneous recovery is improbable. An excellent working rule is that of Sherren,[15] that *all subcutaneous injuries which give reactions of degeneration at the end of ten days should be submitted to operation.* If the muscles, though paralyzed, react to a faradic current, no operation should be performed and the case treated as one of incomplete division. If this rule is strictly observed the future of brachial plexus surgery will be more replete with encouraging reports.

The method of procedure will vary according to the nature of the injury, whether we are dealing with (1) an injury to the plexus without complete rupture, (2) rupture of the plexus at a point accessible for suture, (3) rupture of the plexus at a point inaccessible and (4) terminal neuralgia.

1. As for injuries to the plexus without complete rupture, we must keep well in mind the pathology. These are the cases in which the nerves appear at the operation as fibrous cords. At the time of the accident there was a more or less extensive hemorrhage into the nerve sheath with rupture within the sheath of some axis cylinders. The traumatic exudate organizes at the expense of the axis cylinders. If we are right in the premises, the logical procedure under such circumstances would be a free incision into the sheaths of the affected trunks or cords for the evacuation of the still unorganized traumatic exudate, thus allowing the nerve to regenerate free from the baneful influence of cicatricial tissue. As we have had no opportunity to operate on recent injuries of the plexus this view would seem at first speculative, but in looking over the literature of the surgery of the nerves one of us (C. H. F.) chanced on a somewhat analogous condition in which this principle was applied with extraordinary success. In the case to which we refer the median nerve had been traumatized[16] and showed a grayish fusiform swelling three times its normal size. The enlargement was incised in a vertical direction and the exudate evacuated. Within four days the area of anesthesia had diminished about one-third and subsequently there was a progressive increase in power. In recent experiments on the spinal cord, Allen[17] found that a free vertical incision in the cord immediately after it was traumatized prevented the serious structural changes which inevitably followed under similar conditions in control cases.

2. We shall not elaborate on the management of cases in which the plexus *in toto* or in part has been ruptured. Here the various methods of direct suture, of lateral anastomosis, of grafting, of suture *à distance,* are applicable and should be executed with the painstaking detail and with the delicacy of manipulation which are so necessary to success in nerve suture. Spitzy,[18] who has had perhaps the largest operative experience, lays the greatest stress on atrophy as being

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[14] Sherren: Lancet, London, 1906, 1, 746.

[15] Sherren: Clin. Jour., August, 1907.

[16] Babcock: Nerve Disassociation, Ann. Surg., 1907, xlvi, 686.

[17] Allen, A. R.: The Journal A. M. A., Sept. 9, 1911.

[18] Spitzy: Ztschr. f. orthop. Chir., xlii, xiv, xv; Arch. f. Orthop., ii, No. 1.

of more importance than the particular form of functional disturbance. He favors lateral anastomosis of the affected into the unaffected nerve through a longitudinal slit. He emphasizes further the importance of accurate suturing to prevent ingrowth of fibrous tissue. In Murphy's elaborate and comprehensive paper on neurological surgery,[19] the intricate details are dealt with *in extenso*. But even when the divided structures of the plexus have been sutured under most favorable auspices the results, as we have already shown, are anything but gratifying. In this connection the recent work of Harrison,[20] later applied by Carrel, seems to me pregnant with possibilities, and I hope to present in the near future the results of the application of this principle to the regeneration of nerve tissue.

3. Rupture of the plexus at a point inaccessible for suture. When complete rupture occurs the nerve usually gives way at the outer margin of the anterior scalene muscle, and while the distal ends may disappear beneath the clavicle there may be no difficulty in approximating the divided ends. Occasionally, however, the point of rupture is so near the vertebral column or actually within the intravertebral foramina that approximation and suture is impracticable. When but one or two roots are involved, lateral anastomosis into the uninjured nerve may be resorted to, but when the entire plexus is involved the cases have hitherto been regarded as hopeless and abandoned. To meet this emergency Alexinsky,[21] in 1899, introduced an entirely new thought. In a series of observations on the cadaver and on animals he found it was quite feasible to effect an anastomosis between a nerve from the unaffected side with that on the affected side.

So far as we know, Alexinsky's operation has been practiced but once in the human subject,[22] where in a case of infantile palsy, an anastomosis was effected between a prolongation of the sixth cervical nerve on the sound side and the sixth cervical nerve on the affected side. The nerves when freed were carried by blunt dissection in front of the trachea where an end-to-end suture was effected. Three and one-half months after the operation there was a very pronounced improvement. In view of the earlier work of Alexinsky and the results in Babcock's case we feel justified in recommending this procedure when the injury to the roots or nerves makes direct apposition of the divided nerves impossible, or when, as frequently happens in many cases in which the results of suture are unsatisfactory, the cells in the anterior horn have been damaged.

NEURALGIA

There remains for consideration the management of those cases in which neuralgia is the paramount condition demanding relief. It will be recalled that this was precisely the situation in our case. The patient was unable to withstand the pain except under the continued influence of opium. Both the patient himself and his physicians urged hasty recourse to any method which would offer reasonable assurance of relief, without respect to its effect on the motor palsy.

From the historical point of view, the case of Sands and Seguin in 1873 is of peculiar interest because it seems to be the first recorded case of rupture of the brachial plexus in which an operation was performed especially for the relief of neuralgia which was so intense that the patient's condition had become quite desperate. Dr. Rogers in consultation advised, with the view of interrupting the neuralgia, complete chloroform anesthesia for a period of twelve hours, and Dr. Seguin recommended counter-irritation to be applied near the supposed seat of nerve lesion above and below the clavicle. Dr. Hamilton proposed amputation of the arm near the limit of anesthesia; the proposal was concurred in and the arm was amputated; although there was some temporary relief in a fortnight the pain was again uncontrollable. About two months later, Dr. Sands proposed section or resection of the nerves of the plexus at a point nearest the intervertebral foramina. This operation was considered of so much importance at the time it was recorded that there were present at the operation which Dr. Sands performed, Drs. Cave, George A. Peters, William H. Draper, F. N. Otis, T. T. Sabine, John G. Curtis, McCreery and E. C. Seguin. Drs. Hamilton and Barstow had been invited to attend but were unable to come.

While the relief was by no means all that could have been desired, the end results were such as to justify Sands in endorsing this operation as a procedure not dangerous in itself and capable of relieving a neuralgia which has resisted all ordinary treatment.

Von Nussbaum,[23] in the first published volume of the *Deutsche Zeitschrift für Chirurgie* thirty-eight years ago, wrote that in exposure and stretching of nerves we have a new and promising means for the relief of cases of uncontrollable pain, but time has not fulfilled his predictions. We know now how transitory are the effects of this operation. Therefore, when confronted in our own case with the task of suggesting some appropriate measure I proposed without hesitation intraspinal resection of the sensory roots, an operation first proposed by Dana and later advocated by Chipault.[24] In a case of neuralgia of unknown origin the posterior roots of the eighth cervical and first thoracic were cut with complete relief. [In the same article[24] Chipault writes if this principle was applicable to the trigeminal nerve we could cure trigeminal neuralgia; but unfortunately it is not. Since that time avulsion of the sensory root of the ganglion of Gasser (Spiller's operation) has become a conventional procedure.]

The condition found at the operation and the results have already been recorded; suffice it to say that the failure to obtain complete relief was not the fault of the procedure selected. For these intractable forms of neuralgia following rupture of the brachial plexus, we believe section or resection of the sensory roots should be recommended unhesitatingly. In this lesion as well as in neuralgias of other sources, as in the tabetic crises and in the presence of inoperable carcinoma, the sensory root resection has fulfilled its purpose.

One of us (Frazier) has performed all told, in the past two years, six laminectomies for section of the posterior roots. The operation has been without fatalities, as it should be when dealing with favorable subjects, notwithstanding the opinion of Kocher, who, in the new edition of his "Operative Surgery," which has just appeared, treats the operation in a very summary fashion, refers to Tuffier's series of seven cases with two fatalities, and regards it as of doubtful service, to be used only in exceptional circumstances.

There are some points in the technic which we have found helpful; the cutaneous incision should be a curved one, not directly over the incision in the aponeurosis; the muscles should be separated from the spinous processes by a chisel, not only to expedite matters, but to avoid too much mutilation, it is not necessary always to remove the spinous processes, although in most instances it is advisable; a hemilaminectomy will suffice, when exposure of only one side is required and not more than two or three successive laminæ should be removed. If these precautions are observed the strength of the spinal column will not be affected. Of paramount importance is the accurate identification of the individual vertebræ before the operation is begun, otherwise the subsequent identification of the roots will be a matter of guesswork. In the separation of the posterior from the anterior roots one should trace the root from its attachment to the cord. Every vestige of blood should be removed before closing the dural sac, which should be done with a continuous suture to prevent leakage of cerebrospinal fluid. This leakage adds to the shock of the operation, to the risk of infection and interferes with wound repair. The muscles, aponeurosis and skin should be sutured *en tier* and drainage to the bottom of the wound provided for. In the cervical and upper thoracic region a general anesthetic must be used; in the lower thoracic and lumbar regions spinal anesthesia may be substituted to advantage.

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[19] Murphy: Surg., Gynec. and Obst., 1907, iv.

[20] Harrison: The Physiochemical Influence of the Growth of Tissues, Jour. Exper. Med., 1911, xiii, No. 4.

[21] Alexinsky: Chirurgia, 1899, vi.

[22] Babcock, W. Wayne: Transbrachial Anastomosis, The Journal A. M. A., May 25, 1907, p. 1743.

[23] Von Nussbaum: Deutsch. Ztschr. f. Chir., i, No. 5, p. 450.

[24] Chipault: Nouv. Iconog. de la Salpêtrière, viii, 136.

The treatment of brachial plexus injuries and its effects is, as we have tried to indicate, very variable, depending partly on the pathologic nature of the lesion, partly on the seat of the lesion and partly on whether we aim to obtain radical, or, as in cases of neuralgia, merely palliative results. Above all else we lay stress, as Vandenbossche[25] so ably and forcefully does, on the utter folly and pitiable results of indefinite postponement of operation.

CONCLUSIONS

1. The case herewith presented is the first on record in which the seat of the lesion within the dural sac was discovered at operation.

2. Avulsion of the plexus, partial or complete, without skeletal injury, is comparatively infrequent. There are recorded all told but twenty-one cases in which the precise nature of the lesion has been verified by operation.

3. In the mechanism of avulsion traction is the most influential factor.

4. In the pathology emphasis is laid, first, on the presence and on the injurious effects of the traumatic exudate, the organization of which interferes with nerve regeneration; and secondly, on the possibility of an intraspinal lesion (either avulsion of the roots or degeneration of the cord) associated with an extraspinal lesion, as a clue to the larger percentage of failures following reconstructive operations on the plexus as compared with similar operations on the peripheral nerves.

5. The authors failed to find a single instance of complete restoration of function. Without operative interference the outlook is almost invariably hopeless. Unpardonable delay in operating may account for some failures. Six years may elapse before the end results manifest themselves.

6. In view of the gravity of the lesion, of the resulting disability and of the occasional intractable neuralgia, surgeons should insist on immediate resort to operation.

7. If, at the operation in very recent cases, the nerves are found swollen and their continuity not altogether destroyed, an incision should be made into the nerve to allow of the evacuation of the exudate.

8. When the approximation of the ruptured nerve is impossible, a cross anastomosis may be affected with the nerve on the unaffected side, as first proposed by Alexinsky.

9. In cases of intractable neuralgia one should not hesitate to resort to intraspinal section of the sensory roots.

We are indebted to Dr. Charles K. Mills for the privilege of reporting this case and to Dr. Mills and Dr. William S. Spiller for their careful analysis of the clinical phenomena.

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ABSTRACT OF DISCUSSION

Dr. W. W. Grant, Denver: The dictum of Langley and Anderson that when the cervical sympathetic ganglion is excised and union is made of the proximal and distal segments, functional regeneration cannot occur, only exemplifies the other very well established fact, that when a nerve is severed or destroyed by disease, regeneration will not occur unless there is a neurilemma. The fact that one or two of the cases reported by Dr. Frazier demonstrated that the nerve was but a fibrous cord, although the nerve had not been severed, only shows complete degeneration of the nerve does occur, whether the nerve is divided or not; in other words, that some infective condition or inflammatory degenerative change had produced this condition.

The cases are lamentable in the fact that there are so few recoveries, seemingly, in traumatic injuries of the brachial plexus; and yet if the nerve-roots are destroyed or seriously damaged, especially within the vertebral canal proximal to the ganglion, or reaching to the commissure of the cord, regeneration will not occur, no matter how perfect the anastomosis nor how complete the aseptic technic. It should be remembered also that there is always an atrophy of the motor nucleus in this condition, both proximal and peripheral. How far this will extend depends very much on the nature of the injury and the resulting processes thereafter. I am extremely hopeful that when we more perfectly understand the nature of the causes leading to this condition, the future will bring better results.

There are other things of vital importance in securing a good result in the surgical treatment of injuries resulting in the severance of the nerves, whether traumatic or from disease; and that is, in addition to the operation of anastomosis, which, if correctly done, should be end to end, the protection of the nerves at the seat of anastomosis from excessive connective tissue proliferation and subsequent or consequent (cicatricial) contraction. Penetration of cicatricial tissue by axones is often impossible; and unless means are provided by the operator to prevent this condition, the result will be unfavorable as to the regeneration, or restoration, of function, no matter how perfect the asepsis, nor how perfect the anastomosis may be. Different means have been used for this purpose. Some will cover the joined nerves in a muscle or adjoining fascia; others will use egg membrane, others animal peritoneum, or Cargile membrane, which is the one I have myself employed. If this is done, and the nerve ends thoroughly protected and care taken to prevent any tension on the nerves, the results are quite satisfactory.

I wish in this connection to say that laceration is even more fatal than a direct incision or injury. The laceration is more destructive, it extends further, it is more apt to extend into the vertebral canal; those are the most doubtful cases; and likewise in those cases it is extremely difficult, if not impossible, to discriminate as to the damage to the plexus or roots or to both until after operation. But if the means I have stated are used during operation and there is no serious damage to the canal, there is no better or brighter field for surgery than nerve anastomosis even in injuries of the brachial plexus.

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[25] Vandenbossche: Rev. de Chir., 1910, xxx, 817.

THE SIMULTANEOUS AND CYCLIC APPEARANCE OF EPIDEMICS OF PNEUMONIA, GRIP AND ENTERITIS ON THE NORTHERN HEMISPHERE

AND THEIR SYNCHRONISM WITH SOLAR ACTIVITY CYCLES *

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SAN FRANCISCO

Before this Section in 1894, I read a paper on the influence of atmospheric pressure conditions on the prevalence of pneumonia,[1] and I published a further study on this subject in 1908.[2] My conclusions, based on my former research and with special reference to epidemics of pneumonia in Chicago and San Francisco during the five years, 1899 to 1904, I formulated thus:

> Pneumonia is not merely a concomitant of the cold weather season. Its prevalence depends on anticyclonic weather, summer and winter, on the northern hemisphere, and not on low temperature. There is sufficient reason to assume that the quality of the air of an anticyclone changes in conformity with changes in the activity of the sun and that the prevalence of grip and pneumonia is subject to a specific quality of such air.

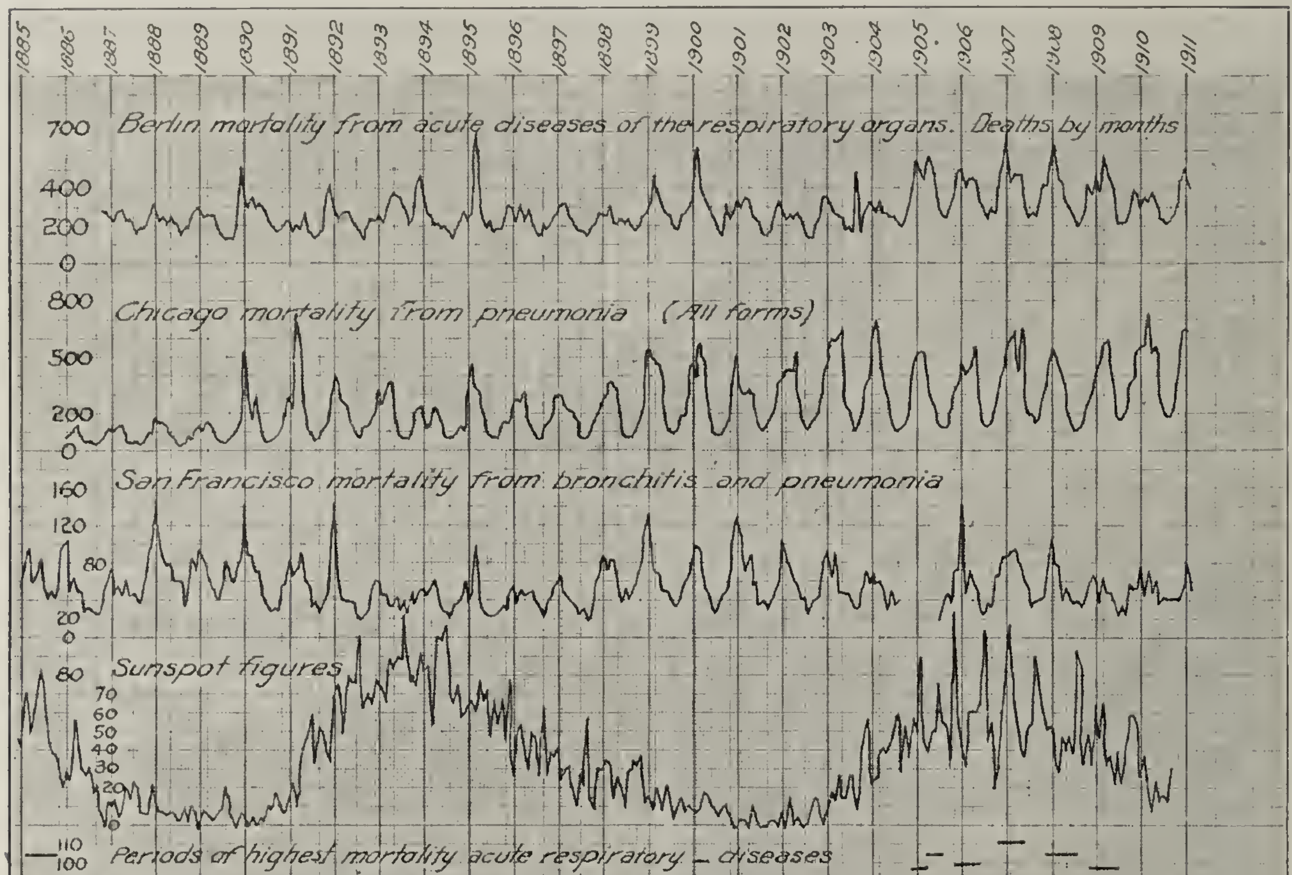

Chart 1.—Epidemics of pneumonia and enteritis in Berlin, Chicago and San Francisco.

In support of these conclusions, I prepared charts† showing: first, the even temperature and humidity line of San Francisco, the number of hours of sunshine and the amount of rain for every day of the eleven years, 1888-1899, where obtainable, in contrast to lines of pneumonia and bronchitis mortality per week and the air-pressure extremes of every day; second, similar data during the time of grip and pneumonia epidemics at Berlin and New Orleans in the winter of 1889-90; and third, charts giving the weekly pneumonia mortality and the daily air-pressure observed at Chicago and San Francisco during the five years, 1899 to 1904.

I emphasized in my last paper that "any investigation of this nature should not be limited to proving a reciprocal relation of certain weather conditions and pneumonia and grip as existing in a city or on a small part of our globe, but should be carried on to prove such relation for at least one hemisphere." In consequence, I studied this subject in reference to Berlin, as the figures published weekly by the Imperial Health Office of Germany give ample material for such study. I prepared two charts in relation to this research, each covering the twenty-four years from 1887 to 1911, showing the weekly mortality from acute respiratory diseases, the daily extremes of air-pressure, temperature and relative humidity, the figures of rain, of sunshine, of the sunspots observed on every day, and the weekly mortality from acute gastro-intestinal diseases. The wind direction is given for the periods of epidemics.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Richter, C. M.: The Journal A. M. A., Aug. 4, 1894, p. 188.

[2] Richter, C. M.: The Journal A. M. A., Aug. 22, 1908, p. 660.

† These charts were on exhibition at the Los Angeles Session, in the Scientific Exhibit.

For convenience, I use in this paper and on the charts, when not otherwise stated, the word "pneumonia" to represent acute respiratory diseases, and the word "enteritis" to represent acute gastro-intestinal diseases.

I learned from these charts the following facts for Berlin: The prevalence of pneumonia depends, as at Chicago and San Francisco, on anticyclonic weather, summer and winter, and not on sunshine, temperature, or relative humidity.

The period of lowest mortality from pneumonia is always synchronous with relative absence of anticyclonic weather and with the appearance and development of enteritis epidemics.

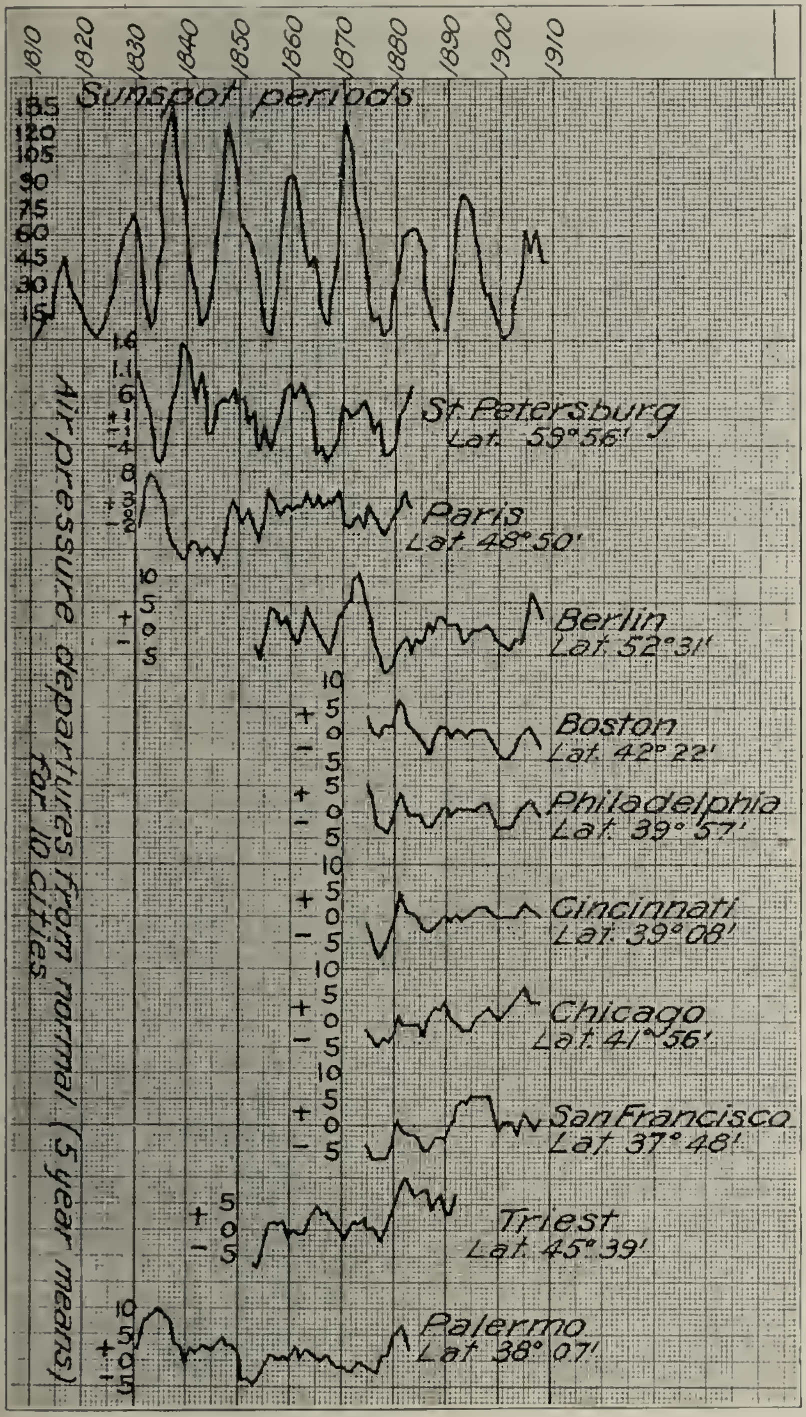

Chart 2.—Air-pressure departures from normal in ten cities.

Enteritis and cholera infantum epidemics (under 1 year) at Berlin do not last many weeks. They generally have a rapid rise and fall. They either precede the period of lowest air-pressure during the summer for a few weeks, or more often are simultaneous with it.

Cholera infantum figures (under 1 year) in these epidemics, represent uniformly about 60 per cent. of the total number of enteritis cases.

The United States Census Mortality Report for 1908 gives a ratio of 80 to 85 per cent. of deaths from enteritis and diarrhea to children under 2 years in the United States. Convulsions under 5 years would add 1 to 2 per cent. to this figure. The Chicago figures include "convulsions" since 1908.

This group of gastro-intestinal diseases at Berlin appears in an epidemic form during the periods of the extreme heat of the summer, but not in proportion to the extent, or to any distinct quality of such periods. Positive or negative departure from normal temperature during the twenty-four summers does not modify their appearance in a fundamental way. The amount of sunshine and the degree of relative humidity possess no causal relation; but an absence of anticyclonic weather is very conspicuous during such an epidemic.

San Francisco is practically immune from cholera infantum and from enteritis epidemics in general. The high summer heat is wanting here, but whenever periods of extreme heat have occurred, they were not followed by a prevalence of enteritis. However, we find during a San Francisco summer a relatively high air-pressure condition, very different from the period of "low" observed at Chicago and Berlin. (For similar reasons San Francisco suffers more from pneumonia during the summer months, than the two cities named.)

The anticyclonic weather, of course, should not be judged merely by high pressure figures, but by the direction of wind as well, and this should indicate that the air in question is an outflow of an anticyclone. For it is more the quality of the air brought to us by an anticyclone than its numeric value that we consider.

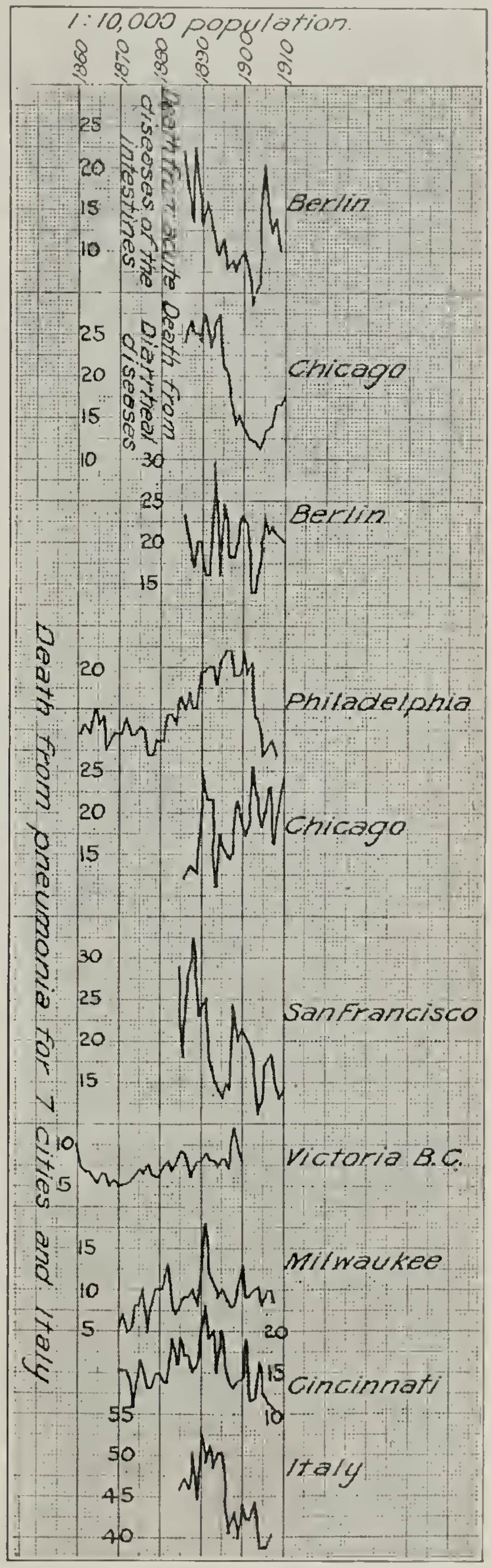

Chart 3.—Deaths from pneumonia in seven cities and Italy.

"It is not the absolute height of the barometer that is determinative in locating anticyclones, but rather the relative height of the barometer compared with that of the surrounding districts."[3]

For practical considerations, we may assume that air-pressure fluctuations of 20 to 30 mm. will not affect our organism materially, except its most elastic tissues—the lungs and the soft abdomen. A reduction of air-pressure of 30 mm. signifies a loss of weight of 80 kilos on the abdominal surface.

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[3] Symons, 1. Hann: Meteor. Mag., April, 1911.

A maximum of air-pressure brings at the same time the highest amount of oxygen into the lungs. It has been proved, experimentally, that an excess of oxygen inhaled may cause pneumonia.

Considering the importance of the quality of air we breathe under different atmospheric conditions, I directed the next step of my research to an inquiry into the influence of solar activity on weather conditions, principally on air-pressure fluctuations.

Chart 1 points out epidemics of pneumonia and enteritis by the monthly mortality figures of Berlin, Chicago and San Francisco. It will be recognized at once that the cities have their pneumonia epidemics during the same years or period of years and that especially the last sunspot period seems to cover a prevalence of pneumonia during its cycle.

On the same chart will be found the lines of periods of highest and lowest pneumonia mortality for Berlin, these lines indicating the average weekly mortality during such periods. These periods cover from one to five months at ever-changing parts of the seasons, but were always found to be in direct dependence on anticyclonic conditions.

The mortality figures are given as well at the scale of 1:10,000 population, to give proper estimate of the real mortality. Besides, there are the yearly departures from normal temperature and the yearly sunshine values for Berlin, the latter also for San Francisco.

The different scale for the hours of sunshine points to the fundamental difference between Berlin and San Francisco in this respect. All figures are generally for the twenty-four years ending December, 1910.

Chart 2 exhibits the direct dependence of air-pressure conditions on solar activity (judging from sunspot figures) for eighty years (1830-1911) more or less. and for the cities of St. Petersburg, Berlin, Paris, Triest and Palermo in Europe; Boston, Philadelphia, Cincinnati, Chicago and San Francisco in America.

F. H. Bigelow[4] says:

> The response to a change in the solar energy, when recovered at the earth, is by no means simple. We are guided in this respect by the prominences and sunspots and we consider them as products of the outgoing radiant energy.

Sunspots have a varying period of from 11.1 years to 13.3 years. Besides, there is the constantly changing area of the sun, which is covered by spots. This area amounted to a minimum before the grip epidemics of 1835 and 1889.

On a purely mathematical basis, A. Schuster[5] found periods of solar activity that amount to 4.8, 8.4 and 11.1 years.

These periods may cover, as he says, a period of 33.4 years.

F. H. Bigelow adopts a 33-year mean and subdivides it by 3- to 4-year periods. He concludes that "the magnetic field variations (of our earth) are one result of the absorption of the incoming radiation in the earth's atmosphere and the temperature changes are another product of it, linked up with the circulation and thence with the barometric pressure and weather conditions generally."

I demonstrated this correlation of air-pressure and sunspot periods in 1892.[6]

Chart 3 proves to a certainty the simultaneous appearance of enteritis and pneumonia epidemics on our hemisphere.

The mortality figures are of the ratio of 1:10.000 population. They represent acute diseases of the respiratory organs at Berlin, pneumonia (all forms) at Chicago, pneumonia "lobar and unqualified" for 1900 to 1908 at Philadelphia. Milwaukee and Cincinnati (U. S. Census Reports) and "pneumonia," according to E. F. Wells,[7] for the years before 1900 at those three cities and at Victoria, B. C., and they represent bronchitis and pneumonia (all forms) for the kingdom of Italy and San Francisco. Although the figures are not homogeneous, still by far the largest percentage of them refers to acute pneumonia. The enteritis figures represent enteritis (all forms) and since 1908 also convulsions at Chicago and acute diseases of the intestines at Berlin.

The figures for New York, as given by L. Emmett Holt,[8] and those for San Francisco practically agree with those of Berlin and Chicago. The time covered by my tables comprises fifty years for Philadelphia, forty for Victoria and twenty-five years or more for the other cities and Italy.

The enteritis lines are surprisingly uniform. Berlin and Chicago show practically the same synchronism in the rise and fall of this mortality. A period of about sixteen years intervenes between the last and the present high figure.

The pneumonia lines show the peculiarities of latitude and of the locality of the district where the epidemics occur. Some of them show strikingly the prevalence of relatively high or low pressure at such districts.

Cincinnati has the highest sea level pressure (763.6 for the year) on this chart and the highest pneumonia mortality, while Victoria, with a pressure of 762.0, has a lower mortality in proportion.

Milwaukee and Boston in a similar way have a lower mortality than Chicago and Philadelphia. The high mortality of the colored race from pneumonia in southern states gains a different aspect when we consider the high pressure area in which they live. In general, we find the lines of pneumonia mortality on the northern hemisphere to follow almost precisely the barometric gradients. This relation becomes qualified apparently by the solar activity existing during, or preceding, anticyclonic weather. For instance, we know from history, that from 1831 to 1835 there swept over our hemisphere a very great epidemic of grip and pneumonia—the greatest of that century before 1889—and we find then the highest air-pressure of that period registered at a time, when solar activity was lowest. The appearance of the 1889-90 epidemic was again heralded by abnormally high air-pressure and very low solar activity, while low air-pressure we find to be the rule during low solar activity.

Such exceptions seem to be determining factors and should be carefully considered in reference to the problem before us. For the present, we simply record the very uniform increase of pneumonia mortality in cycles, that remind us at once of the three to four years or longer solar periods. The greater prevalence of enteritis seems to be linked to epochs of even longer periods.

I wish to call your attention now to some of the most recent work in reference to the question before us.

Physicists[9] have brought out the facts that the circulating atmosphere—the cloud zone—ends at about six niles height; oxygen, diminishing gradually in its perentage of the atmosphere, cannot be found at about orty-five miles height; nitrogen, increasing first to wenty-one miles, then diminishing rather rapidly, ends it about fifty miles height. Oxygen and nitrogen are hen superseded by hydrogen. The amount of hydrogen md argon near the surface of earth is still a matter of ontroversy.

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[4] Bigelow, F. H.: Am. Jour. Sc., August, 1910.

[5] Schuster, A.: Proc. Roy. Soc., 1905, lxxvii.

[6] Richter, C. M.: Meteor. Ztschr., August, 1892.

[7] Wells, E. F.: The Journal A. M. A., Feb. 4, 1905, p. 361.

[8] Holt, L. Emmett: The Journal A. M. A., Feb. 26, 1910, p. 682.

[9] Wegener, A.: Beitr. z. Phys. d. Atmosph., June, 1910.

Two kinds of polar lights are seen in this atmosphere it a height of about thirty-six and about three hundred niles respectively. They represent the cathode rays, oming from the sun and deflected by the magnetic field of the earth. They appear in cycles which follow quite iccurately those of the sunspots, both having their naxima often in the same year and their minima likevise. Only seldom a difference of one to three years is ecorded. A certain dependence of air-pressure condiions on polar lights seems established in the vicinity of he latter.

Further investigation[10] proves that "the total amount of violet and ultra-violet in the solar radiation changes rom time to time—a change in the relative intensity of the violet seems definitely established—and it seems uite probable that this intensity must be least at the ime of maximum sunspot disturbance."

In regard to violet and ultra-violet radiation it seems mportant that "ozone is produced by the action of ultraiolet light on cold dry oxygen." "The amount of ozone n the outer atmosphere must, therefore, vary with the mount of ultra-violet radiation sent out by the un."

"When this ultra-violet solar radiation is at a minimum, presumably during a sunspot maximum, the mount of ozone in the upper layers of the atmosphere vill be a minimum, unless maintained by some other rocess (auroral discharges).

"On the other hand, with a maximum of ultra-violet adiation, presumably during a sunspot minimum, there vill be a maximum amount of ozone."

Humphreys furthermore claims that auroral displays vhich exist inside the oxygen level must be accompanied y production of ozone. He adds:

> The equator-to-pole circulation of the upper atmosphere nd the paralleling of magnetic lines of force by auroral discharges might well lead to a greater amount of ozone in the pper air of temperate and polar regions than in those of he tropics. . . .
>
> The amount of ozone in the atmosphere, since it results from he action both of auroral discharges and ultra-violet radiaion, that seem to increase and decrease oppositely, *though not ecessarily equally*, tends to remain more or less fixed.

But it is the exception to the rule that may bring lisaster.

In conclusion, we may assume that since the periods of solar activity, of auroral discharges and of air-pressure onditions are so closely interwoven with one another nd with ultra-violet radiation and the periodic appearnce of the epidemics in question, it is of the utmost mportance to renew the critical analysis of the air luring different air-pressure conditions and at different arts of our hemisphere.

Research should be directed, for instance, to the mount of water contained in the atmosphere surrounding us, to resulting electrical conditions and to the effect of such agencies and of solar radiation on the mucous membrane and the body.

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AN UNUSUAL CASE OF GUNSHOT WOUND OF THE ARM: RECOVERY

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FT. D. A. RUSSELL, WYO.

History.—On the morning of Sept. 3, 1910, a lad of 13 years accompanied by another about his own age, each armed with a shotgun, started hunting at a small lake near Fort Russell, Wyo. To get a better view of the surface of the lake and surroundings, the first-mentioned boy climbed on an ice chute platform, some 6 feet off the ground. This platform was constructed of planks 2 by 12 inches, with 2-inch spaces, except in one place, where part of a plank was broken out about 3 inches wide and 3 feet long. While intent on looking for ducks, the boy unconsciously let the gun slip from his hands; it fell through the hole caused by the broken plank, and in falling, the hammer struck on the boy's instep and the gun was discharged. The entire load of No. 4 shot passed along his left forearm and into the arm about midway between the shoulder and elbow. The boy had the presence of mind to hold the arm tight above the wound with his other hand, and saying to his companion "I'm shot," succeeded in some way in getting off the platform and started toward the hospital, about a mile distant from the lake. Becoming too weak he lay down behind a pile of gravel to keep out the wind, while his companion, assisted by another boy whom he met, continued the run to the hospital. One of the surgeons with the ambulance brought the injured boy in. When first seen by me the lad was in profound shock and nearly exsanguinated.

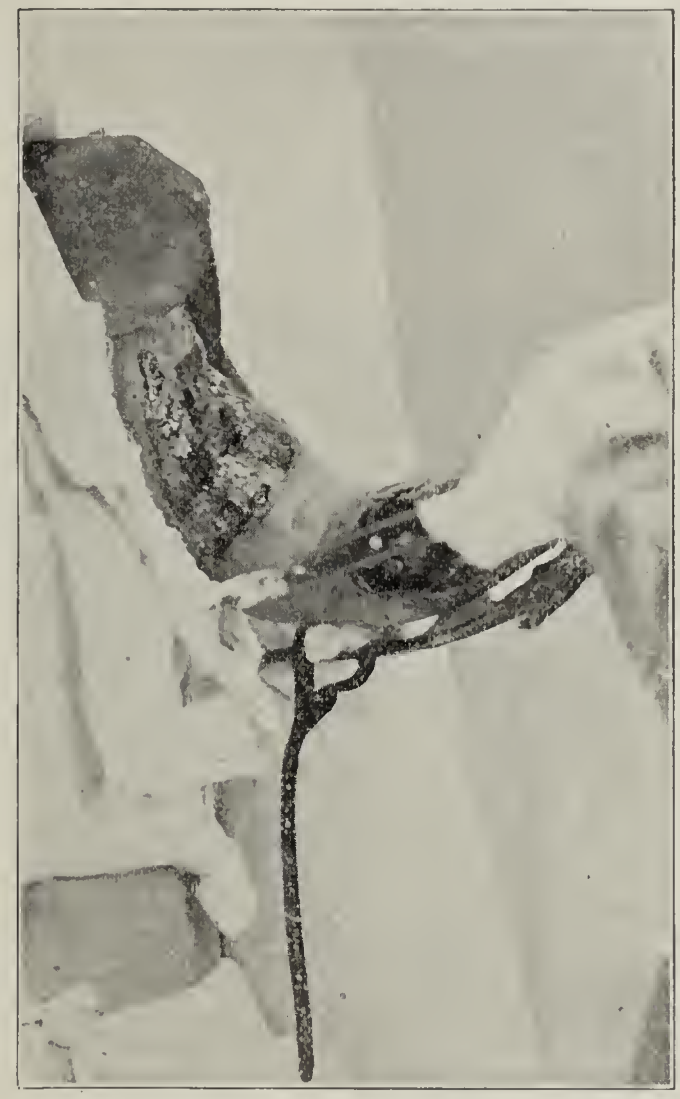

Fig. 1.—Extensive wounds of the arm and forearm and some of the details of the fixation apparatus described.

Examination.—Examination of the wounded limb showed that the charge of shot had passed along the anterior surface of the left forearm, removing skin and superficial structures down to and including part of the superficial tendons. It then passed on, for the arm was apparently flexed, and entered the arm at almost its middle portion anteriorly, slightly to the external side, tore away the whole of the outer head and belly of the biceps and part of the inner, a portion of the lower end of the deltoid, and broke the humerus squarely across. The brachial artery was seen pulsating and was fully exposed to view, but was uninjured.

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[10] Humphreys, W. J.: Solar Disturbances and Terrestrial Temperatures, Astrophys. Jour., September, 1910.

At first sight the case looked hopeless as far as saving the arm was concerned, and the boy's life was likewise in grave danger. He was removed as rapidly as possible to the operating-room, transfused with saline solution, and the arm cleaned up and put in a temporary dressing to await reaction. This came more promptly than one had reason to expect, and hopeless as the prospects of saving the arm seemed to be, conservative measures were decided on. The boy was splendidly built, strong and active, so that with youth and constitution in his favor, it seemed well worth the effort.

Two days later the lad was again taken to the operating-room, anesthetized, the sloughing portions of muscle removed, the bone placed in as good position as possible and further developments awaited. There was a severe infection of the wound, which necessitated daily dressing. This was largely controlled in a few days, and as there was now no question about the life of the boy, except from some unforeseen accident, and as the circulation was excellent, the question of applying some permanent fixation, which should at the same time allow dressing of the large wound, became an acute one. Moreover, there was necrosis at the ends of the fragments, which demanded attention. September 14, the following operation was performed:

Operation.—A piece of calf femur was obtained, turned true in a lathe, so that it was about half an inch greater in diameter than the broken humerus. This was then sawed in half longitudinally and the inside reamed out with a file until it was about the same size as the humerus; in other words, a bone collar 2½ inches long and of a size to just fit around the humerus was prepared. This was grooved at either end to keep the wires from slipping, and several holes drilled in it to save time if they should be required. Then several bone pegs about the size of the medullary canal were turned and a number of bone nails prepared. The idea was to do a resection of the bone, put a medullary peg in the canal, then cut a step out of either end of the fragments, fix with bone nails, place the bone collar in position around the whole and wire or nail it into position. The bone was broken so nearly square off that it was impossible to keep it in position with the weight of the lower arm and forearm constantly tending to throw it out. The resection was made and the ends secured by two bone nails, after placing the bone peg, about 2 inches long, in the medullary canal. The collar was placed around the bone at the point of resection and securely wired into position by placing the wires around the collar in the grooves mentioned. This resulted in a fairly firm fixation. About 2 inches of shortening resulted, which made it possible to bring the torn ends of the inner portion of the biceps together and approximate some portions of the outer part. These unions made an appreciable decrease in the size of the wound, which was still large though fairly clean. The uncovered surfaces were skin-grafted, both arm and forearm. The next question was a fixation dressing, and this taxed the patience and ingenuity more than any other part of the treatment. After a number of failures the following device worked successfully, and was worn continuously for about four months:

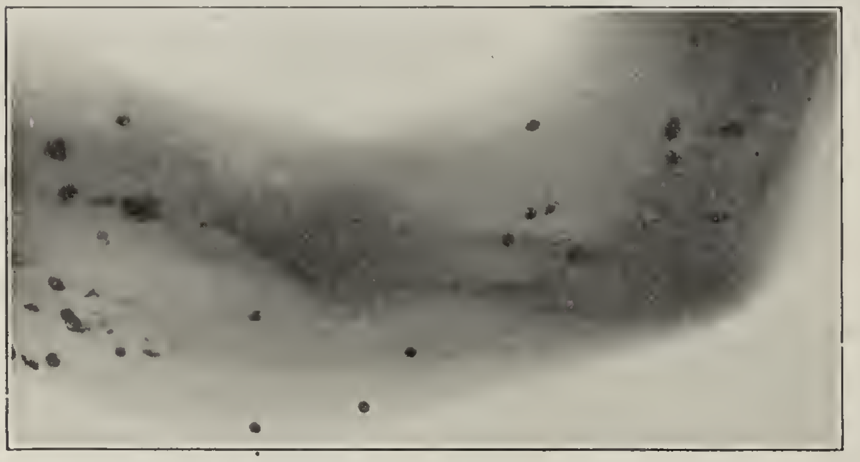
Fig. 2.—Radiograph of the arm showing the location of the fractures, with the half of the bone collar still in place, and the numerous shot still embedded in the muscles and tissues of the arm and forearm.

A heavy plaster cast was placed around the body from the crests of the ilia to the axillæ. In this cast were embedded two sheet-iron plates, about 4 by 6 inches, each having in its center, firmly fixed, a quarter-inch iron pipe with a set-screw at its outer end. These two plates were bent to the form of the body and placed in such a position that one pipe, about 2½ inches long, pointed at the elbow, and the other, about 8 inches long, pointed to the hand, when the arm was slightly in advance of a parallel position to the body, and the forearm flexed at a right angle. A leather shoulder-cap was then fitted from a plaster cast of the shoulder of another boy of almost the same size, and to the back of this cap an iron strap, three-fourths of an inch wide by one-eighth of an inch thick, was firmly attached. This strap-iron was bent at a right angle and at the elbow bend a rod was welded in position to fit the short pipe embedded in the cast. There was also at the bend an offset in the arc of a small circle sufficient to clear the point of the elbow. At the bend a strap was riveted to buckle around the elbow. At the distal end another strap, but considerably wider, was fixed to buckle around and hold the wrist in position. In the long pipe was placed another rod, which had at the end a curved piece of sheet-iron, over which the flexed hand could rest (Fig. 1). From the leather shoulder-cap a strap extended around the body under the right arm and buckled to the cap in front. The cast was supported from the shoulders by bandages, in the manner of ordinary suspenders. This method of support was successful beyond our expectations, for it held the arm firmly in position, yet gave an opportunity to dress the large wound of the arm and forearm, which still required daily attention to control the infection.

Postoperative History.—The wounds began to heal rapidly. The first grafting was but partially successful, so on three subsequent occasions skin-grafting was done, the grafts being taken from the arms of the boy's father and two friends. It was exceedingly difficult to make grafts hold on the forearm on account of the exposed tendons, but by repeating the process, and always without anesthesia, a very satisfactory result was obtained and both wounds were closed, with the exception of a sinus that persisted at the site of the fracture.

A radiograph taken at this time showed that the bone collar was partly out of position, and it was determined to remove it, as the irritation of the foreign body in the medullary canal and around the bone might be the cause of the sinus, and a fairly good callus had formed, so that it was regarded as a safe procedure. Nov. 22, 1910, this operation was undertaken, and the anterior half of the collar, together with the medullary peg, removed without difficulty. But the posterior half of the collar was so firmly embedded in callus that it could not be disturbed in the slightest without danger of fracturing the bone again, so it was left in position (Fig. 2). The splint was reapplied, and a light cast used around the forearm and posterior portion of the arm to add stability. The position of the arm was somewhat altered at frequent intervals, by means of the adjustment of rod and pipe mentioned above.

The operation had the desired result and the sinus closed. Later it opened again and persisted at intervals for some months, but apparently did little damage. The function of the hand had been partly maintained for some time by passive motion.

Early in January, 1911, the radiograph showed so strong a callus that it was determined to remove the splint and cast and depend on a sling and ordinary light posterior and lateral splints for the arm, leaving the forearm and shoulder free to functionate. The whole retentive apparatus was taken off Jan. 4, 1911. Motion quickly returned to the shoulder-joint and more gradually at the elbow and wrist. The hand was still stiff, and complete function was almost despaired of, but passive motion was continued and the boy encouraged to use it in every possible way. Flexion of the forearm was necessarily weak, as so much of the biceps was lost, and on account of contraction of the scar, extension was not complete.

At this stage I was necessarily absent from the post about our months, but on return found the boy with perfect use of the hand, the arm well filled out and quite strong and all he functions of the limb restored except complete extension, which is still slightly interfered with (Fig. 3). The lad now, en months after injury, plays on the juvenile ball team, ides his bicycle, and even drives his father's large touring car. The arm is not so strong as its mate, and there is about 2 nches of shortening, but aside from these defects, the fact hat he was injured is scarcely noticeable. There are still ome forty-two-shot in the arm, which show clearly in the adiograph (Fig. 2).

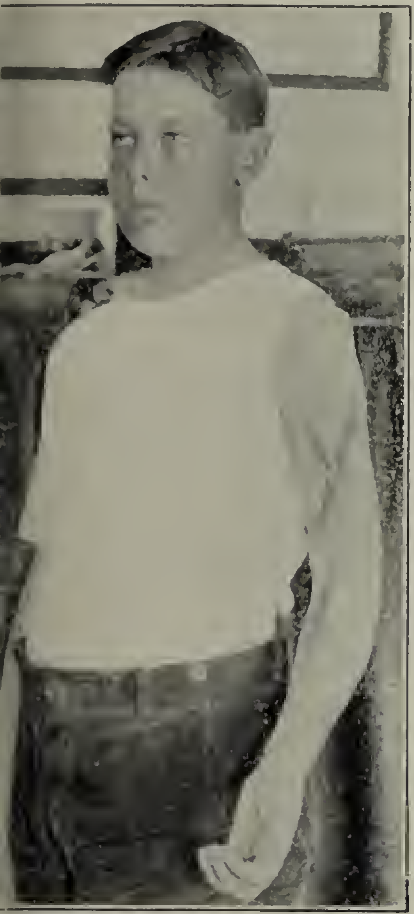

Fig. 3.—End-results of conservative treatment of an extensive gunshot injury to the arm and forearm. Note the extension of the elbow is not quite complete.

The results in this case are beyond all expectations. The best that was hoped for was a limb that might be more useful than an artificial one, with perhaps fair function of the hand. But as the case advanced it became evident that if the bone could be caused to unite, there would be a fair result. This union followed, and the final result is as outlined above with still good prospects of increase in the power of the arm.

The case illustrates forcibly the power of repair in the young, and the value of conservative methods, even though the time consumed is considerable. The progress of such a case is necessarily slow, but it is apparently not safe to predict that there is no use trying to save a limb until a protracted effort has been made.

STRANGULATED APPENDIX IN A FEMORAL HERNIA

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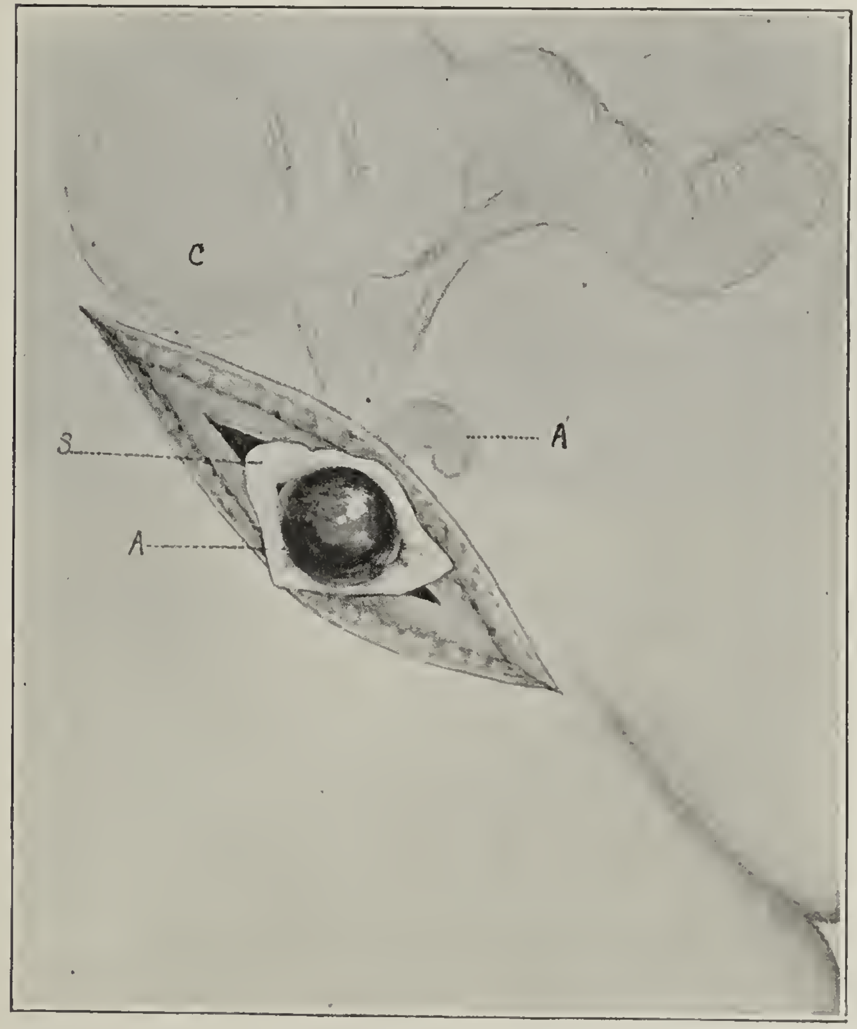
The following case is believed of sufficient interest nd rarity to be reported.

Patient.—Mrs. S., aged 45, a farmer's wife, began to experince pain in the lower umbilical region about 3 p. m., July 4. The pain growing steadily worse, Dr. W. A. Potts of Lansing, ll., was called at 3 a. m., July 5. On examination he found a ard, tender lump in the right groin, which had not been previously noticed by the patient. Gentle taxis, which was tried or a few minutes, was extremely painful and without success. he vomited for the first and only time about 3:30 a. m., the omitus consisting of water taken a short time previously. The bowels had not moved and no flatus had passed for twentyour hours, although several attempts to have them move had een made July 4. The bowels had always been regular until his time. An enema at 9 a. m., July 5, gave good results and endered the pain less severe.

History.—Patient stated further that ten years ago a painss lump appeared in the right groin while lifting an invalid mother. This disappeared in a few days. The swelling came out and reduced spontaneously during the next nine years at frequent intervals, never causing disagreeable symptoms, and little attention was given to it. During the past year it had been entirely absent. Patient is the mother of five healthy children and has had one miscarriage. History is otherwise negative. She was brought to the Hammond Hospital and I saw her in the evening, July 5, about twenty-eight hours after the onset.

Examination.—Patient was a middle-aged woman, with normal facies, admitting some abdominal pain on questioning. The temperature was 100.2 and the pulse 84. The abdomen was not distended and only moderately tympanitic. There was slight tenderness just above the umbilicus on deep pressure. No free fluid and no mass could be made out. A rounded swelling about the size of a bantam's egg was present in the right groin just below the inner part of Poupart's ligament. There was slight redness of the skin over it. The mass was tender to gentle palpation and semi-solid in consistency. There was no fluctuation and percussion elicited a flat note.

Operation.—An immediate operation was decided on and under ether anesthesia a 3-inch incision was made over the swelling parallel to Poupart's ligament. The tumor was isolated and a mass of fatty tissue dissected away, revealing a black shiny mass about the size of the end of the thumb. After some difficulty, the sac was opened on the outer side, revealing what appeared to be gangrenous wall of the small bowel. A fetid odor was noticed and a few drops of dark serum were present in the sac. Gimbernat's ligament was incised and the constriction at the neck of the sac stretched. After separating the fibrinous adhesions which bound the sac and bowel together, the latter showed a tendency to retract inside the abdomen. Traction unfolded a gangrenous appendix, the tip and proximal end of which were inside the abdominal cavity. The appendix was about 4 inches in length, the distal 3 inches being gangrenous but not perforated. There was retrograde strangulation of the tip, the hernial sac containing only the kinked middle 2 inches of the appendix. After enlarging the opening, excision of the appendix with ligation and invagination of the stump with two purse-string sutures was done. The lower abdominal cavity was irrigated with normal



Strangulated appendix in a femoral hernia. C, cecum; S, sac; A, strangulated two inches of appendix; A', tip of appendix inside abdomen.

salt solution and the sac ligated and excised. The hernial opening and wound were closed as usual and without drainage.

Course.—The postoperative history was uneventful. Temperature on evening of the first day went to 101.2 and after the third day remained normal. The wound healed by primary intention.

Although it is rare for the appendix to be found alone and strangulated in a femoral hernia, several such cases have been recorded in the surgical literature. The symptoms in most cases were not severe, but in each case there was present a tender irreducible femoral hernia. In a few there were symptoms suggestive of an intestinal obstruction.

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HABITUAL EPIGASTRIC PROTRUSION

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The following case is of interest for the reason that a careful search of the literature in the library of the New York Academy of Medicine did not depict one like it, and I have not heard one described. The condition may be designated as an abdominal wall-diaphragm habit, which had developed into a form of motor neurosis.

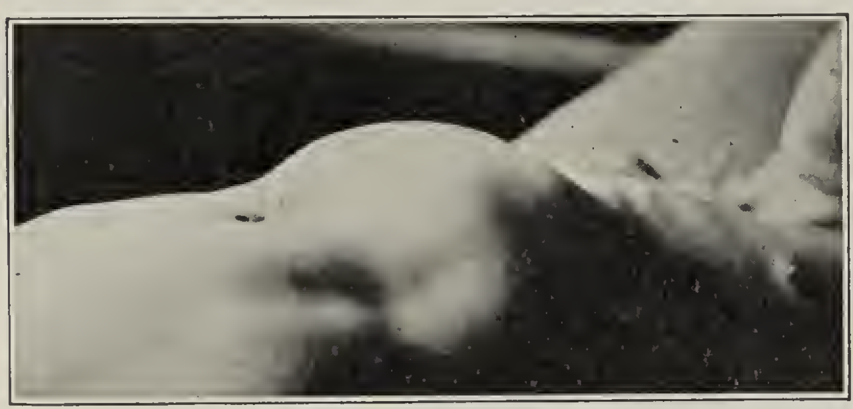

Fig. 1.—Marked epigastric protrusion.

Patient.—(Case referred by Dr. Neil O. Fitch, Astoria, Long Island) G. M., aged 17, seen July 27, 1911; is a high school pupil during the day and apprentice in a drug store evenings. Father died of apoplexy, mother well, two brothers and three sisters all well. Patient had measles as a child, several attacks of simple catarrhal colds, history otherwise negative; habits good, excepting that the patient ate rather heavily.

Present History.—Beginning in his childhood, he contracted his abdomen from time to time as a boyish prank. At first, the bulging of the epigastrium was rather difficult to bring about, taking much longer than at present and not always being accomplished when the patient wanted it to be. Of late years, he could do this much more easily, exhibited it to his friends, until he became considerably talked about, and now at times the condition came on involuntarily (even when he made an effort to control it) so that each day he would have a number of seizures. Two years ago he began suffering with headaches, constipation, and much belching of gas following the meals, coming on at once or up to fifteen minutes afterward. During this time he has had more or less after-meal distress in the stomach, particularly when he partook heavily of sweets. He has increased appetite for foods; sleeps well; has gained considerably in weight during the last year.

Examination.—Well-nourished boy of good muscular development. Heart, lungs, urine, blood, etc., normal. Marked splash in stomach, organ somewhat relaxed but not enlarged or ptosed. Left lobe of liver freely palpable and margin low, although right lobe could not be felt and upper border was in normal position. In repose, there was a slight transverse fulness in the upper abdomen which seemed to be due to the prominence of the left lobe of the liver and a general tissue condition. During the examination, a contraction came on. It began with a slight inspiration and a fixing of the diaphragm in that position, followed by a contraction of the abdominal muscles below the transverse navel line without any noticeable bulging of the epigastrium. The patient then seemed to fix the lower abdominal muscles, slightly exhaled, and then took a deep inspiration, at which the descended diaphragm working against the contracted abdomen below and an accompanying relaxation of the abdominal muscles above the transverse navel line caused the liver (left lobe) and a portion of the stomach to protrude forward and make up the pouch.

The prominence of the liver when the abdomen was in repose was due to a twisting forward of the organ, which had become considerably set in that deformity from the constant malformations of the organ during the seizures.

Treatment.—The treatment advised was a cessation of the habit, an anticonstipation diet, and 5 drops of tincture of nux vomica, three times a day, to correct the slight degree of gastric atony.

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EXPERIENCE WITH ALBUMIN MILK *

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In the early part of 1910, Finkelstein and Meyer[1] first published their results with *Eiweissmilch*, or, as it has come to be known in this country, albumin milk. Their cases numbered over 170 and their results were so good that others were led to employ the milk. Chapin[2] administered this food to twenty infants and had twelve deaths, certainly not a very good showing. Braunmiller[3] also, was disappointed with his results. My early experiences with the food were very discouraging.

Finkelstein, in explanation of these poor results asserted that either the food was improperly prepared or the technic of administration was incorrect. He found that the composition of the food, as prepared in his hospital, varied from day to day; this led him to have the food prepared in a laboratory. It is put up in cans much like our condensed milk; I made an effort to secure a supply of this canned *Eiweissmilch*, but was unsuccessful. Welde[4] administered this food to sixty infants and was highly pleased with his results; his experience in every way corroborates the reports from the Berlin asylum.

In a later article, Finkelstein[5] modified very much his original instructions, in regard to the addition of carbohydrates. With increasing experience he has found that it is not necessary to be so cautious, with the addition of the sugars. At the present time, I believe my poor results, in the beginning, were due in part to an improper preparation of the food, but chiefly to the fact that the carbohydrates were not increased rapidly enough. My experience emphasizes how absolutely necessary the carbohydrates are for the infant's organism. I the carbohydrates are kept out of the diet for any length of time there is a rapid pouring out from the cells of the body of salts and water, with rapid drop in weight, and death of the patient.

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* From the Pediatric Department, St. Louis University.

[1] Finkelstein and Meyer: Jahrb. f. Kinderh., 1910, ixxi, 655 ibid 683.

[2] Chapin: THE JOURNAL A. M. A., Oct. 22, 1910, p. 1455.

[3] Braunmiller: München. med. Wchnschr., 1910, No. 50.

[4] Welde: Therap. Monatschr., 1911, xxv, 83.

[5] Finkelstein and Meyer: München. med. Wchnschr., 1911 lvii, 340.

The classification of the nutritive disturbances for which this food is indicated, as given by Finkelstein, is as follows: dyspepsia, decomposition, intoxication, parenteral infection (Czerney and Keller). The dyspepsia is characterized by acute gastro-intestinal symptoms, that is, vomiting and diarrhea. The stools are thin and often green. The baby does not seem very sick, and there is very little loss of weight. There is a slight rise of temperature. Stopping of all food, with a gradual return of feeding, brings about recovery.

DISTURBANCES DUE TO FOOD

Decomposition (marasmus) is a severe nutritive disturbance. In this condition, the giving of food not only does not cause an increase of weight, but results in a rapid decrease of weight, accompanied by a severe alteration of the general condition of the baby. The powers of assimilation of the infant are so reduced that the administration of nourishment, even far under the bare necessities of the body, causes a severe reaction. The temperature is subnormal; pulse, slow; respiration, irregular. The stools in this condition vary, depending on the nature of the food. A normal-appearing stool may be encountered, but as a rule there is an alteration in the quality and quantity of the bowel discharges.

Intoxication, considered by American and English authors under the caption of enterocolitis and cholera infantum, is ushered in by stormy symptoms. Disturbances of consciousness, characteristic alteration in breathing, alimentary glycosuria, fever, collapse, diarrhea, leukocytosis, albuminuria and casts, and decrease in weight are characteristic of this symptom-complex. The collapse and nervous symptoms are more pronounced than those from the gastro-intestinal tract. This condition, long regarded as the result of bacteria, is due to the food itself. The offending element is the lactose, the fat only becoming so secondarily, the casein being entirely harmless.

PARENTERAL INFECTION

In contradistinction to the above nutritive disturbances which are *ex alimentatione*, must also be considered those which are *ex infectione*. As a result of the various infections, the powers of assimilation of the infant may be so damaged that a nutritive disturbance arises. In all of the above conditions Finkelstein has had excellent results with albumin milk.

From present methods of treatment we can say that in dyspepsia and intoxication (enteric catarrh), rational treatment is usually followed by recovery. In decomposition (marasmus), under artificial feeding, the infants in the large percentage of cases succumb. In parenteral infections of a severe nature, we all know how serious the outlook will be if the infant must depend on artificial feeding.

In giving a summary of Finkelstein's results with albumin milk, one must say that they approach very near the good results of breast-milk in these various conditions.

In June this year, I again began the use of this food; on account of my early poor results I felt justified in selecting only the hopeless cases for trial. The results obtained have been little short of brilliant; infants similar to those which formerly invariably died without breast-milk have been restored to health.

Albumin milk is prepared as follows: One tablespoonful of essence of pepsin, or a rennet tablet, is added to a quart of milk which is warmed to 100 F. After fifteen minutes the milk is well curdled; the whey is then poured off. The curds are placed in a muslin bag and allowed to drip two hours. The curds are then gently mashed through a hair sieve, twelve to fifteen times; at the same time one pint of boiled water is poured through the sieve. Then one pint of buttermilk is added. As recently emphasized by Brennemann,[6] first boiling the milk facilitates the passage of the curd through the sieve. I have always prepared the buttermilk by inoculating the fresh milk with a twenty-four-hour old milk culture. I have been using the same culture for the past four years. The start was made with tablets of lactic acid bacilli. After the inoculated milk has stood twenty-four hours it is churned or simply beaten with an egg-beater.

It is extremely important that a hair sieve be employed; metal and wire sieves found in homes will not do. The mixture is then ready for the addition of the carbohydrates. Maltose is preferred and may be added, up to 7 per cent.; if this does not bring about an increase of weight, particularly if the baby is over 3 months old, 2 per cent. of flour is also added, which must be first cooked twenty minutes with a little water. The composition of albumin milk is proteid, 3 per cent.; fat, 2.5 per cent.; mineral salts, 0.4 per cent.; carbohydrates, lactose, 1.5 per cent., plus the percentage of maltose and flour added. We have been able at St. Ann's Hospital to prepare a very beautiful appearing mixture. On standing a sediment falls to the bottom of the bottle, but on agitation the mixture becomes homogeneous. The percentage of the various elements of the food naturally will vary slightly from day to day, but this, in my experience, is of no moment. Now that we have mastered the technic of its preparation, we no longer crave the canned product. Owing to the fact that physicians in the beginning will have trouble in the proper preparation of this food, a laboratory for making this milk would be of great service.

Hair sieve and three bottles of *Eiweissmilch*. The two bottles to the left were well shaken prior to the taking of the picture. The third bottle, on the right, shows the sediment of finely divided casein, after having stood two hours. The bottle on the extreme left has had added to it 6 per cent. of malted food and 1.5 per cent. of wheat flour.

I have administered this food to twenty infants; eighteen were nutritional disorders and two were cases of diarrhea. Both cases of diarrhea were private patients; one infant, aged 12 months, with diarrhea, resisted all the usual methods of treatment and was rapidly losing weight. As a last resort albumin milk was prescribed, which brought about a rapid recovery. In the other case of diarrhea, the infant showed signs of improvement, but after six days the mother stopped the milk. Mothers are bound to be prejudiced against this food, as it is so different from what in the past they have been taught to feed. It has an unpleasant sweetish-bitter taste; young infants take it well, but for older infants it is frequently necessary to add 1 grain of saccharin to a quart of the mixture. The other eighteen infants were inmates of St. Ann's Hospital; six patients had marasmus (decomposition), the other twelve were in various stages of malnutrition and would not gain in weight. One marantic infant, aged 3 months, weight 6 pounds, died after receiving the milk four weeks. During this period the infant gained 6 ounces; death occurred suddenly at night. In one case an infant, aged 2½ months, weight 7 pounds and 6 ounces, after twelve weeks had gained but 16 ounces. Modified milk was then ordered, and the further course was satisfactory. In all the other cases the results have been very good; in the five cases of marasmus the results could be called excellent. This food would seem to be especially indicated in diarrhea. I have not had an opportunity of giving it a fair trial in this condition. The past three summers at St. Ann's we have had no diarrhea; this seems remarkable in view of the fact that we constantly have between 120 and 130 infants in our wards; furthermore, the last summer was extremely hot, and diarrheas were very prevalent in private practice. Finkelstein believes his albumin milk is an efficient prophylactic for diarrhea in young infants. I attribute our freedom from diarrheas to the fact that the young infants at St. Ann's receive largely acidified milk.[7] It will be noted above that one-half of the albumin milk is acidified milk.

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[6] Brennemann: Am. Jour. Dis. Chil., 1911, i, 341.

As is well known, marantic babies, when fed breast-milk, require a prolonged stage of repair before the upward increase of weight begins. This is not so in albumin-milk feeding; if the percentage of carbohydrate is high enough, the weight starts right up. All our babies eventually received flour in their mixture; this is necessary as the malt sugar alone does not seem capable of advancing the weight. Following a suggestion of Dr. Kerley, I have used dextrinized flour in three cases with good results, in place of the ordinary wheat flour. It is after the third month that the addition of flour is advisable.

In regard to the amount of milk to be fed, Finkelstein advises a gradual increase of the food from 10 ounces in twenty-four hours, up to 7 to 8 ounces to each 2.2 pounds of the babies' weight. Not more than a quart a day, however, is to be fed. In my cases I have ordered the amount to be fed very much as I would order the quantity of modified milk for each feeding. In other words, the gastric capacity would serve as a guide.

In malnutrition there is special danger from underfeeding and this is the reason, I believe, that such poor results were obtained in the beginning, and probably other physicians can attribute their unfavorable results to this score. I have learned now to add the malt-sugar at once and increase it right up to 7 per cent. if necessary. In diarrhea in the beginning, Finkelstein orders small amounts, say 2 or 3 ounces the first day; gradually this is increased and after four to six days the sugar is gradually added. This treatment must be preceded by a tea diet for twelve to twenty-four hours. Great care must be taken to add sugar fast enough, so as not to endanger the baby from inanition. Albumin milk alone, without the addition of carbohydrates, will not keep a baby alive a great length of time. The addition of the proper amount of carbohydrates is one of the most important steps in the successful feeding of albumin milk. After two or three months' administration of this food, the infant can be returned to the usual milk mixtures.

This series of twenty cases, with favorable results in seventeen, while speaking much for the method is of course entirely too small a number on which to base a definite opinion. Taken in conjunction with the large number of favorable results in the German clinics, however, it would seem that the task of coping with these difficult feeding cases in the future will be much lessened. Welde states that in his home, especially for seriously sick infants, he could not dispense with albumin milk; and, no doubt, especially for infant asylums this food promises much. The main objection to the food is the expense, for it requires one quart whole milk, one pint skim milk, and 3 to 4 ounces of a malted food for a day's supply; furthermore, mothers would have a natural prejudice to such a mixture and the trouble in preparing it.

In conclusion we may ask what is the rationale of this feeding, and how does it bring about its good results? It is noticed that an effort is made to have the milk-sugar as low as possible, as this is regarded as the chief offending element, giving rise to fermentative changes in the bowels. Therefore, the whey which contains the lactose is removed as much as possible; the buttermilk which is added also contains a low lactose percentage. An average percentage of fat (2.50), is fed as the fat itself only takes part secondarily, in the acid fermentation, if the fermentation of the milk sugar has already begun. The high proteid diet counteracts fermentative changes, and allows a very high carbohydrate percentage to be fed. Clinical results seem to prove the incorrectness of the belief that high proteid feeding injures the organism by the excessive demand made on the metabolism of the infant, particularly the kidneys. It appears that the reason that we can cause a gain in weight so rapidly in these run-down infants is the fact that we can incorporate in the mixture such a large carbohydrate percentage, without causing an intoxication. The prevention of the development of the intoxication is due to the high percentage of proteid, and low percentage of lactose and mineral salts. Some of my mixtures would yield a total carbohydrate percentage of 9 per cent. Malt-sugar is selected as being the easiest absorbed and the best tolerated by the infant's organism.

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[7] Brady: Arch. Pediat., June, 1910.

Therapeutics of Regional Pain.—The therapeutics of regional pain revolves around the diagnosis, writes D. G. W. Sims in *Bull. Bexar Co.* (Tex.) *Med. Soc.* Once the diagnosis is made positive or probable, then the measures adopted for temporary or permanent relief are modified by age, sex and condition of the patient and by intentions as to future treatment. Epsom salts combined with sodium chlorid in dram doses may be used in acute indigestion, followed or preceded by morphin or hyoscin (scopolamin). Sodium chlorid in dram doses given in cold water, repeated if necessary, is effective for the relief of various colics due to fermentative or putrefactive causes, whether from vegetables, fruits or meats. Rest and removal of the obnoxious material is the object in all cases except those demanding surgical intervention. Rest is obtained by splints, strapping, pressure, heat, cold and drugs. The danger of masking symptoms by unwise attempts to relieve pain and the formation of drug habits in persons with chronic or reflex pains, should be kept in mind, and early operation is advocated in operative conditions if relief may thus be obtained. Pain unrelieved is a source of danger, causing shock, lowered vitality and actual increase of localized inflammations.

MULTIPLE NEURITIS WITH TWELFTH NERVE PARALYSIS

REPORT OF A CASE WITH RECOVERY *

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I am aware that the field covering multiple neuritis has been, from time to time, so thoroughly gone over and so carefully examined as to leave little to be found that is new—unless perchance, it be the causes producing the disease. This, however, is not my intent to discuss in this paper, but on the contrary to report an infrequent and comparatively new complication associated with the disease—which, in my experience and in all literature I have been able to find on the subject, is unusual in its occurrence, and therefore should interest all who practice neurology. The case I shall discuss is one of ordinary multiple neuritis (typical in character) plus paralysis of the hypoglossal nerve — that was admitted to the Maryland General Hospital, Baltimore, Sept. 27, 1906, when I was a member of that staff, and which was treated by me, assisted both in diagnosis and treatment by Dr. Charles G. Hill, who was chief in that department.

Patient.—The case was that of Mrs. B., aged 38, white, who reported never having had any illness except some uterine trouble twenty years before. About two months previous to the appearance of any symptoms she was taken with an acute and severe pain in the ovarian region, necessitating the assistance of a physician, who, when called, found a well-defined mass over the left ovary, with excessive pain on pressure, and temperature ranging from 101 to 103, which lasted about three days and disappeared as suddenly as it appeared. Since then, no evidence occurred except a slight tenderness remaining for several weeks over the site of the original mass, but not associated with temperature. About a month following, the patient noticed her feet getting stiff. This stiffness was associated with pains in the feet and legs which at times felt as if pins or needles were in them. In a few days she noticed difficulty in walking, and in getting on and off street cars. This was quickly followed by pains in the extremities similar to those of rheumatism, which soon confined her to bed. During this time she was unable to move any extremity except to make a slight movement of the right hand.

Examination.—She was sent to the hospital for treatment, and my examination of her on her admission revealed the following condition: A patient fairly well nourished, in an utterly helpless condition, lying with arms folded across abdomen, apparently in no pain, but showing evidences of great prostration. There was no impairment of muscles either of brow or eyes, no nystagmus or ptosis, the pupils were dilated and regular, both eye responses were normal, excepting the right being sluggish to light. The motor nerves of the upper lip were impaired, the lower lip was normal, the tongue markedly involved, as it lay in the floor of the mouth absolutely helpless, unable even to elevate the point or move in any direction, showing palsy of both the twelfth and fifth nerves. The gums were normal; there was no indication of blue lines, no escape of saliva. The chest was well developed, equally on both sides. The heart sounds were normal except for an anemic hum associated with the first sound. Both lungs were normal. The muscles of the forearms and the hands showed atrophy; the musculospirals on both sides were completely involved; the sensory nerves were apparently normal; tactile sensation was normal; there were areas of anesthesia over dorsal surface of right hand and forearm; hyperesthesia over the left forearm and both arms; the nerve trunks over both sides were painful to touch; biceps jerk was abolished; triceps on right side was diminished, on left side abolished. The wrist jerk on both sides was diminished. The abdomen was normal except for some tenderness below the border of the ribs on both sides. There was no involvement of the sphincters or bowels, nor any dribbling of urine. The patient had been unable to empty the bladder for two days, nor had she had a stool for the past three days. The muscles of the right leg were well nourished, the left leg was slightly atrophied. There was no foot drop present on either side. The nerve trunks of both legs were painful if touched. Tactile sensation was normal in both extremities; there were areas of anesthesia over the lower third of both extremities. Knee jerks were completely abolished. A general palsy seemed to exist, the muscles of the brow being the only ones not involved.

Recovery.—About two weeks after admission this patient was taken in before the class on a stretcher, in an absolutely helpless condition, unable to move scarcely a muscle except the brow, but February 3 (four months and six days after admission) she walked without assistance into the clinic, there being no symptoms remaining of her illness other than the reflexes still being absent. She was allowed to return to her home that afternoon, and I saw her no more for about six months, when she appeared in my private office and was only recognized by me after I had been told her name, having gained about thirty pounds since leaving the hospital. Her reflexes were not yet normal and did not return until about twelve months after her illness. The elbow jerks returned first, and the knee jerks about two years after her illness, there being no inconvenience or disturbance of any kind during her convalescence.

In passing hurriedly the cause of the case, I might mention the fact that the only history given by the patient was that a week or two previous to any symptoms she was out looking for berries among the wet grass and undergrowth, and on her return found she was thoroughly soaked to her waist and much chilled as the result. This factor, however, to my mind was not sufficient to produce this disease. It is possible, indeed, that it may have been conducive to the result, but the fact that wetness and coldness are mentioned in most text-books as a cause for multiple neuritis, does not appeal to me, unless there be other factors already present when the lowering of the vitality simply allows the absorption or distribution of the toxins. The question, then, of interest in this case regarding the etiology occurs in reference to the ovarian mass that occurred shortly after and preceding any symptoms of palsy. Was this an ovarian cyst—and did the mass break down from which sufficient bacteria were distributed to produce a toxemia and consequently multiple neuritis? This factor in the case might interest the gynecologist as well as the neurologist. Certain it is that something else was present besides the result of the exposure to wet and cold. One may have been the predisposing, and the other the exciting cause.

The case having been almost a typical one of multiple neuritis, there is little else to discuss other than the unusual complication of hypoglossal paralysis which, as before stated, I have never seen on any other occasion, nor concerning which have I been able to find any literature. I therefore assume the condition to occur at least infrequently. In Osler's "Modern Medicine," Dr. Gordon M. Holmes mentions the fact that "the functions of the cranial nerves are sometimes involved; lingual, palatal or pharyngeal palsies may develop in very severe cases when they are progressing to a fatal termination; laryngeal paralysis is very rare." He does not state which nerve he has found involved when mentioning the lingual palsies—whether it was the fifth or twelfth. We are all aware that the fifth is frequently seen involved in these cases, but the twelfth is not. For instance, we not infrequently see a bilateral facial palsy or an ocular paralysis; also a nystagmus or optic neuritis. Various authors have reported in alcoholic neuritis the Argyll Robertson pupil, but nowhere do I find hypoglossal palsy referred to.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The twelfth nerve, as we are all aware, is purely motor in function, supplying both the extrinsic and intrinsic muscles of the tongue. The nucleus of origin of the axones of this nerve lies in the dorsal portion of the oblongata toward the lower portion of the fourth ventricle. Why then should this nerve not be more frequently involved in such an area where many other nerves become paralyzed? We are aware that it is a common affection in diseases involving the bulb, such as bulbar palsy, acute and chronic, also in the unilateral form in cerebral hemeplegia—but in such cases if the patient survives we find an atrophy of the tongue as a result, whereas in the case under discussion no such phenomenon occurred. Aneurysm of the vertebral artery and syphilitic processes, have been known to involve the nerve, as has an isolated neuritis in rare cases, but atrophy seems to have been a constant accompaniment of all such cases. Moreover, nearly all such palsies have been found to exist chiefly on one side, whereas in this case both nerves were involved from the fact that the tongue remained helpless and immovable in the floor of the mouth, and it was impossible for the patient to speak except in a most imperfect way. Mastication was impossible and deglutition was likewise interfered with for several days.

The fact then having been established that we had a complete paralysis of the hypoglossal nerve on both sides associated with a typical case of multiple neuritis, our next considerations are: what was the cause of this unusual occurrence, and why does it not occur more frequently? In answer to the first question, I suggest that the condition must have been produced by a poison in which infective microorganisms were evidently most virulent—in the presence of a derangement of normal metabolism. To the last question, viz.: why does it not occur more frequently? I am at a loss for a reply. I am compelled to leave this to be answered by others. If such can be done, the purpose of this article has been accomplished—for since I have had the case under my care no one has attempted to account for this fact, although it has been discussed with many of our most eminent neurologists and anatomists of this section as well as those on the Atlantic coast.

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KORSAKOFF'S PSYCHOSIS AND THE AMNESIC SYMPTOM-COMPLEX

WITH A REPORT OF THREE CASES [*]

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Memory, as one of the mental faculties, varies with the endowment and degree of development in each individual human being. It reaches an acme of keenness at an age reputed to be about 40, after which it is said to be at a standstill, though some contend that it is even then undergoing a slow retrogression, recognizable in traces only for some decades, varying in different individuals and by no means always deserving Oslerism at the age of 60. Virchow's saying that one is as old as his arteries is perhaps the real criterion governing the state of one's memory as well as the state of youthfulness in general. The lapse of time is certainly not the deciding influence in all cases, as one meets with declining memory at the age of 50, and youthful memory at the age of 80. However, the majority of those arriving at the grand climacteric of man begin to face difficulties in remembering proper names and to confound technical terms. Still, of course, these difficulties seldom amount to a real senium præcox or early aging. This retrogression of memory, which might perhaps be called physiologic, first shows itself as an occasional loss of a word, but afterward becomes more general and it is then the events most recently experienced which the individual is unable to preserve, while he continues to be able to reproduce memory pictures from the past with great accuracy.

Finally, as senility becomes advanced, he frequently confounds places and persons, and fables about events which have never taken place; at last he will be observed to fill out the lacunæ in his memory with phantoms of his imagination, which in character reflect his helpless childishness. The enfeebled state of his memory is also evidenced by an increasing tendency to tell the same thing over and over again. At the same time, he shows confusion, roams about aimlessly, not recognizing his home or surroundings. In such extreme cases of senile decline we find manifestations which remind one of the elements which go to make up the so-called Korsakoff symptom-complex.

It is, of course, only very exceptionally that the recording faculty shows such defects that the impression is forgotten almost the next moment, that the individual feels more or less estranged at all times and confounds persons and places, and that he not only has a very poor memory, but also shows an inclination to fill up the many interstices in the same with fictitious dates, persons, places or events.

These defects, however, are at times so marked in the prematurely aged person that they constitute the four elementary factors of this symptom-complex, which are: (1) defective recording faculty; (2) enfeebled memory for events of the recent past; (3) disorientation; and (4) confabulation. The last-mentioned symptom bears a certain relationship to the mental vivacity, and where there is a high degree of amnesia, but with the retention of a coherent and attentive demeanor, the cases are more productive and the confabulations plainer. This is especially characteristic of the senile Korsakoff. When in cases of the senile or the alcoholic form the disorientation is well marked, one always finds pseudo-reminiscences, usually made up on the spur of the moment, as if in a way to bridge the memory-defects, for which reason Bonhoeffer calls them embarrassment-confabulations.

> The patients, says Kraepelin, do not infrequently pass good judgment on things not directly connected with their memory-lacunæ and when recognizing the correctness of objections made, often with ready wit attempt to cover up the inconsistency of their stories, which sometimes reveal a marked delusional tinge and show an admixture of persecutory and grandiose ideas. At the same time, the manner in which they tell their stories seems to evidence that the confabulations appear to them to carry the stamp of complete subjective certainty, and they relate them as if they did not entertain the least doubt but that they were faithfully portraying the reality.

Tiling first drew attention to the fact that the senile form is usually started by fainting-spells and apoplectiform attacks, or the history shows an intercurrent period of agitation—a delirium of apprehension. Bonhoeffer, in fact, says that he has never seen the amnesic symptom-complex develop in the way of a slow increase of the senile memory-defects without intercurrent acute symptoms. The prognosis of the senile Korsakoff is more unfavorable than the toxic form. Still, even when the amnesic state has lasted a long time, improvements have been met, especially when in such cases there has been a certain craving for activity and the whole picture has had a delirious tinge. Besides the usually pronounced emotionalness of the senile form (Wernicke's presbyophrenia) and the somatic symptoms of the senium, may in differentiation be mentioned the sleeplessness frequently met with, the anxious states of senile character and the search and trash-collecting deliriums. The senile form is usually grouped with the arteriosclerotic as, to a certain extent, the same pathologic changes are characteristic of both.

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The first one of the three examples of the Korsakoff symptom-complex, which I have observed at the Stockton State Hospital, is an illustration of this senile form. This case is pathogenically interesting in showing a very slow, uninterrupted course of development of defects of the recording faculty, extending over a period of fourteen to fifteen years until, at the end of this period, the amnesic symptom-complex is complete demonstrating the course of a simple, chronic form. It is true that the patient suffered a slight trauma five years after the memory defects began to show themselves and nine or ten years before admission to the hospital, but the trauma was very slight, without cerebral symptoms, and did not lead to the development of a somnolent state frequently mixed with traces of delirium, which, as has been pointed out by Kaberlah, usually characterizes the symptom-complex following commotio cerebri, nor can I assume that the development of the syndrome was started by the acute intercurrence of a toxemia due to cystitis of which there is no history. The case observed is as follows:

Case 1.—*Patient.*—S. M. K., native of Maryland, 76 years old, widower, had two living children, no history of neuropathy; he had worked as mailing clerk in the postoffices of Sacramento and San Francisco, was known to be an expert in his knowledge of the location of small stations and towns, being often employed to unravel the mistakes of others. The work was confining, from 3:30 to 5 a. m., returning at 7 a. m., and working until 5 p. m., with an hour's interval at noon for luncheon. He was also on duty three evenings of the week. This was done steadily with only one or two vacations for forty years.

History.—For about five years before he retired from the service, he began to make errors until toward the last he made very grave ones, sending letters to the wrong places, even well-known cities, and was finally asked to resign. He had always led a very regular life, had been throughout his life a total abstainer from the use of liquor but had always been extremely nervous. (Lues and gonorrhea denied.) Shortly after he had resigned, i. e., about nine or ten years before his admission to the asylum, he went east with his son on a pleasure trip, and on the first day of the trip left the car for a short time. As he returned, the car started up suddenly and he missed his hold in trying to mount the rear platform, being thrown to the ground, striking presumably on his back. The train stopped and he was assisted aboard. A letter from the son describing the occurrence states that the patient "was well able to walk, had no pain anywhere and in every way conducted himself as usual." On the following day, however, he had difficulty in passing water, which developed into a retention of urine, requiring catheterization for about two months before the functions were restored. He at no time showed a rise in temperature and the bladder did not appear to become affected. Soon after his return from the eastern trip, he gradually became restless, fidgety and peculiar—would buy large magnolia trees to send to eastern friends. As time went on, these peculiarities became worse; he would interview public men, proposing absurd ideas, such as removing the undertow from the river, etc.; would frequently get up in the middle of the night, dress himself fully and open the shutters, as was his custom in the morning. Although it was very dark, he did not appreciate the fact, not observing that he had to use artificial light. When asked why he got up he would say he had been called. He often accused his family of being tired of him and said that they wanted to put him away somewhere. His memory had been steadily deteriorating during the last fourteen years. He would forget names, spell incorrectly in his writing or leave out whole syllables. He would tell a story over and over again, forgetting that he had just recited it. He was somewhat subject to exalted ideas; thought money was left for him at various places; in his wanderings about the streets he would interview people concerning the wealth coming to him, not knowing to whom he was speaking and forgetting where he lived.

Examination.—When examined on his admission to the hospital, Aug. 21, 1903, he was found very good-natured—very anxious to go home. He was not cognizant of time and place; did not remember where he came from. He said that he had five children (he never had but two) and promptly gave their ages and names. He watched the exits every time the doors were opened, asking the same question: "May I go out with you? I want to go and see my family. I want to see my children—I have not seen them for fifty years." He entered into lively conversation with any strangers he happened to meet, took them to be people he knew, always promptly giving some fictitious name of the persons he was addressing and the name of the place at which he had met them, usually Sacramento postoffice, and promptly named their business and other details about them. He said he was not sick and never had been sick, and was confused as to immediate surroundings; could not find his room, place at the table, lavatory, etc. He insisted that the sun was rising in the west and was fearful that some calamity was going to happen because it had changed its course. He was not very steady on his feet, but no Romberg was present. His knee-jerks and other tendon-reflexes were somewhat increased; his pupils reacted to light, but only slightly, and there were no definite motor or sensory disturbances present, except paresthetic sensations; his hands and knees felt cold, no muscular atrophy. He was easily excited and teased by trifles, was unable to apply himself to any work and forgot what he was told to do a few minutes after the directions had been given. He presented no symptome of digestive disturbances; his appetite was voracious. When a patient unintentionally rubbed against him or happened to shove him, he told his attendant about the terrible abuse he had suffered at the hands of nurses. When he met the same person, attendant or physician, several times in the course of an hour, he addressed him as if for the first time, but had always met the gentlemen in Sacramento or somewhere else and went into long details of description as to place and circumstances of the meeting.

Course of Disease.—These symptoms presented by the patient continued the same throughout the year of his stay at the hospital. In August, 1904, he had an attack of prostatitis with bladder trouble, the inflammation extending to the kidneys and he died from a cystopyelonephritis, Sept. 27, 1904.

In recent years it has been contended by some writers that it is incorrect to speak of a Korsakoff psychosis because the complete disease-picture, as described by Korsakoff, is not always met with; that some cases are unassociated with multiple neuritis and that the main features are found inserted into other pathologic states, as for instance the case just cited. Leading authors, however, like Bonhoeffer, Kraepelin, Tiling, etc., insist that, while the amnesic symptom-complex undoubtedly occurs as a part of varying pathologic states, those cases which develop on an alcoholic or toxic basis, and in the characteristic manner lead to the manifestation of the four elementary constituents of the symptom-picture, should retain the name of Korsakoff's psychosis. As Bonhoeffer says, it is a disease which was symptomatologically first outlined by Korsakoff, a disease which has a demonstrable etiology and runs a definite course. Korsakoff described cases in 1887 as "cerebropathia toxemica psychica," a polyneuritic psychosis or disease *sui generis,* which is especially characterized by three fundamental manifestations: a toxemic etiology, a polyneuritis and a peculiar mental picture. This original acceptation of the disease entity has since then been critically modified by Jolly, Tiling, Regis, Babinsky, Gudden and others, and it is now recognized that aside from being at times only a syndrome, the chief, most frequent and most distinct group of cases or, as many call it, the disease proper may or may not be accompanied by a multiple neuritis, and a general toxemia as well as an alcoholism may usher in the symptoms.

One finds occasionally in alcoholism of long standing cases of delirium terminating critically, which show few hallucinations and illusions while a loss of memory, defective recording faculty, disorientation and pseudoreminiscences resembling in character the moment-confabulations are especially prominent. Some of these deliriums are protracted, others terminate in the amnesic symptom-complex, and Bonhoeffer insists that the majority of cases of Korsakoff's psychosis showing this alcoholistic etiology may especially be differentiated by this delirium-tremens-like character of the delirious phase. The developmental phase is, however, not always delirious in character. In very heavy drinkers, a state of marked somnolence is met with in the early history of the case, and it is especially in such patients that neuritis combined with asymbolic and aphasic symptoms is never missed. This stuporous form is more common in women than in men and may begin with alcohol-epileptic attacks. Cases in this early stage have terminated fatally, forming a part of Wernicke's polioencephalitis hemorrhagica superior, in which the eye-muscle paralysis (ophthalmoplegia) is but one of the manifestations of the general disease including the amnesic symptom-complex and multiple neuritis. Bonhoeffer estimates that the Korsakoff syndrome is met with in 3 per cent. of cases of chronic alcoholism, and Chotzen found it present among female inebriates in 20 per cent. of the cases, i. e., that it is nearly seven times more frequently met with in women than in men. Statistics from Switzerland for 1901-1905 (Marie Kasperowicz) show Korsakoff's psychosis present among 246 alcoholics (209 men and thirty-seven women) in 3 per cent. of the men, and 10 per cent. of the women.

Pathogenically, there may in such cases be said to be two toxic causes active: a chronic one, usually based on the alcoholism, giving rise to the psychopathic disposition and the multiple neuritis, and an acute intercurrent one, to which the psychic symptoms may be ascribed, proving the correctness of Korsakoff's understanding of a toxemic etiology. Mönkemöller claims that the presence of a digestive disturbance in the alimentary tract can be demonstrated in nearly all cases. Acute infections may run a course leading to the development of the Korsakoff syndrome, which is even quoted in the original description of the disease. Bonhoeffer mentions attacks of enteritis, dysentery and especially typhoid fever, also meningitis, articular rheumatism and puerperal fever as occurring in the early history of cases of Korsakoff. Lapinsky reported in 1908 two cases developing in the puerperal period and collected reports of four others from the literature. In the literature of the year 1909 there are several cases mentioned following erysipelas. Such cases show an acute delirious or stuporous beginning with fever and anxious states mixed with persistent persecutory ideas, the psychotic picture resembling at times that of amentia. Bonhoeffer suggests as the only differentiating feature, so far established between this and the alcoholic form, that in the latter the history shows frequent intercurrent deliria and a euphoric-witty state of the affects. In illustration of the typical Korsakoff connected with chronic alcoholism I append another case observed at the State Hospital, in which the amnesic syndrome developed in a man who had been drinking to excess for twenty years and who went into further excesses when discharged. He had not previously had attacks of delirium, but on a trip east he contracted an acute bowel complaint which developed a marked delirious state. Memory defects had been observed before he went east, but the acute intercurrence was followed by a rapid exacerbation of the amnesic symptoms. The case showed a defective recording faculty which was more marked visually than aurally. Neuritic symptoms were present.

Case 2.—*Patient.*—J. M. F., native of Connecticut, aged 69 years, telegraph operator, married, had two children living. Father drank; no history of neuropathy in the family as far as known.

History.—Patient had been a hard worker, devoted his whole life to telegraphy; was very intellectual, made a number of inventions now bearing his name and was manager of the Western Union Telegraph Company in an eastern city. He came to California twenty years ago, working for the company here at a lower salary, which loss in income made him worry greatly and drove him to excesses in loquor. He drank to some extent before, but during the last twenty years he had been drinking steadily, indulging in whiskey only. He would drink to excess short of visible signs of intoxication, but is said never to have had an attack of delirium tremens. He was a man of violent temper, nervous, irritable and of a jealous disposition. He had complained for a year or two of what he called rheumatic pains in all extremities, especially the lower. The pain seemed to extend along the whole length of the extremities, which for some time had been quite sore to the touch. About a year ago he made a trip east to recuperate. He had been drinking heavily and was unable to fill his position at the office. On the trip he was taken ill and, while east with a relative, suffered from an acute bowel complaint, was delirious for a week or two and suffered very much from renewed pains in the extremities. On his return to San Francisco in July, 1905, he was better, but his forgetfulness had grown worse and he showed incapacity for work. In October, 1905, he was dismissed from the service. He began to give exaggerated and invented accounts of events and seemed subject to persecutory ideas—people were trying to harm him, were not friendly to him as formerly—he was being "doped"—people were following him. His memory gradually deteriorated until he would talk about having been at work in the telegraph office when, as a matter of fact, he had been wandering aimlessly about the streets.

Examination.—When admitted to the hospital Feb. 17, 1906, he was found to be a man fairly erect for his age; his gait was unsteady; he complained of pain in the lower extremities and formications, but there did not appear to be any marked anesthesia present, nor any perceptible muscular atrophy. The muscles of the lower extremities were flabby, and seemed sensitive to pressure over the calves. The nerve-trunk also seemed sensitive to pressure. A marked fine tremor was present in the hands, tendon-reflexes were somewhat diminished. There were no pathologic symptoms about the cerebral nerves, speech was normal and free from tremor. Examination of eyes showed nothing pathologic. The pupils reacted slightly and tardily to light; a marked arcus senilis was present. The physical examination of chest and abdominal organs revealed nothing pathologic; the pulse was regular; some arteriosclerosis was present in the radials. No subjective symptoms of indigestion; tongue was slightly dry and coated; bowels regular. The patient was very restless, walking constantly up and down the hall and was talkative; he talked coherently and intelligently but was not oriented. He thought it was about December, 1879 or 1880; that he was railroaded into the Stockton asylum and from there taken to this place ("Isn't this Lodi?"). His memory was quite defective as to events in the immediate past.

Course of Disease.—Two days after his admission, about 1:30 p. m., he was asked when he came here. He said: "I came here this morning—no, let me see, it was this afternoon I came here." "What time did you come here?" "Why, I came here at 4 this afternoon." After conversing on other subjects for a few minutes, the subject was returned to and he said, without hesitation: "I came here yesterday." He did not seem to be subject to visual or aural hallucinations, but talked about persecution in a general way; his powers of observation were blunted as showed by tests in arithmetic and with pictures. The defects observed in testing visually were greater than by aural tests. The superficiality of his visual observations was strikingly illustrated by the following occurrence: A patient threw some horse-manure into his room through a window. F. picked it up and put it into his pocket and afterward commenced to chew it but soon spit it out, trying to conceal from the attendant that he had deceived himself. He still had a craving for liquor and entered the attendant's room many times daily asking for a drink of whiskey, saying the doctor said he could have two drinks daily. On March 23 he entered the room of another patient by mistake—he insisted, however, that it was his room. As he refused to leave, the other patient struck him in the mouth, cutting his lip slightly. When spoken to about it, he at first denied that he had been struck, appeared to have forgotten it until the attendant walked up to him and touched his chin. "Oh, yes, a beast of a man struck me." He was often heard afterward telling about having been struck by someone, he didn't know whom—giving an exaggerated account of the affair; saying that five teeth had been knocked out of his mouth and inventing other details. He was not cognizant of the day of the week or month; thought he was in a retreat 40 miles from Stockton. He still had a craving for whiskey (March 24), came to the attendant a few minutes after it had been denied him and asked again for whiskey, having forgotten that he had just begged for it. He could not remember the simplest word three minutes after it had been told him and he was unable to recognize the word among six or seven other words mentioned to him.

March 28: F., who has not been out of the ward, says he had a long walk day before yesterday. "I walked 2 or 3 miles and was all over the city and I talked with a number of people, but not a single one treated me or offered me a drink. I haven't had a drink in this place for a week" (had been given a small quantity this morning). Asked what he was doing in Stockton, he said: "I chatted with people about my affairs; it was about things that would not interest you (in an irritable mood)—I didn't call at the telegraph office." "Didn't talk to the operator, you say? Why, there are fifty operators in the office." Asked what office he referred to, he said: "Why, in the city of San Francisco."

April 1: F. calls his attendant Charlie Myers, whom he has known since he was a kid in San Francisco. His physician's name he doesn't remember until he has looked it up in a letter and finds it to be Cleverton. (His wife uses this name in her letter speaking of the attendant.) He has never met his physician (who has seen and conversed with him daily) in this house before, but "we have met before in San Francisco." Where did we meet Mr. F.? "Oh, I met you in the telegraph office."—When? "A month ago—talked with you in the afternoon about going out to see my daughter."

June 18: The patient complains this morning that medicine has been placed in his coffee and soup; they have a queer taste.—"I sleep very little, if any, before midnight (the night attendant reports that he sleeps well) on account of pain in my legs. When this is most severe, there is a marked absence of pain about my heart. Some things are happening that I dare not speak of—right here in this house. I wish I could say what I want to say about this man (his nurse), but he has so much authority that I dare not. He is planning to keep me here so he can cohabit with my wife. He has gotten into her good graces and it is to his interest to declare me crazy and keep me here. I am going to have this matter investigated by the governor of the state. I am 72 years old now (he is 69 years), too old, I fear, to get any permanent relief from my physical ailments. I have lived two years more than the allotted life, have been very active until about a month ago when the W. U. took pity on me and gave me a lay off. Reports have been sent in to the manager of the W. U. that I was being maltreated here and he has investigated it and found it true and has made application for my discharge. I was working for the telegraph company during the months of January, February, March, April and May, until the first of this month" (he has not worked there for about nine months).—After a few moments when he was asked about his maltreatment and the report just spoken of, he replied: "I did not say anything about being maltreated. The manager of the W. U. and others in the office are jealous of me and wish me kept in a place of this kind. It was through their instigation that 'dope' was put in my coffee and soup, while I was stopping in a hotel in San Francisco before coming here. I never had this pain in my limbs and trouble with my heart until they began to give me this dope.'"

June 30: "I slept very well last night—could not detect anything in my breakfast. I think they have found out that they have been reported and are now going to let up on it. My wife has filed application for my discharge and it has been favorably acted on. I will be discharged in a day or two."

July 6: He still complains of the neuralgic pains in his calves and thighs. Says his wife was here to see him a month ago (she visited him three or four days ago). When the patients are called from the yard to the wards for dinner or supper, F. never fails to ask his attendant which is the right door for him to enter.

August 23: F. says to-day that his wife was married to the attendant of his ward last night and that the reception room was brilliantly lighted and he could hear music. He was willing she should have her divorce but sees no reason why he should be held here, as there is nothing the matter with him more than that he suffers from neuralgia.

October 3: F. seems less subject to persecutory ideas; ideas of jealousy are not so pronounced, but defects of recording faculty and confabulation continue. He was taken out in the asylum grounds in the care of a patient to-day.

December 15: F. came hurriedly to the attendant to-day and reported that he had found a man lying dead in his room. The attendant, on investigating, found a patient lying on the floor asleep in some other room (not F.'s). This patient did not waken when spoken to (F. had only spoken to him), but when shaken by the attendant he got on his feet and acted as usual. F.'s memory defects, etc., have continued the same for the last two months.

January 7: F. strayed into another patient's room and asked him what he was doing in his (F.'s) room, telling him to get out, when this patient struck him in the face causing a dislocation of the nasal cartilage.

February 5: F. says to-day to his physician: "You put a telephone to your ear and thumped me around yesterday and located the break" (no examination had been made of him but he probably observed an examination of an inmate of his ward made some days ago). He thought that the injury he received a month ago was in his chest.

February 15: F. tells his wife(to-day) that he was struck in the temple by a patient some time ago, who cracked his skull clear across his head. (He referred to the time when a certain patient struck him on the jaw in September last year.)

March 7: F. says he fell to the floor unconscious twice yesterday. (No one saw him sick or prostrate on the floor.)

From this time on, the patient showed the same symptoms of amnesia, disorientation and confabulation, but to a less extent—was out on parole but in the care of another patient, as he would repeatedly lose his way when left unattended. He died Dec. 10, 1907, from an acute colitis complicated with an acute bronchial catarrh which became capillary.

In line with the action of chronic alcoholism and the various forms of acute infection, as basis to the Korsakoff syndrome stands the chronic poisoning induced by certain toxic substances. Haymann reports a case of Korsakoff psychosis in a woman aged 31, who was habituated to the use of morphin hypodermically. During the period of deprivation of the drug, she suddenly developed polyneuritis with the amnesic syndrome which, however, disappeared after fourteen days. In 1900, an extensive epidemic of arsenical poisoning was observed in Manchester, England, due to the accidental contamination of beer. Among the many cases, Dr. Reynold reported a number of patients presenting symptoms of Korsakoff's psychosis of a milder type than those usually observed in connection with alcohol. It has also been asserted that chronic lead-poisoning may be attended by this group of symptoms. Traces of Korsakoff's syndrome have been reported in connection with poisonings by inhalation of carbon monoxid, but the memory-defects observed were more diffuse in character and the confabulations not pronounced. Meyer of Königsberg reported a case two years ago, developing three weeks after the inhalation of the gas. The Korsakoff syndrome subsided after a time, but recovery was not complete.

Retrograde amnesia has been well-known as a manifestation following attempts at strangulation, and this has occasionally been associated with a defective recording faculty, disorientation and confabulation, the symptom-complex developing in the track of a certain delirious state and epileptiform convulsions which frequently result from the strangulation. Tumors of the brain have also been recorded by some writers as leading to the development of the Korsakoff symptom-picture. Bonhoeffer has especially found it in connection with sarcomata of the brain, without regard to any definite location, but in such cases the mental vivacity is absent, the patients being more or less stuporous and the confabulations rarely observed and less spontaneously produced. Jolly and Soukhanoff have first called attention to the relationship of the amnesic syndrome to lues cerebri and general paralysis. In the latter disease the symptom-complex has been comparatively rarely observed. Three cases with a statement of anatomic findings were reported some years ago by Meyer and Räeke.

The third case of the Korsakoff syndrome, observed by me at the Stockton Hospital, proved to be a case of general paresis. It was quite atypical and for a time the diagnosis was thought to lie between cerebral tumor and lues cerebri. The amnesic symptom-complex was, as it were, set in a frame of aphasic disturbances and visual hallucinations. These hallucinations were quite characteristic of alcoholism and no doubt were referable to the patient's former alcoholic excesses, which may perhaps also have played a certain rôle in the origin of the Korsakoff syndrome. In the course of time, apoplectiform attacks, however, became a frequent occurrence and a general enfeeblement gradually effaced the distinctness of the amnesic and aphasic symptoms so that the nature of the disease seemed definitely settled before the fatal termination, and was further corroborated by the post-mortem findings. The chief features of the case bearing on our subject herewith follow:

Case 3.—*Patient.*—F. E. S., a native of California, aged 45 years, painter and paper-hanger, married, father of one child (his wife had two miscarriages prior to birth of child), was admitted to the Stockton Asylum, March 9, 1906, his first commitment to a hospital for insane.

History.—When a child he was said to have had an attack of typhoid fever; had not been seriously ill otherwise. He used to drink to excess when a young man, but had not been drinking for a year or more. Some years before admission he had an attack of painter's colic. About five months before admission he suffered a "sunstroke" and fell from a building on which he was working, sustaining a fracture of left humerus and of a couple of ribs. The mental symptoms had been observed since this accident. His wife said he was always on the go when not working; was never contented anywhere. The commitment paper states that he had been restless, that he had lost in flesh and had been destructive—making threats against his sister, that he was not able to attend to any business and was subject to visual hallucinations. Previously, he had always had plenty of work to do, but of late he would act so queerly that old patrons would not give him anything to do, which made him worry so that he attempted suicide two or three times during the past year. His wife said he had seemed partly paralyzed. Whenever he picked up anything, he would drop it and complain that he had no feeling in his arms, which felt numb to him. He also began to suffer from sleeplessness.

Examination.—When examined in the hospital he was found fairly well nourished; his height was 5 feet 5½ inches; his weight 138 pounds. The facial expression was dull, there was a bloated appearance in the face. Examination of the eyes showed tardy reaction of pupils to light, no muscle-symptoms, normal fundus. His speech was slightly tremulous, but there was no inarticulation; there was coarse tremor in the tongue and hands; no facial inequality nor paralysis of tongue or palate. Romberg was slightly present; no motor or sensory paralytic symptoms; no marked sensitiveness about nerve-trunks or muscles on pressure. Tendon-reflexes were increased; skin-reflexes about normal. Heart and lungs were normal. Pulse 75, regular, slightly arteriosclerotic; temperature and respiration normal. Tongue moist, slightly coated; bowels regular; urine normal, specific gravity 1.021. He was slow in understanding when spoken to, but was frequently talkative, restless and excited. He gave evidence of being subject to visual hallucinations; at times he saw horses, cattle, lions and panthers all around him; he lifted his feet as if afraid of stepping on imaginary things on the floor. He was not oriented as to time or place; thought he was in a court-house at Woodland (his native town); he said it was 1895; did not know the month or day of the week. Amnesia was present; he did not remember the name "Victoria" after two minutes. In his talk with the examining physician he confabulated: "I had dinner with you and your wife, and the young boy too—it was at Woodland." A few minutes afterward he had forgotten all about saying so.

Course of Disease.—The patient was picking imaginary objects from the floor; a big worm, a screw, etc. He said to the attendant: "There is a white worm on your neck." When told to pick it off, he fumbled about the attendant's neck a few minutes and then held out his hand saying: "Here it is—it is alive yet—it is a young one." Pointing to the floor a few feet away he smiled and said: "Isn't that a nice dog? I wonder to whom it belongs—here, puppy, puppy." Afterward he said: "I want to get out now and go to see my mother, I haven't seen her for over a week. She told a man just across the street that she wanted me to come home, she is going on a long journey, I believe."

March 12: S. seems to realize his surroundings to-day and is quiet. He saw all sorts of animals and objects, but these visual hallucinations seem to have disappeared to-day.

March 24: S. was much confused last night, roaming about his room, upsetting his bed, urinating and defecating on the floor. A cow got into his room, chewing him up; he saw snakes of all kinds and was trying to catch imaginary horses in his room.

April 8: S. has been somewhat oriented as to time, but confused as to his own condition and circumstances during the past three days.

May 27: S. had an epileptiform attack at 7:30 a. m. to-day. After the attack he slept for two or three hours and was silent most of the time afterward. The next day he talked, but was confused; word-deafness was present and he did not seem to recognize objects. He also mixed words, misapplying them and speaking in an unintelligible jumble: "I got the pipe, the poron of it right here—right here, the stove here, I right here, stove, the room. Right here in the stove. I am in the pipe. It ain't my room; it is the room. Here is where I sleep. How are you feeling to-day?" "Yes. Well. I stood that. Well, that is natural—good." He used his hands as if handling invisible objects (pulling at strings, disentangling wires). Slight inequality of pupils (left greater than right) is present.

May 30: S. is still confused; shows disorientation as well as defective memory and confabulation. Visual hallucinations are likewise present. He is seen swinging his hands with an imaginary spider at the end of its thread—warning those around him not to come near him or they will be poisoned. Aphasic symptoms have almost disappeared.

May 31: S. was very noisy last night. He thought the walls were falling in on him. To-day he seems a little better.

June 2: S. is better to-day, but still confused and confabulates as usual: "My brother was out hunting last Sunday and he was accidentally killed." (Adding this when asked about his brother, who lives in Stockton and calls on him now and then.) His speech is still a little inarticulate, but not aphasic.

June 29: S. had a second epileptiform attack at 9:30 a. m., to-day, which lasted till noon. After this he remained more or less unconscious for twenty-four hours.

July 1: S. again speaks plainly when talking to imaginary worms and spiders. He is noisy at times; he occasionally begins to give intelligent answers to questions.

July 4: He has some trouble in using his right arm. Will speak when spoken to. Speech is tremulous and lips show marked muscular tremor when he speaks. He continues to improve in a general way.

July 16: He had the third (mild) epileptiform attack at 2:45 p. m., from which he recovered in two or three days, after which the symptoms of visual hallucinations continued as before. He begins to show an inclination to rhyme words, but his speech is much less inarticulate and aphasic. He had a fainting spell on August 4, from which he quickly recovered. About this time he would on some days suddenly lose his power of speech; he would mumble words which could not be understood and would appear dazed for hours at a time. After an attack of this kind on August 12, his right arm became completely paralyzed.

August 16: He is able to walk about in the yard as usual, but is again engaged in killing imaginary animals, drawing gold wire from the floor and at times becomes very excitable. His voice is tremulous and he talks with great effort.

August 23: He had a hemorrhage from the bowels, with symptoms pointing toward the existence of an ulcer in upper part of small intestine.

He was put on a diet and the hemorrhage did not repeat itself, but his speech disturbances became gradually more marked, more paraphasic as well as dysarthritic, so that on September 5 he could only say certain words as "well" and "yes." In the course of the following week he again improved so that his speech became intelligible and the right-sided hemiplegic symptoms subsided, but he became very untidy, developed decubitus and showed a gradual weakening mentally. During the months of October and November he improved somewhat physically but he became slow in understanding, required repetition of questions many times to grasp the meaning, and his talk was rambling. Word-deafness was again present. When asked about the name of a place he replied: "What is that he says—gas-pipe?" Although his bedsores had healed, he gradually grew weaker. His condition in general remained about the same until Feb. 14, 1907, when he had a fourth epileptiform attack, which repeated itself four days afterward and he died in a comatose condition on Feb. 19, 1907.

Post-Mortem Examination.—This showed adhesion of the dura to the bone over large areas of the cranial surface, a very large quantity of fluid in the pia-arachnoid, which was found thickened and milky and very adherent to the cortex, especially about the frontal lobes where the gyri were flattened and much narrowed, the cortex being in the frontal, parietal and temporal lobes of both hemispheres markedly attenuated. Hydrocephalus internus is present—the lateral ventricles being about equally much dilated, and the ependyma showed marked granulations. The hypophysis was found much hypertrophied, was indurated to the touch and showed the presence of psammomata. Perpendicular section of the left inferior frontal gyrus in its lower part, adjoining the anterior central, showed the presence of a softening of the size of a small bean, situated in the medullary substance just below the cortex. Otherwise no foci were found. Arteriosclerotic changes were very marked in the internal carotid, basal and vertebral arteries.

Some months ago Dr. Ernst Thoma of the Illenau Asylum in Baden, Germany, reported the histologic findings by autopsy of two cases of somewhat chronic types of Korsakoff psychosis. He found, besides a thickening of blood-vessel-walls and vascular proliferation to a less extent than in paresis, a diffuse degenerative process in the entire nervous system, which showed itself as a disease of the ganglion-cells resembling that of a general paralysis. He also found a degeneration of the medullary fibers of the brain and a proliferation of the glia-cells as well as of the glia-fibers to replace the loss of the medullary substance. It had been claimed by some that these changes were especially marked in the frontal and parietal lobes, but this claim could not be established by Thoma's investigations. The histologic findings have, of course, varied some from the above in the very acute cases terminating fatally in the early part of the disease. A lymphocytosis has been demonstrated in the cerebrospinal fluid in one case of an alcoholic type of Korsakoff's syndrome, and in another similar case was found Nonne's Phase I, of clouding of the cerebrospinal fluid on addition of ammonium sulphate, with further increase of cloudiness on addition of magnesium sulphate.

It is difficult to definitely place the prognosis in a case where the amnesic symptom-complex shows itself. It is usually met with in very severe brain disturbances, but observations in cases where it has developed after strangulation show that restoration is possible. The prognosis is also tolerably favorable in cases with an infectious etiology and cases in which the syndrome has attended arsenical and carbon-monoxid poisoning. On the other hand, the prognosis is more or less unfavorable where the disease has developed in previously unhealthy brains, following severe forms of alcoholism or in arteriosclerotic and senile cases.

Experience has shown that exercise of the recording faculty with retracing of past observations will under favorable circumstances lead to improvement of the Korsakoff manifestations, in the manner that memory exercises have given favorable results in aphasia.

State Hospital.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SMITH AND HOISHOLT

Dr. S. Grover Burnett, Kansas City: Korsakow's disease is a condition we meet frequently but is rarely understood. The general practitioners overlook this condition time and time again, and we see patients going to asylums as insane persons. This, I do not think, should occur. It is an old disease, first described by Korsakoff, and I would say that I recorded my first case in 1886, one year prior, or two years prior to the publication by Korsakoff. This case of mine has since been published. I recorded one case resulting from lead poisoning. I am glad to hear the essayist bear me out in this. You will remember that lead poisoning manifests itself in motor palsies ordinarily. Korsakoff's disease is manifested in sensory palsies attacking the mental impulse carrying sensory neurons, producing mind symptoms—Korsakoff's syndrome—while lead poisoning affects the motor neuron producing motor symptoms. I have seen two cases in the past year following morphinism. They were both chronic morphin cases.

Dr. R. P. Smith, Seattle: In the case I reported Korsakoff's symptoms were present. They developed possibly a week after we found paralysis of the tongue present, and it was five or six days after the symptom of the twelfth nerve paralysis had cleared up before the Korsakoff symptoms had disappeared.

POSTOPERATIVE RETENTION OF URINE AND CYSTITIS *

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The occurrence of postoperative cystitis is still of sufficient frequency to warrant a discussion and presentation of some of the newer thoughts and methods for the prevention of this condition. A troublesome postoperative cystitis, either temporary or permanent, has often spoiled an otherwise excellent surgical result.

Heretofore a postoperative cystitis has been considered by many authors solely as a cystitis due to catheterization. While this view is largely correct, it is our purpose to show that preventable, abnormal anatomic conditions of the bladder, dependent on the surgical procedure itself, are in many cases the real predisposing etiologic factors in the production of the complication, and that the catheter *per se* is for the most part merely the exciting cause.

All authors agree that for the production of a cystitis it is necessary to have, besides the bacterial infection, one or more of the following predisposing factors, i. e., retention, trauma, or congestion.

According to Caspar[1] and Freyer,[2] the following organisms, named in order of frequency with which they are present, are to be considered as the cause of cystitis: *Bacillus coli communis, B. proteus vulgaris* (Hauser), *B. tuberculosis, Staphylococcus ureæ liquefaciens, Strepto-bacillus anthracoides* and *B. typhosus, M. gonorrheæ*. Abundant experimental evidence has demonstrated the fact that pathogenic organisms may be present in the bladder without producing cystitis, but that certain conditions favorable to their growth must be present before a cystitis will develop. In the normal urethra numerous bacteria have also been found which, as a rule, are nonpathogenic and remain latent so long as they do not enter into the bladder under conditions which predispose to cystitis.

Baisch[3] found that when the urine, aspirated from the bladder during laparotomies, or colpotomies, was examined bacteriologically, the clear urine of women contained no germs. Enriquez, Franz, Hofmeister and Melchior, have shown that the last portion of spontaneously discharged urine almost always contains germs, even after the most careful cleansing of the urethral orifice, although Melchior succeeded after repeated preliminary irrigation of the urethra in obtaining a practically sterile urine.

Baisch,[3] in his most excellent bacteriologic work on this subject, says that the number and kind of bacteria found in the normal urethra are dependent on the condition of the vestibule and vagina, and are subject to the greatest of variations. The bacteriologic findings in the puerperal women differ from those in the pregnant, in the healthy from those in invalids, and in patients operated on from those in patients not operated on. As the colon bacillus was the most common organism found in his cases of cystitis, Baisch endeavored to ascertain the source of the *B. coli* when the examination fails to disclose it in the vulva or the urethra. He believes that his examinations of the vulvar and urethral secretions of bedridden patients, operated on and not operated on, have solved the question. The bacteriologic examinations on forty-five operated patients who were positively known not to be affected with cystitis, gave results as follows: no culturally demonstrable organisms in the vicinity of the urethra and in its lowermost section, on the eve before the operation (after the usual disinfection of the external genitalia); on the second day staphylococci were already found (*albus*, less often *aureus*), and from the third, fourth and fifth day on, in addition to these, the *B. coli*. The presence of staphylococci is explained by the general spreading of the skin-germs, and of the *B. coli*, by the vicinity of the rectum and anus. Systematic daily examinations of the urethral and vulvar secretions in patients not operated on but bedridden showed that although no colon bacilli were present on the day of admission, they were invariably found in the urethra and vestibule after lying in bed for a few days.

Urinary retention or ischuria is the most common complication which predisposes to an inflammation of the bladder following surgical operations. This takes place either by a direct backward invasion of the organisms of the urethra, owing to the absence of the mechanical cleansing effect of the urine during the act of micturition, or it follows the introduction of organisms into the bladder from the use of the catheter.

Many theories are advanced in explanation of postoperative retention of urine, among which are especially to be mentioned: the inability of some patients to urinate in the recumbent posture; a neurosis especially in nervous individuals; a reflex condition, contributed by the sympathetic nervous system producing urethral spasm and vesical paralysis; disturbances of the intra-abdominal pressure; paralysis or atony of the detrusor muscle from toxic substances similar to postoperative atony of the intestine; trauma of the peritoneal covering of the bladder; interference with the blood- and nerve-supply to the organ and a swelling or edema of the mucous membrane about the internal urethral orifice.

The relief of urinary retention by catheterization of the bladder has long been known to be a very frequent cause of postoperative cystitis, so much so as to lead many authors to consider it always as a "catheterization cystitis." There can be no question that the catheter is the most important single exciting factor in the production of a cystitis. This is explained by the trauma of the mucous membrane of the urethra or bladder incident to its introduction, and by the conveyance to the bladder of some of the organisms (notably the colon bacillus), which are present in the lower urethra of bedridden patients. In this manner are the postoperative inflammations of the bladder to be explained after such operations as perineorrhaphy, trachelorrhaphy, rectal operations, hernia and other operations which do not necessitate handling of the bladder.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Caspar: Genito-Urinary Diseases, English Trans., 1909, p. 1208.

2. Freyer: Surg. Diseases of the Urinary Organs, 1908, p. 237.

3. Baisch, K.: (Univ. Tübingen) Bakteriologische und experimentelle Untersuchungen über Cystitis nach gynäkologischen Operationen. Beitr. z. Geburtsh. u. Gynäk., Leipsic, 1904, viii, 297.

The predisposing factors of trauma and congestion become of great significance in all operations, whether vaginal or abdominal, in which a separation or dissection of the bladder from its attachments to the cervix or vagina is necessary. As examples we need only to mention such operations as complete hysterectomy, abdominal or vaginal, the Wertheim radical operation for cancer of the uterus, separation of bladder adhesions in inflammatory disease, operations on the anterior vaginal wall, such as anterior colporrhaphy, vaginal cesarean section and the Watkins-Wertheim operation for total prolapse of the uterus. In such operations, on account of the increased danger of subsequent cystitis, greater care is necessary in manipulating the bladder and in its accurate reposition by suture, as well as in its postoperative treatment. Crippling lesions about the bladder, pericystitis, and distortion often result after such operations and prolong a cystitis indefinitely.

Cystoscopic examinations of a number of patients, on whom some of the operations above numerated had been performed, were made by one of us (J. G. Keller) and a composite picture of the bladder constructed from the findings.

Kolischer,[4] writing in 1902, says:

> The operative step which obviously is most apt to interfere with the integrity of the viscus is the act of stripping off the bladder from the uterus. If this is done in a proper way—that is, if we sever only the connective tissue between the bladder and the uterus—the bladder will remain absolutely intact. But if we come too near the bladder-wall, . . . or the operator digs into the bladder-wall proper, a condition will arise which I have described some years ago as, "traumatic desquamative catarrh."

Again, in 1903, Kolischer[5] writes:

> To this must be added that the circulation in the bladder-wall is considerably interfered with in more extensive operations, on account of the severing of so great a number of large blood-vessels. The traumatic catarrh, therefore, will not heal until sufficient circulation is restored by the establishment of a collateral blood-supply. All these catarrhs do not amount to much if the patient is properly cared for, that is, if the bladder is regularly emptied, if catheterization does not cause infection and if no accumulation of feces in the bowels is permitted to occur, so as to prevent the immigration of colon bacilli to the bladder.

Ellice McDonald,[6] in 1908, reported four cases of cystitis, the result of gynecologic operations, as follows:

> Two cases following suspension of the uterus by the abdominal route. In one case there was marked sacculation of the bladder, with patches of inflammation and congestion; in the other there was considerable distortion of the trigone, alteration in the site of the ureteral orifice and sacculation of the bladder.

The third case was a complete hysterectomy for purulent tubal disease, in which the bladder was very markedly dilated and would retain 1,500 c.c. The walls were much congested, and the fibers of bladder-muscle were separated into a network of firm, stout bands, the largest as great as a lead-pencil and the smallest as the lead itself. The mucous membrane dipped into the crevices, while the ureteral orifices were much distorted, the bladder was very irregularly dilated and had lost its tone. The incontinence of retention was present. The fourth patient had a cystocele operation, and the scar of the operation could be seen within the bladder, although it did not seem to have penetrated the bladder mucous membrane, the left ureteral orifice was displaced and the region of the scar was inflamed and congested.

Sieber,[7] in 1908, made a number of cystoscopic examinations to determine the situation of the bladder after cystocele operations. He reported that in some cases the trigonum disappeared partly behind the sphincter, and deep recesses in the floor of the bladder were present with an injection of its blood-vessels.

Franz,[8] in 1908, and Wertheim,[9] in 1909, write extensively regarding the cystitis which follows the radical abdominal operation for cancer of the uterus, and state that the chief causes are the nutritional changes in the bladder-wall and that it is unavoidable and independent of catheterization.

Stoeckel,[10] after many cystoscopic examinations following gynecologic operations, has come to the conclusion that in the past too much stress has been laid on infection introduced into the bladder by way of the catheter in cases of postoperative bladder disturbances. He emphasizes two important facts: first, that after gynecologic operations very often distinct changes in the bladder-wall, without urinary symptoms, are present; secondly, that such bladder disturbances are caused very often not by infection introduced from without, but rather are to be traced back to the trauma of the bladder during the operation.

Falgowski[11] reports extensively on his cystoscopic examinations of fifty-three women, following abdominal and vaginal operations, in whom some injury of the bladder was suspected. His examinations were undertaken in order to ascertain whether vaginal or abdominal operations were more liable to postoperative cystitis; these examinations demonstrated that the vaginal operations were no more dangerous to the bladder than laparotomies, but that under etiologically equal conditions (i. e., septic cases) bladder troubles were found more often after laparotomies. He emphasizes three important factors in the production of postoperative cystitis, i. e., catheterization; the anatomically incorrect care of the bladder during operation; and the septicity of the particular case. He states in particular that through incorrect care of the bladder, errors may be made in both abdominal and vaginal operations, and that the operators who endeavor to cover this organ well with peritoneum will avoid much trouble. He emphasizes the fact that, after vaginal incision of the anterior vault, the parietal peritoneum should be sutured exactly and carefully to the vaginal wall immediately after opening into the peritoneal cavity, in order to protect the bladder from mechanical insults as much as is possible and not rob it of its nutrition. In laparotomies this can be done, at least at the close of the operation if not sooner. By surrounding the bladder with as much peritoneum as is possible, a natural support is given which is especially needed after extirpation of the uterus. The more careful and successful the care of the bladder, the less subsequent bladder disturbance was observed in his clinic, and vice versa.

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[4] Kolischer, G.: Condition of the Bladder After Hysteropexy, Am. Jour. Obst., 1902, xlvi, 837.

[5] Kolischer, G.: Postoperative Cystitis in Women, Am. Jour. Obst., 1903, xlviii, 349.

[6] McDonald, Ellice: Cystitis in Women, With Report of 45 Cases Studied Cystoscopically and Some Modifications of Treatment, Med Rec., 1908, lxxiii, 303.

[7] Sieber, H. (Univ. Frauenklinik, Marburg): Ueber den Blasensitus nach Cystocelnoperationen, Ztschr. f. Gynäk. Urol., Leipz., 1908, i, 87.

[8] Franz, K. (Frauenklinik d. Univ. Jena): Die Schadigungen des Harnapparates nach abdominalen Uteruscarcinomoperationen, Ztschr. f. Gynäk. Urol., Leipsic, 1908, i, 3.

[9] Wertheim: Gynäkologie und Urologie, Ztschr. f. Gynäk. Urol., Leipsic, 1909, i, 253.

[10] Stoeckel: Cystoskopie und Urethroskopie, Berlin, 1910, p. 250.

[11] Falgowski, Wladislaus: Ueber cystoskopische Befunde nach gynäk. Operationen, Ztschr. f. Gynäk. Urol., Leipsic, 1909, i, 283.

The frequency and variety (Falgowski) of cystoscopic findings ranges as follows:

	After 14 Laparotomies	After 39 Vaginal Operations
Kinking of a ureter	..	2
Pyelitis	..	2
Excessive sensibility of the bladder-mucosa	..	5
Transposition of the trigonum	5	5
Cystitis diffusa	4	7
Exudate	6	6
Edema	5	9
Inflammation of the bladder neck	8	7
Pericystitis	5	11

The best-known and next to pericystitis the most common disturbance of the bladder observed was inflammation of the bladder neck, and this after laparotomies as well as after the vaginal operations.

The most important consideration in the treatment of postoperative cystitis lies in its prophylaxis. The factors of trauma and congestion as predisposing causes can to a large degree be eliminated by the avoidance of manipulation, and separation of the bladder, whenever possible. In those operations, either vaginal or abdominal, in which a dissection of the bladder from its attachments is a necessary part of the procedure, more or less permanent pouching, displacement, infolding of the base, and other abnormalities of the bladder can be avoided by always covering the denuded portions with peritoneum, and by the reposition of the organ by accurate suture to as near its normal position as is possible.

Every measure or remedy which will prevent the conveyance of *B. coli* and other organisms from the lower urethra and vestibule to the bladder should be adopted. The catheter being the commonest carrier of infection to the bladder, its use must be avoided whenever possible and employed only as a *dernier ressort,* under strict asepsis. The use of hot applications over the pubes and perineum, rectal enemata, and the practice of allowing patient either to sit or to stand up to urinate, as advocated by Emil Ries, Mayo and others, should be used.

A very valuable addition to our methods of treating urinary retention has been the recommendation by Baisch,[3] and Döderlein,[12] of the so-called *Blasenlaxans,* or bladder laxatives for the production of spontaneous micturition. These are remedies which, when introduced into the bladder, excite by their local effect vesical peristalsis. The method is an elaboration of the observation made by Baisch, that when irrigation of the bladder was made to destroy the germs introduced by the catheter, the solutions did not disinfect the bladder, but they irritated the bladder sufficiently to produce a spontaneous micturition. Following up this observation, Baisch used on the evening after the operation 20 c.c. of a 20 per cent. sterilized boroglycerin solution (acid. boric. 2 gm. to glycerin. 100 c.c.) injecting it into the distended bladder with a piston syringe and Nélaton catheter without a preliminary catheterization. The first spontaneous micturition follows usually within five minutes after the injection. The method has been further modified by Franck,[13] who employs the solution without the aid of a catheter, simply injecting from 15 to 30 c.c. into the urethra so that from 5 to 10 c.c. will get into the bladder. Spontaneous urination usually follows in about twenty minutes.

We have used the glycerin and boric acid solution, after the method of Franck, for the past six months, using it in a large series of cases of postoperative urinary retention, and can recommend the method as being almost uniformly reliable for both male and female. When the method failed us, and catheterization became necessary, 5 or 10 c.c. of the solution was injected through the catheter and left in the bladder. As a rule further catheterization was unnecessary.

We have found, as did Wertheim and Baisch, that the solution is without effect in cases where the radical abdominal operation for uterine cancer has been performed. After such operations, on account of the extensive dissection of the bladder from its attachments and the separation of more or less of its nerve- and blood-supply, the bladder does not so readily respond to stimuli.

The argument may be urged against the employment of the so-called bladder laxatives, on the same ground as that used against catheterization, namely, the introduction of bacteria during the act of forcing the fluid from the meatus through the urethra into the bladder. With the employment of the catheter there is always some danger of injury to the urethral or vesical mucosa, which injury, plus the introduction of microorganisms, is sufficient to produce cystitis. With the injection of the 2 per cent. boric acid in sterile glycerin we must admit the possibility of forcing organisms backward into the bladder, but as the method occasions no trauma, the development of a cystitis is not so likely to occur. We believe the method to be of sufficient value to warrant its routine adoption before resorting to catheterization in cases of postoperative urinary retention.

CONCLUSIONS

1. Cystitis following surgical operations is not always a cystitis due to catheterization.

2. For the production of a cystitis it is necessary to have a bacterial infection plus retention, trauma and congestion.

3. The colon bacillus is the organism most frequently found in cystitis following surgical operations.

4. According to Baisch, the reason of the presence of colon bacilli in the vestibule and lower part of the urethra is the propinquity of the rectum in bedridden patients.

5. Postoperative urinary retention may be due to a variety of causes. Our cystoscopic examinations show that swelling and edema about the internal urethral orifice is a very frequent cause.

6. Trauma and congestion as predisposing factors to cystitis occur in all operations in which a separation of the bladder from its attachments is necessary.

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[12] Döderlein and Krönig: Operative Gynäkologie, 1907.

[13] Franck, Otto: Glyzerin als Blasenlaxans, Centralbl. f. Chir., 1911, No. 2.

7. Cystoscopic examinations after such operations often reveal anatomic malposition of the base, distortion of the trigone, and displacement of the ureteral orifices.

8. Whenever extensive dissection or separation of the bladder is a part of the operation, an accurate reposition and covering of its raw surfaces with peritoneum, becomes necessary. Such operations also require the most rigid asepsis in their after-care, should catheterization be required.

9. The use of a solution of 2 per cent. boric acid in sterile glycerin injected through the urethra, into the bladder, has proved itself of sufficient value to warrant its routine employment in all cases of postoperative urinary retention before resorting to catheterization.

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PERICYSTITIS *

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Pericystitis may be due to an extension of an acute inflammation by continuity or by contiguity from one of the neighboring organs or structures, or it may be due to secondary adhesions causing fixation and distortion of the bladder.

The former variety is quite commonly the result of an extension of a peritonitis of appendicular or tubal origin to the peritoneum covering the bladder. In addition to the usual symptoms accompanying the primary condition, these cases are characterized by pain and tenderness over the hypogastric region, difficulty or even inability to start the flow of urine and pain during the contraction of the bladder as it empties itself. When the bladder forms a part of the wall of an intraperitoneal abscess of appendicular origin or when it lies next to a pyosalpinx, the abscess may perforate the bladder wall and evacuate itself through this viscus as I have seen happen several times.

The rather sudden evacuation of a large amount of pus through the urethra—a symptom which usually repeats itself at irregular intervals as the original abscess refills—with aggravation of the vesical symptoms and the history of the case readily distinguishes these cases from an ordinary cystitis. Fortunately in most of these acute cases of pericystitis the patients quickly recover as soon as the primary trouble has been remedied. Occasionally, however, a case is seen which presents considerable difficulty both as to diagnosis and treatment, as illustrated by the following:

Case 1.—A woman, 30 years of age, was sent to me with a diagnosis of probable tuberculosis of the hip. She had been sick for several months; was greatly emaciated; had fever constantly; the right thigh was markedly flexed on the abdomen and adducted and there were three discharging sinuses, one near the anterior superior spine, one on the anterior aspect of he thigh just below Poupart's ligament and one on the outer aspect of the thigh just in front of the great trochanter. There was frequent urination with pus in the urine varying considerably in amount.

By injection, the sinuses were traced not to the hip or to he bone but to the right side of the pelvis in the region of the bladder. The uterus was in anterior position and a small mass could be felt extending from its right side, anteriorly to the abdominal wall. The trouble followed a confinement and the patient had been well up to that time. The origin of the rouble was thought therefore to be in the right tube.

On opening the abdomen the right tube was found turned anteriorly, lying between the uterus and the bladder, to both of which organs it was firmly adherent. There was a small perforation between the tube and the bladder and a tract leading from the tube extraperitoneally in the abdominal wall down into the thigh, forming the sinuses above described. The tube was removed, the bladder opening closed and the sinuses curetted. The sinuses closed and the patient made a rapid and complete recovery with disappearance of all bladder symptoms.

Our principal interest in the acute cases lies in the fact that the adhesions which form to the bladder may not disappear with recovery from the primary trouble, but may become organized and remain as permanent bands fixing the bladder to a loop of bowel, the omentum, the uterus or other point, so as to interfere with the normal action of that organ. Such adhesions may form even though the patient gives no distinct history of a previous acute abdominal or pelvic inflammatory trouble, in which case the adhesions are most frequently found fixing the bladder to the sigmoid or to the appendices epiploicæ.

Many of these cases are postoperative in their origin and are then frequently the result of faulty technic. This, however, is not always the case, for, as is well known, peritoneal adhesions may form occasionally in spite of everything that can be done to prevent them. It is to those cases, the result of faulty technic, that attention is here specially directed as they are the ones which should be prevented. The technical errors are either general, such as an imperfect peritoneal toilet, or occur in connection with salpingectomy, ventrosuspensions or round ligament operations.

As illustrating pericystitis from imperfect peritoneal toilet may be mentioned the case of a young woman who had had both tubes and the right ovary removed four years previously. Following the operation she developed tenderness in the hypogastric region, irregular attacks of frequent urination, dragging pain on urination and occasionally a sharp pain when the bladder was emptied. These symptoms were aggravated at the menstrual time. They were so annoying that the patient applied for relief by operation if necessary.

On opening the abdomen the bladder was found adherent to the anterior surface of the uterus. The bladder was peeled off the uterus without much difficulty and in doing so a cyst was opened which contained from 25 to 30 c.c. of a dark-colored fluid. At the first operation a large blood-clot evidently had been left in this location and it had been walled off by the bladder becoming adherent to the uterus. The clot gradually became liquefied, thus forming the cyst. Recovery and relief from the symptoms followed the operation.

In attempting to close over the stump after salpingectomy I have seen the bladder so involved in the suturing as to require a secondary operation to relieve the distressing bladder symptoms.

Case 2.—In March of this year I operated on a woman who had suffered from painful pericystitis ever since an operation for ventrosuspension, which had been made two years previously. On opening the abdomen the bladder, uterus, omentum and sigmoid were found fixed in a mass to the anterior abdominal wall.

Case 3.—On May 5 of this year I operated on a young woman, aged 23, who had had her tubes removed in 1907 and a retrodisplacement corrected by a round ligament operation. Ever since her first operation she had suffered with pain in the back and down the inside of the left leg to the knee, frequent urination with a dragging pain above the pubes when the bladder was emptied. Her symptoms were so severe that she requested an operation.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

When the abdomen was opened the sigmoid was found adherent to the stump of the left tube. When the round ligaments were drawn out and over the muscles anteriorly, the bladder on the left side had been drawn up with the round ligament and fixed in the opening in the abdominal wall. This so distorted the bladder as to give rise to pain whenever the organ became distended or emptied itself.

I have seen several similar cases in which bladder symptoms have followed operations of this kind on the round ligaments.

The possibility of the bladder becoming involved in these operations is one which should never be lost sight of and the object of this paper is to impress operators on the pelvic organs with the necessity of greater care in the details, lest the patient be worse off after the operation than she was before.

32 North State Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. JACOBSON AND KELLER, AND HARRIS

Dr. E. E. Montgomery, Philadelphia: In our earlier work in pelvic surgery I have known many patients who, as a result of the want of proper care in the treatment of the bladder, have suffered from far more distressing symptoms than those for which the original operation was done. These have been cases of prolonged and very obstinate cystitis, oftentimes ineffectually treated for relief. The excellent presentation of this subject by Dr. Jacobson demonstrates the importance of keeping in mind the possibility of infection through the use of the catheter, and the advisability, as he expressed it, of covering the bladder surface with the peritoneum by sewing the peritoneum to the vagina in all those cases in which vaginal hysterectomy is done. The pericystitis is not of infrequent occurrence. We have it frequently in pelvic inflammation. Not infrequently do we find that the omentum is adherent to the bladder. These adhesions persist as a result of infectious processes in the pelvis. It has not been my experience, however, that these cases so frequently result in irritation of the bladder as has been found in Dr. Harris' experience. I have seen cases, especially in puerperal sepsis, in which the infection has extended into the wall of the bladder. In one instance in which I did hysterectomy the mass involved the wall of the bladder and, in attempting to separate what appeared to be a mass of exudate, the bladder was broken into, discharging a large quantity of foul urine into the peritoneal cavity. However, irrigation of the cavity with salt solution and subsequent drainage resulted in restoration of this patient. The cases demonstrate the importance of protecting the peritoneal surfaces, covering over the surface so as to prevent the adhesions which must result in more or less contraction of the bladder and which may result in such deformity as to lead to prolonged irritation requiring operative interference.

Dr. W. B. Dorsett, St. Louis: I have been impressed with the frequency of these troubles following operative procedures, so much so that it has been my custom within the last four or five years to make provision for this condition in hysterectomies by the utilization of the broad and the round ligaments to hold the stump of the uterus in position. This is because in three or four patients operated on some time ago there was incontinence of urine and in one or two the enuresis was hard to cure. Many of us think only of the condition for which we operate, forgetting the possible consequences. Therefore, I think we ought to pay more attention to this matter, either by the utilization of the broad or round ligaments or by taking necessary precautions to prevent attachment to the omentum. I remember very well a case in which operation was done for fibroid uterus—hysterectomy—and in which I had subsequently to open the abdomen for this sort of condition—a cystitis which could not be handled by any treatment and in which there was much pain and discomfort, the patient having lost 25 pounds. I opened the abdomen and found that the bladder was adherent to the rectum and to the mesentery, so that quite extensive adhesions had to be broken up. I drew the bladder up and attached it to the anterior abdominal wall and a very good result followed. I believe when we open the abdomen we should provide against unfortunate conditions following these operations.

Dr. A. E. Benjamin, Minneapolis: The paper by Dr. Jacobson is very important from the fact that all operators get so much trouble after the operation in some of these cases. As one of my patients expressed it before I left Minneapolis, "the subsequent trouble is much worse than the operation." We all admit that we do have complications. In this case there was some acute infection which I did not know about which occurred just previous to the operation; that is, of the urethra and bladder. There are a number of cases brought about from improper technic. As Dr. Dorsett wisely said, "we forget about the possible consequences of improper technic." We should consider, not only the tumor, the appendix, or the tube to be removed, but the possible location of the bladder, particularly after we have done these operations. I have seen operators do an abdominal operation, take out the uterus, pull down the bladder, distorting it, and sew up the wound. We cannot have other than bad results with such carelessness. Regarding Dr. Harris' paper, we have all seen pericystitis cases Personally I have seen a number of them with adhesions to the bladder and sigmoid. In operating in these cases we should be careful to see that all the positions of the loops of the intestines are in proper location and that there is proper support for the bladder, as has been mentioned, by bringing up the round and broad ligaments so as to make a good support.

Dr. J. H. Jacobson, Toledo, O.: I think it would be excellent practice to have cystoscopic examinations made as a control after most gynecologic operations, particularly after hysterectomy. If the members of the Section will do this they will often be surprised at the amount of traumatism and distortion of the bladder walls present. Such changes do not always produce symptoms but they may be of so striking a character as to lead one to either modification or change in technic.

Dr. M. L. Harris, Chicago: For the acute cases that occur before we operate, of course, we are not responsible. I wish rather to direct attention to those cases in which the responsibility rests on us, in which we produce the condition by our operations. This is particularly so in operations on the round ligament for displacement. The bladder is in a sense suspended by the round ligaments. If the round ligament be drawn on sufficiently one can always draw the bladder into the abdominal opening through which one draws the ligament. The point of most importance, it seems to me, is that these operations should never be done through a little buttonhole incision. Through whatever hole you may wish to draw the ligament, have an incision sufficiently large to permit an inspection of the parts in order to be certain that the bladder is not drawn on nor distorted.

THE BEGINNING OF OCCUPATIONAL DISEASE REPORTS

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In 1911, for the first time in America, six states enacted laws requiring physicians to report cases of occupational diseases. These states are California, Connecticut, Illinois, Michigan, New York and Wisconsin. These laws have many points in common, and most commonly the diseases to be reported are: anthrax, compressed air illness, and poisoning from lead, phosphorus, arsenic and mercury or their compounds. In Wisconsin, for some unexplained reason, anthrax is omitted from this list, and in Illinois the law is obscure, but apparently includes poisoning from "sugar of lead, white lead, lead chromate, litharge, red lead, arsenate of lead or paris green," and "the manufacture of brass or the smelting of lead or zinc."

In most instances the notification by the physician is to include as a minimum the name and full postal address and place of employment of the patient, and the disease. Michigan specifically requires in addition, "the length of time of such employment," and New York adds, "with such other and further information as may be required by the commissioner of labor."

In four states the reports are to be sent to the State Board of Health and thereby transmitted to the department most directly interested in industrial inspection within the state. In Connecticut and New York notification is direct to the commissioner of labor.

In every state except Connecticut there is a penalty for failing to report, but in all states except California and Connecticut, where a fee of fifty cents is allowed, no compensation is paid for reports.

It is an interesting fact that one of the features of this bill which excited most comment among physicians was the provision for the payment of a fee of fifty cents for each report. "It is an insult to offer a medical man a fee for sending in a report to the state," exclaimed many physicians, while fully as many declared that the offer of fifty cents would result in their sending in too many reports.

This pioneer legislation is part of a definite organized effort to arouse wider interest among physicians in the subject of industrial hygiene, and to secure for public use a regular supply of information from those who should be best informed on the subject. For this purpose a tentative bill, based on twelve years of English experience,[1] was drafted and introduced, in 1911, into the legislatures of eight leading industrial states. This bill had been passed unanimously by one house of the Minnesota legislature when adjournment postponed action for two years. In Pennsylvania some legal experts added a clause to one section of the bill and after it had passed both houses of the legislature the governor vetoed it on the ground that this particular new clause made it "unconstitutional." In Illinois where the State Occupational Disease Commission was still at work, no action was taken by the friends of the measure after reaching an understanding that the reporting feature would be included in the commission's bill. With the slight local modifications already noted the standard bill was enacted, and it went into operation in six states during the summer.

The educational campaign resulting in the enactment of this measure included the publication and distribution of a special four-page leaflet on "Reporting of Occupational Diseases." This leaflet included the following statement:

> When the International Congress on Occupational Diseases met at Brussels last September, Dr. Legge, Medical Inspector of Factories in England, read a paper on "Results of Ten Years' Notification of Lead Poisoning." In 1900 more than 1,000 workers in that country were reported as suffering from this occupational poisoning. Last year the number was only 553, although the system of recording each case has steadily improved. In some branches of the dangerous trades in England this occupational poison is now only one-fourth as serious in its effects as ten years ago.

In partial explanation of this striking improvement in the conditions affecting those who work with industrial poisons, the leaflet continues:

> In Great Britain when a practicing physician observes in a patient symptoms which lead him to suspect that there is suffering from industrial lead, phosphorus, mercurial or arsenical poisoning or anthrax, he is compelled under penalty by the government to report the case to the factory inspector. Scientific men in the public service are then in a position to study intelligently the conditions which undermine health, to suggest simple, inexpensive precautions to the manufacturers and to instruct the work-people in the use of measures for the prevention of unnecessary suffering and death.
>
> Every class in the community is directly interested in scientific efforts to conserve the health, vitality, energy and industrial efficiency of wage-earners. This interest is particularly apparent in cases of suffering and inefficiency due to unhealthful conditions of employment in occupations in which deadly poisons are in use.

After briefly summarizing the causes and effects of anthrax, compressed air illness, and poisoning from lead, phosphorus, mercury and arsenic, the descriptive portion of the leaflet concludes as follows:

> In order that the necessary mechanical and other precautions may be taken, the state should be enabled to determine where and how men are exposed to these perils. The state should be advised of incipient cases, so that dangerous conditions may be improved. English experience during twelve years indicates that the most practical and economical method of securing this information is through the enactment of a law requiring every physician treating a case of one of these occupational diseases to report it to the proper authority precisely as he now reports cases of contagious diseases. From the data thus contributed preventive and remedial measures can be intelligently formulated and applied. The American Association for Labor Legislation, in its campaign for the conservation of human resources, invites the cooperation of other organizations in securing uniform legislation on this subject.

This printed leaflet, the final page of which was a tentative bill, was accompanied by additional literature and circular letters and addressed to legislators, editors and members of the Association for Labor Legislation, who added their personal influence to the campaign, and in several instances appeared at legislative hearings to explain the object of the measure.

From the standpoint of the association the real educational work is merely begun with the enactment of these laws. With the arrival of the date when each law went into effect a news notice was prepared for editorial use in that state; additional information, including copies of the notification schedule now used by physicians in England, were furnished on request to officials charged with the law's enforcement.

In New York the law was translated by an Italian editor, and with accompanying explanations it was widely republished among Italian readers. Cases of occupational poisoning incidentally met with in our related investigations are now carefully noted and filed for future reference, or mailed forthwith to the proper state authority.

The desirability of the uniform reporting of industrial injuries in the different states is so apparent to those who wish to make intelligent use of such statistics rather than to merely compile columns of figures, that an effort has already been made to encourage the adoption of a standard schedule.[2] To the rather meager information specifically required as a minimum under the various laws, the state officials are encouraged to add as many facts as possible through the use of more elaborate blanks or by special investigations. One year's experience in securing this information in half a dozen states should indicate whether the standard schedule now in preparation is practicable for general use among physicians. Already, in several states, information of great significance has been secured by state authorities under this law, and individual physicians as well as boards of health are preparing for the study and prevention of occupational diseases.

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[1] On the advice of expert medical authority in England only a few of the most clearly defined and most easily recognizable of occupational diseases are included in the beginning. When physicians have become familiar with the purpose and the operation of the law its scope may be extended.

[2] A national committee on standard schedule was appointed last September and it is now at work on a plan for uniform reporting.

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THE VALUE OF PYELOGRAPHY *

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Accuracy in diagnosis in the urinary tract is largely due to experienced interpretation of cystoscopic and radiographic findings. Although both the cystoscope and the radiograph are of individual value, we are learning to recognize that neither method is complete without the data obtained from the other. Recently we have discovered that the union of the two methods in simultaneous examination has given us a new and valuable field for diagnostic data. This latter method is known as pyelography and consists of the injection of an opaque fluid substance into the ureter and renal pelvis followed by immediate radiography.

During the past three years, at the Mayo clinic, St. Mary's Hospital, we have employed the radiograph of the injected urinary tract in over 500 cases and have come to regard it as a valuable and frequently necessary aid in arriving at the correct diagnosis of conditions in the urinary tract. Its wide-spread adoption as a diagnostic aid seems to have been hindered largely because of a lack of technical facilities and of experience on which the success of the method depends. Objections to its use have been raised on the grounds that it was a dangerous and painful procedure. While the method may occasionally be painful unless carefully employed, it has never, in our experience, caused any permanent injury. Although pyelography should not be used indiscriminately, there is no objection to its correct employment whenever a doubtful radiograph, cystoscopic examination or abdominal tumor perplexes the clinician.

Probably the greatest value of pyelography will be found in its ability to demonstrate the following: (1) the extent and character of dilatation in (a) the renal pelvis and (b) the ureter; (2) the deformity accompanying renal tumors; and (3) congenital anomalies; and finally in the aid it affords in the interpretation of radiographs.

RENAL DILATATION

Mechanical Dilatation.—First considering renopelvic dilatation we find that pelvic distention resulting from obstruction or hydronephrosis can be clearly demonstrated in the radiograph providing a sufficient amount of the undiluted injected medium reaches the pelvis. The dilatation will be readily recognized by the increased size of the pelvic lumen as well as by the broad knobbed shape of the calyces. The greater the distention, the shallower and broader will the calyces appear. The etiologic factors can often be interpreted from the contour of the distention. The mechanical or retention dilatation is distinguished from the inflammatory distention by the comparative regularity of outline as evidenced by the even lines of the free wall and rounded ends of the broad calyces. Elongated or pear-shaped distentions will usually be found due to congenital constrictions, often anomalous renal blood-vessels. Although renal dilatation can often be ascertained by the overdistention method of Kelly, still the injected radiograph will be found more accurate. It is of particular value where the ureteral constriction will not permit the catheter to pass and in demonstrating small distentions of about 25 or 30 c.c. capacity.

Inflammatory Dilatation.—The outline of the inflammatory distention is characterized by marked irregularity. The degree of irregularity will vary with the extent of the inflammatory process. Pyelitis, when recent and of moderate severity, will show but slight changes. Chronic pyelitis, particularly with scar tissue change in the pelvic wall, may show considerable irregular distention. Pyelitis resulting from stones within the pelvis is characterized by the marked irregularity of individual calyces, although the general outline will depend largely on the degree of mechanical obstruction. With the extensive inflammatory changes accompanying pyonephrosis the irregular wide calyces may be seen extending into the farthest limits of the cortex. The pelvic outline may appear fringed with detached shadows of varying size which are caused by cortical abscesses connected with the pelvis. In cases in which the inflammatory process has extended into the peripelvic tissues we frequently find the upper ureter involved. The method will be found of practical value particularly in demonstrating the extent of the inflammatory destruction when surgical interference is not clearly indicated. The demonstration of inflammatory changes in the pelvis may also be of considerable value in the identification of doubtful renal shadows which I will discuss more fully later.

Where a clinical differentiation between pyelitis and renal tuberculosis is difficult, the demonstration of pyonephrosis or of cortical abscesses would identify the latter.

URETER DILATATION

Dilatations of the ureter can be outlined in the injected radiograph and we are thus given a new and valuable aid in the diagnosis of pathologic conditions in the ureter. As in the kidney, ureter dilatation is due to mechanical obstruction, inflammatory retraction or tumor deformity. The dilatation may vary in degree from a scarcely recognizable distention to an extreme sacculation.

Mechanical Obstruction.—Hydro-ureter, or dilatation of the ureter as the result of mechanical obstruction, may be due to stricture, extraneous pressure, bladder retention, and ureteral stone.

1. Stricture: Obstructions to the ureteral catheter may be purely physiologic and will be identified as such by an absence of ureteral distention above. Actual stricture, on the other hand, always causes a dilatation which can usually be demonstrated in the injected radiograph. A common form of stricture is that resulting from tuberculous ureteritis and its demonstration may be of value in identifying the tuberculous process.

2. Extraneous Pressure: As the result of pressure from various pelvic conditions, such as chronic abscess, fibroids, and various tumors, considerable dilatation of the ureter may ensue. This possibility must be borne in mind particularly when the clinical picture is largely that of increased intrarenal tension.

3. Urinary Retention: As the result of extreme chronic bladder retention the ureter may become mark-

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

edly distended. This dilatation can occasionally be demonstrated by merely filling the bladder with the opaque medium, placing the patient in the Trendelenburg position and radiographing.

4. Ureteral Stone: The surgeon searching for the ureteral stone looks for the dilated ureter as his guide to its location. This dilatation can be clearly demonstrated in the injected radiograph and when it is seen extending above a doubtful shadow, the distention identifies it as intra-ureteral.

INFLAMMATORY DILATATION

The ureter, like the renal pelvis, becomes dilated to a varying degree as the result of inflammatory changes in its walls. This inflammatory dilatation may follow either a descending or ascending infection. It is usually not so marked or so regular as the distention resulting from mechanical obstruction. It is usually present with every renal infection whether in the cortex or in the pelvis. It may be the sole physical evidence of circumscribed or dormant cortical infections. More or less inflammatory dilatation may be demonstrated in the ureter *below* the stone in the renal pelvis or upper ureter. The dilatation accompanying tuberculous ureteritis is often marked because of accompanying tuberculous stricture and resulting mechanical dilatation. The dilated ureter, so frequently accompanying prostatic enlargement, is probably more often the result of an ascending infection rather than mechanical obstruction.

Tumor Identification.—The injected radiograph is often of considerable value in identifying doubtful tumors of the upper abdomen. Renal tumors frequently occur without either urinary history or findings and are often not to be distinguished through palpation from tumors of neighboring organs. It has been our experience that a distinctly abnormal pelvic outline or other evidences of tumor involvement can be demonstrated in the pyelograph in the majority of renal tumors. The pelvic changes must be well marked in order to be recognizable. They will consist of (1) retraction of individual calices presenting strikingly bizarre outlines, (2) irregular distention of the entire pelvis, and (3) obliteration of the pelvic lumen, partial or complete. Retraction of the upper ureter by surrounding renal neoplasm may be confirmatory evidence. The absence of tumor deformity would in most instances, therefore, exclude a renal tumor. The relation of the injected renal pelvis to an unidentified tumor may also be of differential value.

AID IN RADIOGRAPH INTERPRETATION

Any one who has had considerable experience in interpreting abdominal radiographs will not always regard the presence of shadows as sufficient evidence for the diagnosis of urinary lithiasis. It has been our experience that various extrarenal and peri-ureteral shadows so frequently simulate the shadows of renal and ureteral stone that the majority of radiographs will require further data for their correct interpretation. We have found the cystoscopic data to be of considerable practical value in checking up the radiograph, and employ it at St. Mary's Hospital as a routine procedure. Although the ureteral catheter and the stylet are of considerable aid they may also be misleading, as I have indicated in previous papers. We have found that pyelography frequently gives us the most accurate data in identifying intrarenal and intra-ureteral shadows; particularly where there is no gross evidence of urinary infection. Practically every stone in the kidney will show evidence of inflammatory or mechanical changes in the pelvic outline which can be demonstrated in the injected radiograph. The absence of recognizable irregularity or dilatation of the pelvis or individual calices would be strong evidence that a doubtful shadow is not due to renal stone. If a considerable distance is seen to separate the injected pelvis from a doubtful shadow it would identify the latter to be extrarenal. Not alone will the injected radiograph be of value in identifying renal stone, but it will also be of aid in ascertaining its exact position within the kidney. If the stone is within the renal pelvis it will be obscured partially or entirely, depending on the comparative density of stone and injected medium. If the stone is situated in the cortex its relation to the injected pelvis should localize it precisely.

The majority of stones in the ureter will show more or less ureteral dilatation above it. This distention can usually be demonstrated in the injected radiograph provided that the injected medium can pass the obstruction. We have found this method to be practical in more than two-thirds of our ureteral stones. Inability to get the fluid by an obstruction would identify it to be intra-ureteral. If the injected ureter shows no dilatation at or above a doubtful shadow we can, as a rule, infer that the shadow is not due to stone. The moderate ureteral dilatation often seen below a stone shadow is to be explained by inflammatory changes from resulting chronic infection and it may be of confirmatory value in identifying small stones.

CONGENITAL ANOMALIES

Pyelography is the best and often the only method with which congenital anomalies of the kidney and ureter can be clinically demonstrated. The position of the so-called pelvic kidney is clearly outlined in its relation to the surrounding bony structure. The fused or horseshoe kidney with its pelves adjacent or situated in the same side may be graphically demonstrated. The asymmetrical or solitary kidney is frequently identified by its abnormally large or duplicated pelvis. Various ureteral anomalies, such as duplication and division, can be readily outlined. When the ureter divides after leaving the bladder the division can be demonstrated by inserting a large catheter just within the meatus and injecting. Anomalies in position and course, such as twisted, kinked and converging ureters, may be outlined. Since some complicating pathologic process usually calls our attention to these anomalies, the resulting dilatation or deformity can be demonstrated at the same time in the injected radiograph.

ABSTRACT OF DISCUSSION

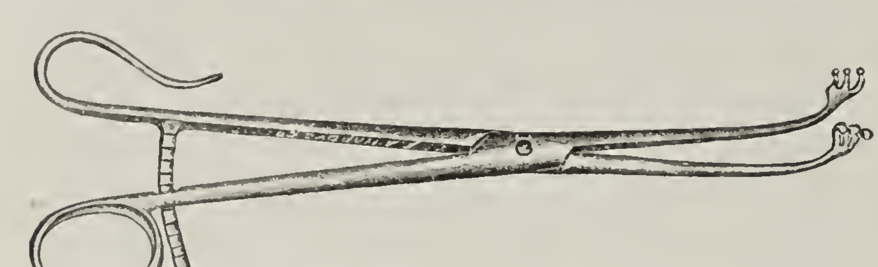
DR. E. E. MONTGOMERY, Philadelphia: It has been my misfortune, in the observation of cases in my own hands and in those of other men, to see patients in whom operation has been done on one kidney, to find that subsequently the condition of the other kidney was such as to render the result a serious if not a fatal one. I remember very well a patient in the service of one of my assistants in whose case he felt that, owing to tuberculous disease of the kidney, it was desirable that it should be removed. The kidney was removed, the patient passed no urine during the next forty-eight hours, and at my suggestion he made an incision in the other kidney. He found its pelvis filled with material which had blocked the ureter, and although the kidney was drained the patient succumbed a few days later. I have seen numbers of cases of dilatation of the kidney, a sacculated condition, from pressure of fibroid tumors, which undoubtedly would have been recognized had we at that time known of and practiced the method of procedure which has been so excellently presented by Dr. Braasch.

Dr. H. G. Wetherill, Denver: The excellent demonstration Dr. Braasch has given us has emphasized one of the methods of more exact diagnosis which is making modern medicine and modern surgery more nearly scientific than it ever has been before. With Dr. Montgomery, I can recall many isolated instances in which more exact diagnosis and more exact surgical procedure would have been possible had we had such assistance as Dr. Braasch has demonstrated to us.

A NEW TONSIL-PILLAR DIVULSOR

L. R. CULBERTSON, M.D.
ZANESVILLE, O.

I have recently devised a pillar divulsor which is a great aid in removing a submerged tonsil. By its use the pillars can be spread apart so that there is no danger of injuring them; it also gives one a good view while working, and enables one to apply a sponge better. It is useful, besides, in trimming any remnants after using a snare, or in searching for a spurting artery. The points are made blunt so as not to inflict unnecessary injury on the palate muscles.


New tonsil-pillar divulsor.

CULTURES FROM THE THYROID GLAND IN GOITER

A BACTERIOLOGIC STUDY OF FOURTEEN CASES *

JOHN J. GILBRIDE, A.M., M.D.
PHILADELPHIA

The frequent occurrence of hyperthyroidism in certain districts of both Europe and this country, the acute exacerbations that occur in the course of this disease and the occurrence of the disease in several members of the same family are facts of especial interest. Therefore, the study of these cases was undertaken to determine, if possible, whether infection played a rôle in the etiology of hyperthyroidism.

The cultures from these patients, with the exception of that from the first, who was a private patient under my care, were obtained from some of Dr. John B. Deaver's patients at the time of operation at the German Hospital. The primary cultures were made in bouillon and on blood-serum and further carried out on agar, glucose agar, potato, gelatin, litmus-milk, etc. For anaerobic organisms, cultures were made on agar.

The cultures were made according to the method of obtaining cultures from tissues at autopsy—by searching the outer surface with a hot scalpel, reheating the knife, making an incision and then using a sterilized platinum loop, etc.

In all the following cases, except Case 1, in which I operated, the operations were performed by Dr. John B. Deaver.

Case 1.—Cystic goiter. Operation at Methodist Hospital, Nov. 15, 1909. Cultures from the thyroid gland and from the contents of the cyst negative.

Case 2.—Exophthalmic goiter. Operation, Feb. 16, 1910. Culture from the gland resulted in a growth of *Micrococcus tetragenus*. Dr. John M. Swan aided me in the study of this organism.

Case 3.—Cystic goiter. Operation, March 9, 1910. Culture negative.

Case 4.—Cystic goiter. Operation, March 14, 1910. Culture negative.

Case 5.—Cystic goiter. Operation, April 15, 1910. Culture resulted in a growth of the *Streptococcus vermiformis* of Sternberg. Dr. Norman B. Gwyn aided me in the study of this growth.

Case 6.—Exophthalmic goiter. Operation, April 30, 1910. Culture negative.

Case 7.—Exophthalmic goiter. Operation, May 28, 1910. Culture negative.

Case 8.—Cystic goiter. Operation, July 19, 1910. Culture negative.

Case 9.—Cystic goiter. Operation, Oct. 22, 1910. Culture negative.

Case 10.—Exophthalmic goiter. Operation, Nov. 5, 1910. Culture negative.

Case 11.—Exophthalmic goiter. Operation, Feb. 23, 1911. Culture negative.

Case 12.—Exophthalmic goiter. Operation, May 6, 1911. Culture negative.

Case 13.—Cystic goiter. Operation, May 6, 1911. Culture negative.

Case 14.—Cystic goiter. Operation, May 6, 1911. Culture negative.

These cases represent six cases of exophthalmic goiter and eight cases of cystic goiter. A growth of *Micrococcus tetragenus* was obtained in one case of exophthalmic goiter, Case 2; and a growth of *Streptococcus vermiformis* of Sternberg was obtained in one case of cystic goiter, Case 5. In none of the others was a growth obtained.

1934 Chestnut Street.

RAPID PREPARATION OF HEMATOXYLIN STAIN

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Every laboratory worker who takes an occasional vacation has experienced the vexation of having no hematoxylin in perfect working order on his return home. By the usual methods of preparing this stain one is compelled to wait several days for the stain to ripen. To eliminate this the following formula may be successfully used.

Hematoxylin crystals	1 gm.	A
Alcohol	10 c. c.	
Alum	10 gm.	B
Distilled water	200 c. c.	
Hydrogen peroxid, q. s.		

The hematoxylin crystals are thoroughly pulverize in a mortar and the alcohol added; the alum is dissolve in the distilled water. A is then added slowly wit constant stirring to B. When well mixed, hydroge peroxid is added drop by drop till the color changes t a deep purple. After filtering, the stain is ready fo immediate use. The only advantage of this method i the rapidity of preparation. The entire time consume in preparing a stain ready for instant use is about seve minutes, as compared with several days of ripening b the older methods.

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* Read before the Philadelphia County Medical Society, Oct. 11, 1911.

* From the Laboratory of Clinical Pathology, Philadelphia Polyclinic and College for Graduates in Medicine.

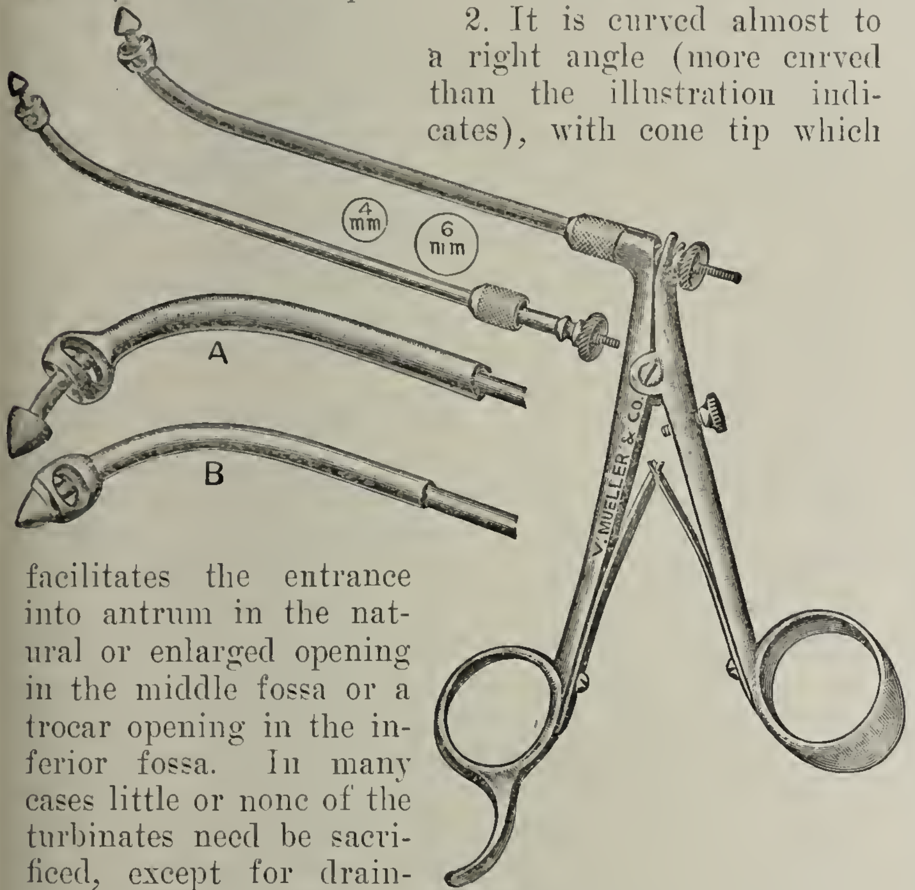
A NEW SINUS PUNCH

W. PERRY REAVES, M.D.
GREENSBORO, N. C.

The accompanying illustration shows a new sinus punch in two sizes, 4 and 6 mm. barrels and cutting edges, changeable, right, left, up and down, with three combined advantages:

1. It is small enough to get into the nose without causing trauma to septum or turbinates.

2. It is curved almost to a right angle (more curved than the illustration indicates), with cone tip which facilitates the entrance into antrum in the natural or enlarged opening in the middle fossa or a trocar opening in the inferior fossa. In many cases little or none of the turbinates need be sacrificed, except for drainage, as the small punch can be passed under the middle and inferior turbinates. This is a great advantage in atrophic rhinitis, in which one wants to save the turbinates, and in acute sinusitis. When necessary to use the larger punch, some of the turbinates will have to be sacrificed.



New sinus punch. A and B represent the tips, actual size.

3. The cutting edge cuts in every direction so the opening can be enlarged in direction of least resistance. Mounted on a small barrel it gives a compact but strong instrument.

This instrument is the result of my many failures to open the sinuses so as not to destroy more of the turbinates than necessary for drainage. It is not really an invention, but the simplification and compacting of the good points of several larger and more complicated instruments which cut forward or backward, and of the Fletcher tack-head punch.

Physicians as Health Educators.—Many of the worst evils of our present-day civilization, dirt, ill health, despondency, pauperism and crime, are in a large part due to the failure on the part of the majority of those trained in medicine to act as leaders and public educators. Health of body and mind should be recognized as of first importance to the community. "They have been so recognized, so far as they have been understood," says Havelock Ellis, "in every great period of civilization of which we have much knowledge, as Roman and Moorish ruins alone suffice to testify. That they are not so recognized to-day is the chief element of rottenness in our civilization. We postpone laying the foundations of our social structure in order to elaborate its pinnacles. We have not yet learned that a great civilization is ill built up on the bodies of men and women enfeebled and distorted by overwork, filth and disease."—C. R. Bardeen in *Science.*

THE DIAGNOSIS OF RETROLABYRINTHINE AFFECTIONS *

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SAN FRANCISCO

Roughly speaking, otologists, during the period before 1900, were engaged in the problems connected with the diseases of the middle ear, and brought forward such men as Toynbee, Schwartze and Politzer. The ground work for the pathology and therapeutics of the inner ear was well laid during this period by Helmholtz, Cyon, Flourens, Jansen, Breuer, Hogyes and Brown-Sequard. The ten years succeeding 1900 have given us a wealth of literature on the labyrinth, which has served to crystallize our knowledge of its functions and diseases, and methods of handling them, so that our researches have been carried a step farther and we are beginning to acquire a more definite knowledge of the retrolabyrinthine region. Absolute diagnosis in many affections in this region has been and will be impossible until we have acquired a more exact knowledge of the various nerve tracts. The progress, however, has been rapid in the last three years and, judging from the history of our labyrinth affections, we may hope for still more light in the immediate future. I wish to take the liberty here to review the work superficially, and shall not attempt to offer anything original.

A patient comes into the clinic with a ringing in the ears, accompanied by deafness and a history of having taken quinin for some time, and we readily make a diagnosis of toxic neuritis of the cochlear branch of the eighth nerve. Wittmaack,[1] Blau[2] and Haike[3] established the pathology of the intoxications from quinin and salicylic acid as a change in the acusticus and cochlear ganglion followed by a degenerative process in Cortis organ. Wittmaack[4] examined also, pathologically, a case presenting acute deafness without vestibular symptoms, in which he found a degenerative neuritis of the cochlear branch of the auditory nerve, and he says that similar conditions have been observed in atrophy of the auditory where a more marked or exclusive involvement of the cochlear branch was observed. From these researches we may conclude that all the intoxications as from lead, alcohol, tobacco, typhoid, scarlet fever, measles and mumps may produce like symptoms and the vasomotor and central nervous system affections, as epilepsy and diabetes, seemingly belong to the same group.

The diagnosis hinges here on the absence of symptoms from the vestibular apparatus and Wittmaack had these affections particularly in mind when he formulated his postulate that the simultaneous presence of symptoms from the cochlear and vestibular apparatus indicated an intralabyrinth lesion, whereas the absence of the vestibular symptoms pointed to a retrolabyrinth lesion. Ruttin,[5] arguing from this, looked for a case where the vestibular symptoms would be present and the cochlear absent, and he found the following interesting case:

A man aged 26, during health, became suddenly dizzy and fell to the side toward which the head turned; there was vomiting, light headache and continual dizziness, without any noises in the ear or defect in hearing. Drums and functional testing with forks were normal. There was a horizontal nystagmus to the left. Cold water in the left ear caused a disappearance of the nystagmus to the left and in its stead there was a rotatory nystagmus to the right; no dizziness was noticed. Cold water in the right ear did not change the spontaneous nystagmus as might be expected; it remained horizontal and was not increased. There was no dizziness. Turning to the right produced an increased nystagmus to the left which was twice as long as that produced by turning to the left. Patient had a tendency to fall to the right when standing or walking with closed eyes. The symptoms all gradually disappeared and the right ear became typically reactive within nine days.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Wittmaack: Arch. f. Physiol., 1903.
2. Blau: Arch. f. Ohrenh., lxi, 220.
3. Haike: Arch. f. Ohrenh., lxiii, 78.
4. Wittmaack: Arch. Otol., 1907, xxxvi, 464.
5. Ruttin: Ztschr. f. Ohrenh., 1909, lvii, 4.

We thus have two groups of acute cases, one in which the cochlear symptoms are present with an absence of vestibular, and the other in which the vestibular symptoms are present without the cochlear. The space between these two has been filled by those little known groups of polyneuritis of Schönborn and the polyneuritis cerebralis menieriformis of Frankl-Hochwart. The absolute ruling out of an intralabyrinthine affection in these latter is impossible; at the same time one can be reasonably sure that they are retrolabyrinthic in origin.

Schönborn's[6] patient was a man with an acute progressive affection involving both acustici together with the cranial nerves. The man had a diarrhea and nausea without vomiting after a sudden change in the weather. Eight days later he had a slight dizziness and nausea, later a slight left-sided facial paralysis and unclear vision. In a few days he noticed a progressive difficulty in hearing in the left ear. The dizziness grew more pronounced so that he had difficulty in walking. He fell to the left with closed eyes; there was no ataxia, no nystagmus, slight paresis of the left abducens. The hearing of the right ear was affected, but to a less degree than that of the left. All the symptoms gradually cleared up. A hemorrhage into the labyrinths was certainly not present. The nuclei of the facial abducens and acustici could hardly be affected at the same time and not cause more severe and varied symptoms. This leaves only the nerve itself as a factor in the production of the symptoms and a diagnosis of polyneuritis is most plausible.

Frankl-Hochwart's[7] polyneuritis has always been a one-sided affection and has so often been associated with herpes of the face, as in Neumann's[8] case, that it would be stretching a point to look to the labyrinth for anything but a secondary lesion. This affection, as described by Frankl-Hochwart, is that of an acute infection with a one-sided cerebral nerve paralysis and general symptoms from the side of the brain, the chief symptoms coming from the acusticus, facial trigeminus.

The diagnosis of these acute affections is a far different story from that of the chronic affections, some of which exhibit such bizarre symptoms as to render an absolute diagnosis impossible; at the same time we have had additions made to our stock of tests that will be a great aid in the future and which has added much to our knowledge of the relationship between the labyrinth, cerebellum and peripheral nerves and of the comparative values of the two labyrinths and nerves in diseased conditions. Bárány,[9] in a series of articles covering a period of three years, has shown that in intralabyrinthine affections the kinesthetic sense has been in no way interfered with, the body responding in an orderly way to the nystagmus produced, whereas, in those retrolabyrinth affections involving the vestibulocerebellar tract, there is a marked disorder in the motions of the body which accompany the nystagmus. For instance, if one produces a nystagmus, say by turning a normal person to the right with his head erect and to the front, he will fall to the right; if his head is turned 90° to the left he will fall forward; if the head is turned 90° to the right he will fall backward. If the vestibulocerebellar tract has been interfered with, as in tumor of the vermis cerebelli, the direction of falling has nothing to do with the position of the head; he always falls in the same direction. He therefore considers that the hypothesis of Nothnagel, Boelk and Horsley, that the disturbances of equilibrium have some relation to the vermis is not only correct, but that we can diagnose the affections of this part of the brain by a careful observation of these disturbances.

An interference with the cortex of the cerebellar hemispheres, again, will produce an abnormal innervation for the pointing movements of the extremities, thus giving us a valuable aid in the diagnosis of cerebellar abscess and tumor. If a normal person is turned so as to produce a nystagmus to the left and, after locating an object held in front of him, he attempts to point to it with his eyes closed he will point, not at the object, but to the right of it. If his head is bent 90° to the right, he will point below the object. If the right cerebellar hemisphere has been interfered with, the right arm and leg will point directly at the object instead of being influenced by the vestibular irritation or position of the head. At the same time the left hand and leg will point normally, that is, to the right or left of the object, according to the nystagmus.

Those movements dependent on a vestibular innervation which may be corrected by the cerebrum are not interfered with, as for instance, the pointing to portions of the patient's own body. These motions become abnormal only when there is a lesion of the brachium conjunctiva which carries the fibers from the cerebellar cortex through the red nucleus to the cerebral cortex.

Cases exhibiting all these various abnormal movements have been demonstrated at different times, some with pathologic specimens following the clinical observations, so that the results of Bárány's work seem to be pretty thoroughly confirmed.

I have said that we have further aids to differential diagnosis in our tests comparing the two sides. I referred to Ruttin's[10] work in the simultaneous application of the caloric and galvanic tests to both ears instead of to one at a time as formerly carried out. If cold water is simultaneously run into both ears under similar conditions, there should be no nystagmus. If one vestibular apparatus is less sensitive than the other, there should be a nystagmus to that side. The same is true of the nerve in relation to the galvanic test. The kathode, applied to both ears under like conditions, should produce a nystagmus toward that side containing the more reactive nerve. Therefore, if we have a patient with vestibular symptoms, as spontaneous nystagmus or dizziness, or dizziness with forced head movements, and there is no nystagmus on applying the caloric test to both ears under like conditions, and there is a nystagmus on application of the galvanic test simultaneously to both ears, we can readily make a diagnosis of retrolabyrinth affection and determine the side that is overactive or underactive. In the application of these tests one has to keep ever in mind the physiology of the vestibular tracts as in cases in which the cerebellum is affected, we may produce by the double caloric a nystagmus to the sound side instead of to the diseased, thus confusing our diagnosis. We must assume the presence of a tract (cerebellar) that acts as a brake on the normal impulses and, when the brake is off that side, will overact, producing a caloric nystagmus to the opposite side. This we see in cerebellar tumor, abscess, etc. It will be readily seen that we have in these tests of Ruttin's the means for quickly ascertaining whether, either the vestibule and semicircular canals, or the nerve on one side or the other, is over- or undersensitive or normal, thus winning one more point in our differential diagnosis.

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[6] Schönborn: München. med. Wchnschr., 1907, i, 983.

[7] Frankl-Hochwart: Jahrb. f. Psychiat., xxv. See also Berger: Neurol. Centralbl., 1905, 844; Kaufman: Ztschr. f. Ohrenh., xxviii; Hammerschlag: Arch. f. Ohrenh., iii.

[8] Neumann: Ztschr. f. Ohrenh., lvii, 330.

[9] Bárány: Monatschr. f. Ohrenh., xiv, 505; Brit. Med. Jour., 1910; Wien. med. Wchnschr., 1910, No. 35; 16th Internat. Otol. Cong. Rep., ii. 554; Verhandl. d. Deutsch. otol. Gesellsch., June, 1911.

[10] Ruttin: Verhandl. Deutsch. otol. Gesellsch., 1909.

The attempts of Wittmaack,[4] Manasse,[11] Gradenego and others to differentiate the pathologic lesions in progressive deafness of the internal ear, separating those due to cochlea and those due to the acoustic nerve outside of the cochlea, have not led to very satisfactory results clinically, as in nearly all cases of long standing both elements are affected, if not primarily, then secondarily. The chronic conditions due to hysteria, vasomotor affections and toxemias must certainly be diagnosticated more through their accompanying general symptoms than through the local ear symptoms or functional tests. At the same time, something may be accomplished by a careful history of the local symptoms. Frey pointed out in the Austrian Otologic Society, in a case reported by Braun, that there was enough to diagnose the case as a retrolabyrinth affection in the dissociation of local symptoms. The case was one that appeared with vestibular symptoms and later a mild deafness. The deafness grew worse and the vestibular symptoms better until the latter had cleared up, and a marked deafness remained; this latter disappeared after a month. According to the rule of Wittmaack and Ruttin, the symptoms should place this case in the class of intralabyrinth affections, both cochlear and vestibular symptoms being present, but the dissociation of symptoms, both in time and intensity, here was so marked that there was no doubt about its retrolabyrinthine origin.

I have not attempted to include in this short paper the text-book description of the various affections; my only object has been to gather together the newer work and attempt to stimulate a more detailed examination by the otologist of the retrolabyrinth cases.

ABSTRACT OF DISCUSSION

Dr. Hugh Frey, Vienna, Austria: One point Dr. Graham did not completely cover is the differentiation between labyrinthine and retrolabyrinthine troubles. The fact has been established that when we find both the vestibular and the cochlear apparatus involved, the greater probability is that the trouble is located in the labyrinth itself; while, if we find an isolated trouble, in the acoustic, cochlear, or the vestibular part, then the probability is in favor of retrolabyrinthine trouble. The labyrinth is so small that we cannot imagine any material process that will disturb only the vestibular or the cochlear part. Both will be affected. But as soon as it comes to the nervous troubles, either tumors of the acoustic nerve or its surroundings or a circumscribed meningitis, it is not improbable that one part, the vestibular or the cochlear, may be affected, because different parts of the nerves are accessible to pathologic affections. A carcinoma, for instance, may cause paralysis of one nerve and not of others, and so on. This is theoretical. The practical examination of cases shows that they do not appear so clear and pure as this would indicate. But we find many valuable points of differential diagnosis in the symptoms of what I am inclined to call the dissociation function of the eighth nerve. For instance, I had a case in which the vestibular and the cochlear branches of the facial nerve were affected. In another case there was a tumor between the cerebellum and the pons, affecting the acoustic nerve. We would represent that graphically by supposing two lines to represent the normal functions of the vestibular and the cochlear parts. In an affection of the labyrinth itself we would have both functions affected, while in an affection of the retrolabyrinth we would have one disturbed and the other not affected. Sometimes it is difficult to make the differentiation, as when both are affected but at different times. Again, the symptoms may show trouble with hearing. Examining to-day, we would find an easily recognized affection of the acoustic portion but no trouble with the vestibular apparatus whatever. Keeping the case under observation for two or three weeks, the patient would become more and more deaf, say in rheumatism or lues, and then the symptoms would begin to clear up and vestibular symptoms would begin, at first irritative, then nystagmus and affection of the vestibular apparatus as shown by the various tests. And while the hearing apparatus improves, the vestibular apparatus becomes worse; and after the hearing is completely reestablished, the vestibular portion is completely out of function and will recover its function only later on. Of course, this is not true in the case of tumors but more especially in the rheumatic and luetic cases. In the case of tumors, either one or the other would be disturbed much earlier than the second; or, in the troubles of the separate nerves, there will be a dissociation, so that some parts will be slightly, others heavily and others not at all disturbed. Usually the tumors between the cerebellum and the acusticus, fibroma, sarcoma or glioma, start from the inner auditory meatus, which explains why in those cases the symptoms on the part of the acoustic nerve are present earlier than the others. The first symptoms the patient complains of are those of deafness, and later, perhaps a number of months, we have the evidence of brain tumor. This is the case in glioma or tumor of the acoustic nerve. The early symptoms would indicate that these tumors start from the inner auditory meatus, because other tumors similarly located but of a different character do not show the same thing.

I operated on a case in which the tumor was congenital and larger than my fist, but no serious symptoms had appeared. The patient never had any symptoms of disturbance of the vestibular part, and the diagnosis, which could not be absolutely certain before, was really made at the time of the operation, the indication for the operation being given by some tenderness, temperature, etc. But in such a case of temporary posterior aphasia of the kind characteristic of fibroma or glioma, I found the patient was sent to the hospital because she complained of bad sight and an ophthalmologist found a choked disk and sent her to the neurologic and the other departments to find out what the matter was. When she came to me, I could not find anything but a little nystagmus to both sides. I was inclined to think it was due to the hearing, but a more careful examination showed that the vestibular apparatus was not more affected on one side than on the other. We had retrolabyrinthine trouble. The hearing appeared to be intact. Only a short time previously the complete exclusion of the vestibular apparatus had taken place. Her hearing now, for whispering and the watch, was trebled, but only for the lower pitch, so that only three tuning forks were not heard by her. The ones corresponding to normal speech were not touched. It is very necessary in these cases to consider whether both apparatus of the labyrinth are disturbed at the same time and in the same way, or whether they are isolated, either the one or the other in trouble; and whether they are both disturbed but to a different extent or at different times, so that we get this dissociation or inequality that will enable us to make a diagnosis of retrolabyrinthine instead of labyrinthine trouble. The indications for operation may depend on this, as well as the results of operation and treatment.

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[11] Manasse: Arch. Otol., 1907, xxxvi, 477.

A more extensive bibliography will be found in the report of R. Bárány and K. Wittmaack on The Functional Testing of the Vestibular Apparatus in Verhandl. d. Deutsch. otol. Gesellsch., June, 1911.

Dr. C. F. Welty, San Francisco: Recently in San Francisco there were reported several cases of cerebellar tumor, and the reporter called attention to the associated symptoms of hearing, nystagmus and tinnitus. I did not see any of those cases, but it is so comparatively easy at the present time to make a diagnosis of a small brain tumor that these things ought to be better understood. The ears show definite findings. I will relate two cases which I have seen within the past two weeks. One was a man of 45 with nystagmus more to one side and increasing headache. On examination he had a vestibule that did not react, and a cochlea that was away below that of the other side. This asymmetry was beautifully illustrated in his case, and the equilibrium disturbances were quite in keeping. In the second case, a man had a furuncle on the outer part of the ear. Three days later he vomited and was compelled to go to bed. He had nystagmus and a complete facial paralysis. His vestibular apparatus was intact. By the use of hot water, his nystagmus was brought back to the same side to as great extent as the opposite side. Either one of two things must be present—a luetic tumor or an abscess. It is essential to study these cases carefully.

THE HYGIENE OF THE SWIMMING-TANK

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FORT SAM HOUSTON, TEX.

Artificial swimming-pools have been regarded with skepticism by the fastidious, but the possibility of infection of the water by typhoid carriers brings to the fore a more important question. Colleges have been concerned for the safety of their students mingling in a common bath, and the same conditions prevail in club and public swimming-tanks in most large cities. Swimming as an indoor and winter sport is popular and deservedly so, but at present the popularity of swimming-tanks is ahead of their hygiene.

That typhoid might be acquired in them would seem possible, as water is taken into the mouth at times and sometimes unintentionally swallowed. While usually the organisms found in these tanks will be only those normal to the water supplying them and those likely to be introduced, some pathogenic organisms have been found. Studies less complete than were planned were made during the year at the large modern gymnasium of the University of Pennsylvania with the permission of Dr. Tait McKenzie, in charge of that department. These were principally to learn the deterioration of the water during the week it was used, as measured by the increase in the bacterial content; other observations were, however, also made.

The tank there holding 155,000 gallons is frequented by a large number of students every day but Sunday; bathing begins about 9:30 a. m., and continues into the evenings, the afternoons finding a large number present. The water supplied is from the city mains, having passed through the city filters, but again passed through a patent rapid filter with alum as a coagulant. It will be observed that the second filter is of lower bacterial efficiency than the first. Fifteen hundred gallons were allowed to flow through the tank daily. Every Sunday it was emptied, scrubbed out and then refilled with fresh water.

Samples of water from the main after passing through the local filter, and from the tank, with 1 to 100 dilutions of them, were plated on agar and gelatin. A series of maltose plates was also carried. The samples from the tank were taken daily, the others every other day. Some gas-developers were found, and *B. pyocyaneus* was isolated by Dr. John A. Johnston, who made part of these observations. A summary of the counts for the week appears in Table 1.

TABLE 1.—SUMMARY OF BACTERIAL COUNTS MADE ON PLATES OF AGAR AND OF GELATIN AFTER TWENTY-FOUR AND FORTY-EIGHT HOURS *

Day	Tank	Main	Filter
1	85	25	. . .
2	340	. .	170
3	428	. .	7
4	3,000	5	8
5	7,000	. .	4
6	50,000	30	20

* Water from three sources, plated in three dilutions—from Monday to Saturday, inclusive. Agar incubated for twenty-four hours.

Some weeks later we undertook to destroy by means of chlorin the organisms in the water, following the published experiments carried on at Brown University. In the first attempt 16 pounds of chlorinated lime, guaranteed 30 per cent. available chlorin, was mixed with half a barrel of water and two-thirds of the supernatant fluid bailed out and thrown into the tank, the inflowing supply of 1,500 gallons per diem being cut off for five days. Table 2 summarizes the result.

TABLE 2.—SHOWING NUMBER OF COLONIES ON AGAR-AGAR PLATES OF WATER FROM TANK BEFORE AND AFTER TREATING IT WITH CHLORIN

Tank Water *	Hours	Undiluted			1-100 Dilution		
		.1 c.c.	.2 c.c.	1 c.c.	1 c.c.	.2 c.c.	1 c.c.
Before adding chlorin solution.....	24	10	889	504	0	5	3
Before adding chlorin solution.....	48	500	850	875	0	5	10
15 minutes after adding chlorin...	24	0	0	0	0	0	0
15 minutes after adding chlorin...	48	0	0	0	0	0	0
45 minutes after adding chlorin...	24	0	0	0	..	..	..
45 minutes after adding chlorin...	48	0	0	0	..	..	..
2 hours after adding chlorin......	24	0	0	0	..	..	..
2 hours after adding chlorin......	48	0	0	0	..	..	..
24 hours after adding chlorin.....	24	0	0	0	..	..	..
24 hours after adding chlorin.....	48	0	0	0	..	..	..
48 hours after adding chlorin.....	24	0	0	0	..	..	..
48 hours after adding chlorin.....	48	0	0	0	..	..	..
96 hours after adding chlorin.....	24	50,000 per c.c.			..	..	..
96 hours after adding chlorin.....	48	50,000 per c.c.			..	..	..

* Counts were made at twenty-four and forty-eight hours, being incubated for the former period. Plates were made up with .1, .2 and 1 c.c. of water. The figures show number of organisms calculated to 1 c.c.

Some calcium carbonate was present when the solution was put into the tank, due largely to the crude method of preparation, changing the color of the water sufficiently to be generally remarked; some bathers stated that the water "tasted" and that they smelled something; however, this was not sufficient to be unpleasant nor was it remarked after a few hours.

In the second attempt a much smaller amount of chlorinated lime was used; it was desired to use about one part of available chlorin to two million (1-2,000,000). Exactly 3 pounds of the same chlorinated lime were weighed and placed in a tin "boiler" containing four buckets of water, which was well stirred and then allowed to settle. Three bucketfuls of the supernatant liquor, which was much less discolored, were siphoned off, and added to the water in the tank. Nothing was remarked by the bathers who shortly after entered the tank, nor was any change in the color of the water observable. Table 3 shows the result of the count on agar for twenty-four hours. It will be noted that this observation was made in the latter part of a week, when the count is high, as is shown in the first table. Readings of the amount of the chlorin in the water at the time the samples were taken are shown.

The calculated amount of chlorin used in the last experiment is believed to be less than is considered safe to add regularly to render some waters potable. Public swimming-tanks should be under the supervision of local health authorities in the same manner that the ventilation of public buildings is.

TABLE 3.—SHOWING THE NUMBER OF COLONIES ON AGAR PLATES OF WATER FROM THE SWIMMING-TANK

Tank Water *	Hours	Undiluted			1-100 Dilution		
		.1 c.c.	.2 c.c.	1 c.c.	1 c.c.	.2 c.c.	.1 c.c.
Before adding chlorin........	24	50,000	∞	∞	3,125	6,250	6,000
Before adding chlorin........	48	50,000	∞	∞	.....	.....	.....
15 minutes after adding chlorin	24	250	260	500	.....	.....	.....
15 minutes after adding chlorin	48	350	600	312	.....	.....	.....
2 hours after adding chlorin...	24	0	0	0	.....	.....	.....
2 hours after adding chlorin...	48	0	0	0	.....	.....	.....
24 hours after adding chlorin..	24	160	370	500	.....	.....	.....
24 hours after adding chlorin..	48	.....	...	...	.....	.....	.....

* Thursday was the day on which this observation was made, when, as is shown in Table 1, the number of organisms is much greater than on Monday, when the tank is first in use. Counts are calculated to 1 c.c. The amount of chlorin is approximately 1-2,000,000.

TABLE 4.—RELATIVE READINGS FOR CHLORIN IN WATER BEFORE AND DURING THE FOREGOING OBSERVATIONS

100 c.c. Sample of Water	Contains of Chlorin, mg.
Before adding chlorin..................	1
15 minutes after adding chlorin........	1.2
2 hours after adding chlorin..........	2
24 hours after adding chlorin.........	1.1

CONCLUSIONS

1. Pathogenic organisms may readily find entrance to the water in swimming-tanks by means other than the water-supply, and possibly cause disease.

2. There is a large increase in the number of organisms normal to any particular water, as well as of others, during the period that water is held in the tank.

3. All of these organisms are quickly destroyed by small amounts of chlorin, readily added to the water in the tank every morning before the usual hours of use.

4. The accumulations of hair and other debris observable at the bottom of the tank should be removed daily by small hand pumps, these accumulations affording a favorable nidus for the development of certain organisms and being less readily disinfected than the water.

5. The hygiene of the tank is aided by the construction of troughs at the edges to afford places for expectoration and to prevent water draining back into the tank from the sides. A shower bath should be used before a swimmer enters the common tank.

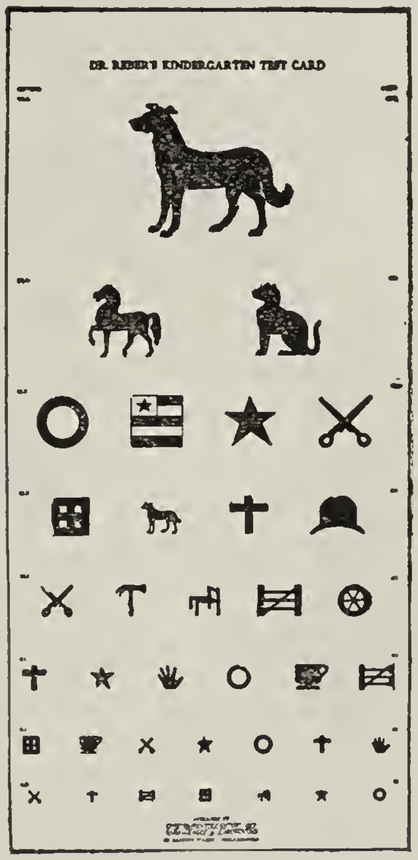
A NEW OBJECT TEST-CARD, OR KINDERGARTEN CARD FOR VISUAL TESTS

WENDELL REBER, M.D.
PHILADELPHIA

With the increasing practice in the primary grades of the public schools of America of teaching children to read without teaching them the alphabet, the ophthalmologist is confronted with new difficulties in estimating the vision of young children who are brought to him for suspected refractive errors.

During recent years a number of object test-cards have been devised, each one having its own peculiar value. At the time they were introduced their main purpose was to give some idea of the vision in the eyes of very young children with strabismus. This will remain the chief function of all such cards for some time to come, as the three vital facts to be learned in every case of strabismus are the vision, the degree of deviation and the refractive status. Without some idea of the vision in each eye of the young strabismic children (3 to 6 years old), no satisfactory study may be made of such a case. But as I have said, these cards have found a new field of usefulness in the last four or five years and they bid fair to become more and more popular.

The chief points in the construction of any object test-card are that (1) it shall consist of objects readily recognized by little children; (2) the objects should conform as nearly as possible to the accepted scientific standard by subtending the correct angle for a distance of 6 meters. I doubt whether an absolutely scientific object test-card, in the sense just mentioned, will ever be constructed. In the very nature of things, they will have to be approximations. Our main purpose must therefore be to make them the closest approximations possible. This idea was evidently prominent in Dr. Thorington's mind when he brought out his object test-card some years ago, which I have employed with much satisfaction. Some of the objects figured on his card I have used on the one herein illustrated—indeed it would be hard to construct an object test-card to-day without drawing to some extent on the two or three that are already before the profession. No claim for originality is made for this card.


DR. REBER'S KINDERGARTEN TEST CARD

A new object test-card, or kindergarten card for visual tests.

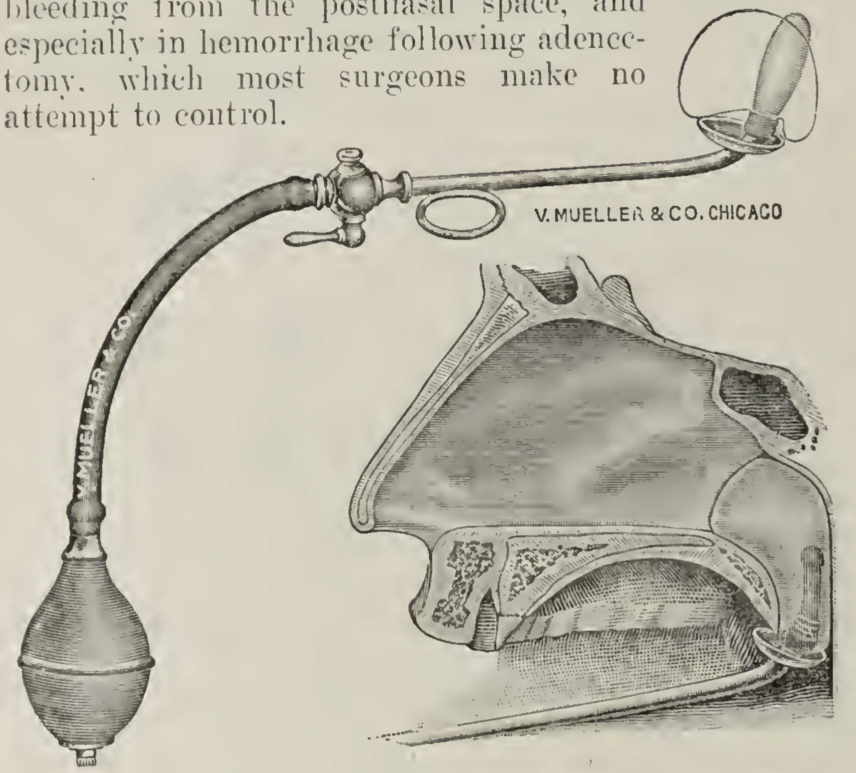
To analyze somewhat the card now shown, the first three objects (the dog, the horse and the cat) are of value because they are almost immediately recognized by even very young children. They can never be made to correspond exactly to the 5-minute or 6-minute angle, but, because of their size, only a small equation of error is likely. The remainder of the objects figured lend themselves more completely to the correct angular construction. The circle or ring is of value in estimating spherical errors. The flag and window are of value in indicating some variety of rectangular astigmatism, while objects like the star, the scissors and the gate are of value in the indications they give as to some form of oblique astigmatism. Such objects as the hat, the hammer, the hand and the cup are far from being scientifically satisfactory, but some objects must be introduced for variation and these have been found to serve fairly well. They at least serve the purpose of being quickly recognized and named, which cannot be said of the spade, heart, diamond and club figures appearing on some other cards.

1212 Spruce Street.

A SELF-RETAINING POSTNASAL HEMOSTAT

HENRY R. BOETTCHER, M.D.
CHICAGO

The instrument described here has been in use by me and my assistants at the Illinois Eye and Ear Infirmary and in private practice for some time. It is used in all bleeding from the postnasal space, and especially in hemorrhage following adenectomy, which most surgeons make no attempt to control.



It can also be used to prevent blood or fluids from passing into the larynx during anterior nasal operations, in which a general anesthetic is given.

The instrument consists of a cannula 10 inches long, bent up to about a right angle at the small end, over which a small rubber bag is placed and fastened with a silk thread. To the large end of the cannula a rubber tube 6 inches in length, with air-bag attached, is fastened, and the instrument is completed. The cannula has a stop-cock for the purpose of controlling the air.

Insertion.—Immediately after the removal of an adenoid, or any other growth, from the postnasal space, the upright portion of the cannula with the small rubber bag is introduced into the postnasal space, and the air-bag compressed, causing the small bag to fill, making firm pressure on all surfaces. The stopcock is turned, the air-bag detached, the inflated bag left in place two or three minutes, which is enough to check the hemorrhage in the average adenoid operation.

Removal.—The stop-cock is turned, air released, and the cannula with bag withdrawn. The bag should not be inflated beyond the point where it begins to bulge into the pharynx.

It is well to have several small rubber bags on hand in case of one breaking. To keep them clean and prevent them from becoming brittle, they can be kept in a sealed glass jar.

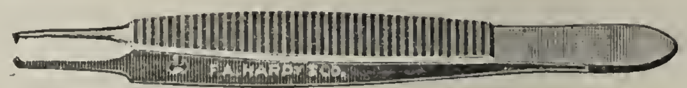
15 East Washington Street.

NEW FORCEPS AND TEST-CARD

FRANK ALLPORT, M.D.
CHICAGO

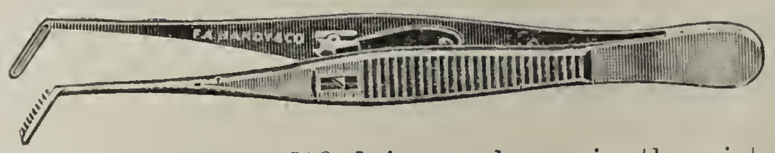
STRABISMUS FORCEPS

When passed underneath the conjunctiva to pull a tendon into view, the blades of forceps should not allow the tendon to slip from their grasp. Most of them are not dependable in this respect. The instrument here shown is short, stubby and strong and possesses good teeth. It will hold the tendon securely until it is released by the operator. It is useful in general eye surgery in which there is need for reliable forceps. It is a modification of Stevens' tenotomy forceps.



ADVANCEMENT FORCEPS

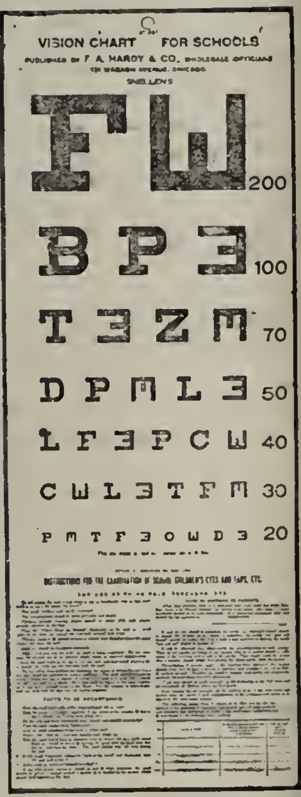
The only fault of Prince's advancement forceps is that this instrument is not strong enough, and that the tendons frequently slip from its grasp at a critical moment. I have modified it, as shown in the picture, so that it is much stronger and more reliable. It is generally built on heavier lines and has strong grasping teeth and a reliable catch.



A NEW VISUAL CHART FOR SCHOOLS

This chart is nearly the same as my old chart, but it has an illiterate letter (one for the use of illiterates) on each line, which has been found useful.

The slip containing instructions, by which teachers may examine the eyes, ears, noses and throats of their scholars, is still attached and should be torn off and kept for the teacher's guidance. There are nine simple questions for which the teacher must obtain answers. These questions will disclose the existence of fully nine-tenths of serious eye, ear, nose and throat diseases. If the child is found diseased or defective, a notice is sent to the parent, urging him to consult the family doctor or a specialist, either at his office or free dispensary. The teacher does not diagnose disease or defect; she simply, by the nine questions, ascertains the fact that something is wrong.



7 West Madison Street.

The Ancient Hindoo Physician.—In the "Ayur Veda," whose authorship is by legend attributed to Brahma, and whose date is supposed to be somewhere between the fourteenth and ninth centuries B. C., occurs this about the physician: "He should preserve a healthy body; he should keep his nails and beard short, his body pure, his clothes clean. He should avoid especially any familiarity with women. Transactions in the house should not be bruited abroad. Money will be the recompense bestowed by the rich; friendship, reputation, increase of virtue, prayers and gratitude will be that of the poor."

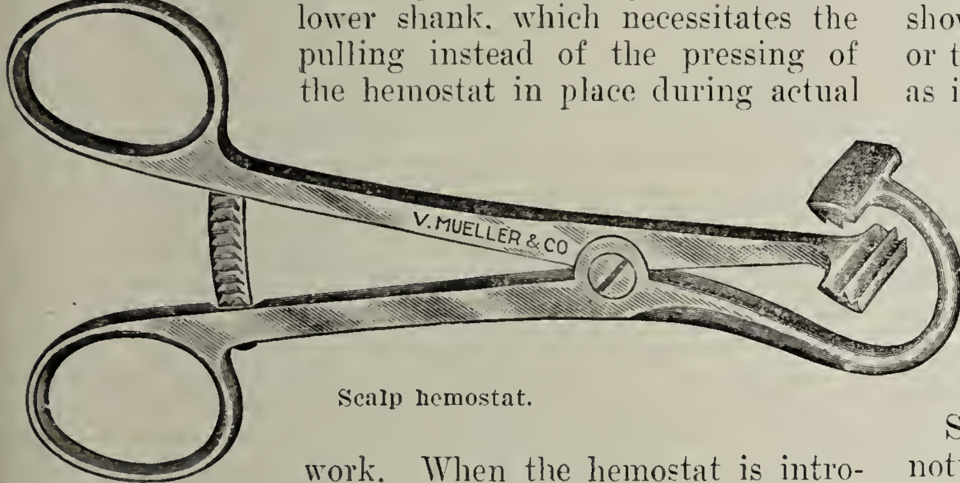
A NEW SCALP HEMOSTAT

H. J. H. HOEVE, M.D.
DES MOINES, IOWA

To be satisfactory in all conditions encountered in varying scalps a hemostat must meet the following requirements:

1. It must compress the entire thickness of the scalp evenly at the incision with sufficient force to control all hemorrhage, but without bruising the tissues.
2. When applied it must never be in the way of the operator.
3. It must facilitate subsequent work on the skull.
4. It must facilitate the introduction of sutures.

In order to meet these requirements I have devised the hemostat here illustrated. The beaks are placed at right angles to the shanks and present a biting surface of an inch in length, armed with two ridges. They are slightly curved from side to side so as to form a half circle when four to six are introduced. The shanks, but especially the inferior one, are slightly curved in their longitudinal axis with the concavity downward so as to rest easily on the convexity of the cranium. The upper shank passes distally around the lower shank, which necessitates the pulling instead of the pressing of the hemostat in place during actual work. When the hemostat is introduced the wound margins are turned upward and outward and this facilitates the removal of bone, diploic hemostasis and the introduction of sutures; and, finally, all parts of the instrument are at all times out of the way of the surgeon.



Scalp hemostat.

1339 Twentieth Street.

Therapeutics

ANESTHESIA AND ANESTHETICS

(Continued from page 1915)

SCOPOLAMIN (HYOSCIN) AND MORPHIN AS AN ANESTHETIC

The production of surgical anesthesia by narcotic alkaloids dates back, in all probability, nearly two thousand years, and while the earlier uses of these drugs as anesthetics are wrapped in inaccuracies and hyperbole of ancient writings, probably some surgical anesthesia was produced even twenty centuries ago.

Chinese physicians or surgeons in the third century are reported to have produced anesthesia in patients about to be operated on by having them drink infusions of drugs. It is quite likely that the drug most used was the poppy (*Papaver somniferum*) opium.

Herodotus refers to the Scythian method of producing narcosis by having patients inhale the vapor from burning hemp (cannabis indica, East Indian hemp).

In Europe in early times anesthesia seems to have been produced by the administration of extracts or infusions of *Atropa mandragora*, or mandrake, a member of the group of *Solanaceæ*. The narcotic principle of this plant is scopolamin (hyoscin), while a paralyzing effect is produced by another alkaloid, hyoscyamin. Scopolamin or hyoscin is found in *Hyoscyamus niger* (Hyoscyamus, U. S. P.), *Duboisia myoporoides*, *Scopola japonica*, *Atropa belladonna* (Belladonna, U. S. P.), and other solanaceous plants. There is evidence that combined poppy and mandrake, representing opium and scopolamin, were used together three or four hundred years ago to cause profound sleep and perhaps for anesthetic purposes.

Dr. John Scopoli first described the action of the alkaloid scopolamin, in 1871, and the name scopolamin was first given to it by Jacquin. This alkaloid is chemically and physiologically identical with hyoscin, notwithstanding the fact that hyoscin and scopolamin are named as separate alkaloids in the United States and British Pharmacopeias, although now in no others. This alkaloid is not stable when kept in aqueous solutions, and may deteriorate with age even in tablet form. Consequently, preparations of scopolamin should be fresh, and solutions should not be made until just before its administration. Deterioration of scopolamin may be shown by a change of color of the tablet, a darkening; or the alkaloid may be contaminated with "apo-atropin," as it is termed. Such tablets are dangerous to use. In other words, only the tablets of reliable and careful firms should be administered to patients in the doses required for anesthesia.

In 1900, Schneiderlin published an article showing that anesthesia could be produced by the use of scopolamin combined with morphin, though more or less of these injections had been used for more than thirty years before.

Scopolamin (hyoscin) has long been used as a hypnotic or quieter, for insane patients. This then led to its more general use as a hypnotic, and finally to its combined use with morphin as an anesthetic. At first very large doses to produce anesthesia were advised. Very large doses are certainly absolutely unjustifiable. Morphin and scopolamin are synergistic, and each intensifies the hypnotic, soporific and anesthetic properties of the other, morphin acting mostly centrally on the brain (it never being a narcotic to the spinal cord, except in paralyzing doses), while scopolamin acts more or less as an atropin, but also as a marked quieter to the central nervous system and generally as a hypnotic (some patients are made wildly delirious with hyoscin). To paralyze the peripheral nerves, in other words to produce a peripheral anesthesia, large doses — dangerous doses—of scopolamin are required, consequently, scopolamin alone could not, except by producing dangerous symptoms, cause anesthesia. Therefore it is only the combination with morphin that can produce or will produce such anesthesia with a minimum of danger. Morphin and scopolamin together act similarly to diminish sensation and cause marked drying of the throat and mouth and bronchial tubes, and combined cause drying of the skin and diminished perspiration.

The most marked antagonistic action of morphin and atropin are on the respiratory center, the morphin dulling the respiratory center and the atropin stimulating it. While there may be some slight action as a respiratory stimulant from scopolamin, its opposing action to the quieting effect of morphin on the respiratory center is slight; therefore the danger from the administration of a large dose of morphin is positively aggravated by scopolamin. Also, scopolamin being a muscle and nervous depressant, it depresses the action of the respiratory muscles.

The action on the pupil of morphin and scopolamin are opposite, morphin contracting the pupil and scopolamin dilating it, although the effect of scopolamin on the pupil does not last as long and is not as marked as when atropin is used.

The salt of the alkaloid most used hypodermatically is scopolamin or hyoscin hydrobromid.

All physicians and surgeons realize what a large majority of patients who are about to be operated on suffer mentally for at least twelve or twenty-four hours before the operation. Fortunately, quite a proportion of these patients may not actively worry until a few hours before the operation is to occur, but a sleepless night before the morning operation is more the rule than the exception. Some surgeons advise giving these patients sleep with some hypnotic, and some choose a small dose of scopolamin combined with a small dose of morphin. These surgeons often expect, before the operation, to give the patient a larger dose of the same drug to produce partial anesthesia.

As the greatest dread of the operation comes an hour or two before the patient is taken to the operating-room, any method that would quiet him and cause him to become indifferent was welcomed. Also, any method that would diminish the amount of ether or chloroform necessary to carry through the operation was welcomed, the danger from large amounts of ether or from the prolonged use of chloroform being more and more recognized by the profession. Other patients fear the suffocating sensations of the first stage of anesthesia from ether or chloroform (this is not much in evidence if the drugs are properly administered) more than they do the operation. Consequently any method that would put them partially to sleep so that the anesthetic would be inhaled with a feeling of indifference was also welcomed. Again, it is a fact that fear, dread, nervous excitation and sleeplessness all tend to cause a hypersecretion of the thyroid. This throws a nervous stimulant, a cardiac stimulant, and a vasomotor dilator into the blood in more or less large amount, all of which is undesirable before an operation. In view of this danger, some surgeons always administer morphin and scopolamin before even the most trifling operation for exophthalmic goiter.

On account of all these facts many operators have considered it good medicine and good surgery to start an anesthesia with a hypodermatic injection of morphin and scopolamin, after it was so strongly advised by Schneiderlin and others.

Schneiderlin advised, in his first article in 1900, the administration of large doses—doses that appear positively dangerous. His method was also again described in 1905. At the first injection the patient soon becomes drowsy, with respiration and pulse slowed. After a short time, if he can be easily aroused, a second injection is given. In a short time again, if the patient can be aroused, he talks incoherently, the respirations are slowed to ten or twelve per minute, the pulse may be full and bounding, varying from 90 to 120, depending on the patient's susceptibility to atropin irritation. The pupils are dilated. Schneiderlin at times gives a few whiffs of chloroform, later, to intensify the anesthesia, but generally after the third injection the patient is anesthetized for any operation and no other anesthetic is needed.

The patient of course sleeps more or less for the next twenty-four hours after the operation, and Schneiderlin and others have considered the sleep a physiologic one. Of course a narcotic sleep from morphin after an operation, or from a combination of morphin and atropin, to prevent vomiting after the operation is resorted to by many surgeons. The pain from injured nerves is abolished and necessary rest is caused. This method of causing anesthesia, however, in which the patient cannot, at the will of the operator, be aroused, and in which the profound stupor is prolonged after the operation is finished, certainly does not appeal to American surgeons, and we believe it to be unjustifiable.

The method of giving one injection of morphin and scopolamin on account of the condition of the patient above mentioned as a preliminary to ether and chloroform anesthesia is a subject that warrants discussion. The advantages in causing a patient to be drowsy and indifferent and to be easily anesthetized by chloroform or ether, are certainly great, and if the dose is so regulated, as to amount, that profound drowsiness or narcosis from these drugs is not caused, it may be often of great advantage, and is especially indicated in highly neurotic patients.

The disadvantages are not to be lost sight of. During chloroform and ether anesthesia, uncombined with other narcotics, the signs and symptoms of overaction or bad action from these two anesthetics are distinctly and immediately evident. If the pupils are dilated by scopolamin, the anesthetist cannot tell whether his patient is more or less paralyzed by the anesthetic or whether it is due alone to the scopolamin. The patient's face is flushed by scopolamin, and the anesthetist has not the facial evidence of failing heart and failing respiration, the paleness in the one instance and the bluing in the other. If the pulse becomes rapid, over 100, during chloroform or ether anesthesia, the anesthetist realizes that the heart is becoming weak. If the pulse is made rapid by scopolamin, he cannot recognize this coming weakness. If the respiration becomes very much slowed or insufficient from chloroform or ether, the anesthetist cannot tell whether this may not be the morphin that has been administered beforehand that is slowing it. The anesthetist cannot well tell whether he has administered enough ether or chloroform to cause entire absence of dangerous reflexes on the heart when pain is felt from the cutting of the nerves, or whether there is only a partial stupefaction from the morphin and scopolamin.

These objectionable considerations may not become objections if the anesthetist is so skilled and has had sufficient experience in the combination of the alkaloidal and vapor anesthetic as to understand well each symptom and its degree.

Under ordinary circumstances, the administration of a sufficient amount of chloroform to give the patient primary anesthesia is preferable, subsequent anesthesia to be continued with ether, this method preventing the excited, irritable, and suffocated stage of anesthesia (although ether can be administered to the point of anesthesia without causing suffocation). Still the advantages from the morphin and scopolamin injections are many times so great that the following rules may be made:

1. If possible, before the administration of morphin and scopolamin the susceptibility of the patient to each one and to both combined should be learned by their previous administration.

2. The ordinary dose before the administration of ether or chloroform should be from 1/150 to 1/100 of

scopolamin hydrobromid, and from 1/6 to 1/4 of a grain of morphin sulphate or hydrochlorate, the dose depending on the age, excitability and susceptibility of the patient.

3. These drugs should be administered hypodermatically one hour before the administration of ether or chloroform is begun.

4. Ordinarily, ether should be the choice for the general anesthetic to follow the alkaloidal injection.

5. Patients who are considered to have hypersecretion of the thyroid, either continuously or acutely on account of the nervous strain and excitation (and this means most neurotic patients), should receive an injection of these alkaloids as a preparation for anesthesia.

6. Only skilled anesthetists should administer the ether after a patient has been narcotized with morphin and scopolamin.

There is certainly no doubt that many patients suffer shock after operation on account of the pain that they endure from cut and otherwise injured nerves. Consequently, patients who have not received the narcotic injection before the operation should, as soon as they begin to arouse from the anesthetic, receive a hypodermatic injection of morphin and atropin, in proper dosage for the age and condition. The atropin does not cause the depression that scopolamin does, and both the morphin and the atropin tend to prevent the nausea and vomiting which is many times so serious after operations.

The satisfaction which the surgeon and the anesthetist feel on seeing a patient begin to revive after anesthesia and operation, begin to take notice, and begin to show cerebral activity is equaled only by the pleasure of the obstetrician in hearing the child cry after its birth. This mental activity and mental awakening of the patient after the combined alkaloid and vapor anesthesia often does not take place for hours. This, then, means that the physician or surgeon, or certainly nurse should watch the patient very carefully for hours, lest the respiration become too slow or the pulse fail.

As elsewhere stated, the administration of nitrous oxid gas to anesthetize as a preliminary to the administration of ether does not meet the approval of the most careful surgeons. The preadministration of chloroform for a short time is very much safer and very much more satisfactory than the oxygen starvation and the carbon dioxid poisoning of nitrous oxid vapor.

For a discussion of "rebreathing" in the administration of anesthetics, see article by W. D. Gatch (THE JOURNAL, Nov. 11, 1911, p. 1593).

RECTAL ANESTHESIA

While in the vast majority of cases requiring anesthesia the inhalation of nitrous oxid, or of nitrous oxid with oxygen, or of ether, or of chloroform would seem to offer ample choice for the surgeon, nevertheless, in a small proportion of cases the inhalation of the anesthetic is attended with certain disadvantages and certain inconveniences to the operator. This is especially true in operations about the face, mouth and throat. Here the presence of the anesthetist with the inhaler seems to offer an increased chance for septic infection of the operation wound. Also, the inhaler over the patient's face often necessitates delay in performing the operation. The surgeon has to wait while the anesthetist renders the patient unconscious and then work rapidly while the effect of the anesthetic remains, and when the patient begins to recover consciousness, has to stop the operation while the anesthetist again produces complete anesthesia.

These considerations have led to the proposal of inducing anesthesia through the rectum. This is not an entirely new idea. It is said that Pirogoff, in 1847, proposed the method, and in the same year several Frenchmen employed it, using injections of ether, pure or mixed with water, into the rectum.

This method was revived in 1884, and in that year Wier and Bull, of New York, and Abnerpost, of Boston City Hospital, practiced the method in a limited number of cases.

In 1892, John H. Cunningham, of Boston, again revived the method, and he and others have made considerable use of it. It is recommended now for use especially in operations of the face, mouth and throat, and in patients who suffer from serious pulmonary trouble, especially pulmonary tuberculosis.

Some of the unfavorable results reported from the use of it are due to improper methods. The patient should be prepared for the operation by giving him a saline cathartic the night before the operation. Early the next morning he should have a high rectal injection of warm soap-suds, and the rectum should again be washed out with warm soap-suds immediately before the operation. The ether is placed in a bottle, of which it should occupy about one-third of the capacity. The bottle holding the ether should be set in a bowl of water, which should be maintained at a constant temperature of 80 to 90 F. Ether boils at a temperature of 96 F., and it is undesirable that it should be brought to this temperature on account of the liability of its condensing in the rectum and causing irritation there. The warm vapor of ether is passed through a tube inserted well up into the rectum, the propelling force being a bulb which forces air into the ether at the bottom of the bottle which then becomes charged with the vapor of the ether as it rises to the top of the bottle. When the injection of ether is commenced, the anal aperture should be held open so as to allow the gas in the rectum to escape, so that the vapor of ether may not be too much diluted. At the close of the administration, massage of the bowels should be employed in order to expel the remaining ether from the rectum.

Shortly after the injection of the ether into the rectum the odor of ether may be detected in the breath. In suitable cases the anesthesia becomes complete in from five to twenty minutes, and after the administration is discontinued, consciousness is soon regained.

The patient should be carefully watched, after he becomes unconscious, in order to observe if the jaw drops and the tongue falls back over the larynx. This accident of course calls for prompt action in order to prevent suffocation.

It has been shown that this method of producing anesthesia with ether may be made perfectly satisfactory and very safe. For plates and description of a very satisfactory apparatus for rectal anesthesia and anesthesia by means of a nasal catheter, see an article by Dr. H. K. Thoms (*Yale Med. Jour.*, May, 1910; abstracted in THE JOURNAL, July 30, 1910, p. 402).

Dr. Cunningham (*New York Med. Jour.*, April 30, 1910) states that rectal anesthesia causes less excitement, less sense of suffocation, less bronchial secretion, and less vomiting than ordinary etherization.

It must not be forgotten, however, that profound narcosis may rapidly develop and is not so easily controlled, and that the absorption of ether is not so readily or immediately stopped, as it is by the ordinary method.

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THE EDEMA OF NEPHRITIS

The appearance of edema is a symptom which of itself demands remedial measures. So long, however, as the genesis of the edematous condition is not more clearly understood we cannot expect to advance far beyond the limits of empirical treatment in any attempted relief. The uncertainty or essential difference of opinion involves the question as to whether the immediate cause of nephritic edemas is to be sought in the kidneys themselves or in some extrarenal factor. Is the inability of the kidneys to secrete water the fundamental feature, or their inability to secrete salts? Salt retention has frequently been regarded as the direct occasion for the attendant holding back of water to preserve an osmotic balance in the organism; von Koranyi has assumed an abnormal distribution of fluid in the body as the occasion for edema formation; while the French school ascribes an indefinite salt-holding capacity to the tissues under these circumstances. Others, again, place in the foreground an altered permeability of the cutaneous blood-vessels.

The last-mentioned suggestion, embodying what Cohnheim regarded as an indispensable requisite, unquestionably plays a most important rôle in the production of localized edemas. The possible significance of the altered conditions of the peripheral blood-vessels and the tissues—the real seat of the edema—has hitherto been overshadowed by the assumed predominant importance of the kidneys themselves. Schmid and Schlayer[1] have attempted to analyze the relative part taken by the non-renal factors in the genesis of edema in nephritis. The kidney factor was excluded in their studies by investigating the capacity of the organism to adjust itself to injections of hypotonic and hypertonic salt solutions under standard conditions in which experimental nephritis with permanent anuria prevailed. It is well known that in the intact organism an exchange of water and salt speedily takes place leading, along with renal activities, to a prompt restoration of osmotic equilibrium. When the work of the kidneys is mechanically interfered with, as by ligation of the ureters or nephrectomy, this regulatory mechanism is upset in the sense of a profound delay in the adjustment. But in the various forms of experimental nephritis the distribution of salt between blood and tissues after complete exclusion of kidney function is decidedly different. The regulatory response varies with the type of kidney lesion involved and according to the nature of the toxic agent applied. The striking feature, however, is the decidedly abnormal permeability of the blood-vessels in some of these instances.

It is a noteworthy fact that many substances which give rise to nephritis harm the vascular system. The injury done to the kidney vessels is only a local expression of the generalized damage inflicted on the entire vascular outfit. Bearing in mind, then, that an altered "tonus" of the tissues may arise, with altered conditions of turgor and elasticity, the consequent edema appears in a new light. Cooperating with the kidney lesion are found the damaged peripheral vessels and the injured tissues—all as a possible result of the action of a common nephritic toxin. Here as elsewhere in pathologic physiology we are dealing with an interrelation of abnormal conditions, of which each is perhaps insufficient by itself to exhibit a harmful effect although the summation may bring them to light. For the moment we must be content to emphasize the existence of highly important non-renal and non-cardiac contributory factors in nephritic edema formation.

A NEW METHOD FOR BACTERIAL AGGLUTINATION

Immunity reactions are chemical reactions, and from the beginning of our knowledge of them their manifest correspondence to many of the phenomena and laws of the almost equally new science of physical chemistry, has attracted the attention of investigators. As yet, unfortunately, most of the studies of immunity from the standpoint of physical chemistry have given results that were more suggestive and stimulating than satisfactory.

Some new observations of Leonor Michaelis,[1] however, seem to possess possibilities of immediate practical bearing. The work began with a study of the precipitation of proteins by acids, which disclosed the fact that the precipitation does not depend on the sort of acid employed, nor yet on the quantity of the acid itself, but rather on the concentration of free ions of hydrogen in the solution; all of which seems impractical enough.

The application of this property of hydrogen ions t bacteriology, however, has already given practical results With the different proteins which are precipitated b acids there is for each a certain characteristic and constant maximum hydrogen ion concentration; this property is just as characteristic as other physical properties such as the melting-point or the optical rotation, an therefore it can be equally well used for purposes o identification. It also happens that many bacteria ca be agglutinated by proper concentrations of acids, an

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[1] Schmid and Schlayer: Ueber nephritisches Oedem, Deutsch. Arch. f. klin. Med., 1911, civ, 44; abstr. in THE JOURNAL, Nov. 18, 1911, p. 1729

[1] Michaelis, L.: Demonstration of Acid Agglutination of Bac teria, Folia Serologica, 1911, vii, 1010.

Michaelis found that the agglutination of bacteria by acids follows the same laws as the precipitation of proteins, there being for each species of bacteria a specific optimum concentration of hydrogen ions which produces the best agglutination. This acid agglutination of bacteria is, if anything, more sharply specific than is agglutination by immune serums. Typhoid bacilli can be distinguished from the various strains of paratyphoid and colon bacilli with the greatest ease, and bacilli so closely related that it is difficult or impossible to distinguish them by serum agglutination, are readily identified by the optimum hydrogen ion concentration of their agglutination by acids. With various strains of typhoid bacilli the agglutinability by acids and serum runs parallel, and so it seems probable that the antiserums and the acids act on the same constituent of the bacteria.

Not only is this discovery important for bacteriology and medicine through its possibilities for practical application and further development and expansion, but it is also valuable in emphasizing the fact that immunity reactions are chemical reactions, and perhaps not such complicated ones as generally supposed, since simple precipitation or agglutination by acids seems to be quite as sharply specific as the immune serums at whose wonderful differentiating powers we have marveled. Also, every contribution which will help the younger generations of scientists and physicians to realize that an understanding of at least the principles of physical chemistry is an essential part of a liberal scientific education, is valuable for that reason if for no other.

DENTISTRY—OLD AND NEW

The gradual accumulation of information with regard to old-time medicine and surgery has brought a general realization that in the broader outlines of these departments of medical practice there were many remarkable anticipations of modern developments. Dentistry, though considered peculiarly modern, has been found highly developed in the past. Many alleged interesting dental discoveries among the old Egyptian remains have been very hard to verify, and no specimens are now available to confirm the reports of a generation ago as regards filled teeth and various prosthetic apparatus. What has thus been lost with regard to old Egypt, however, has been more than compensated by discoveries in old tombs in other countries. The actual specimens of ancient dentistry may be seen in various European museums.

The most interesting of these specimens, because the oldest, is a Phenician example of bridgework found in a tomb at Sidon. The specimen is now in the Louvre at Paris and consists of a part of the upper jaw of a woman with the two canines and the four incisors held together by gold wire. Two of the incisors are transplanted teeth fastened in by gold wire. Guerini[1] calls attention to the fact that a form of dental prosthesis similar to this of the old Phenicians is practiced by the Hindoos at the present time.

The next most interesting development of dentistry occurred among the Etruscans, whose culture far surpassed that of the Romans for many centuries. In the museum of Corneto (which was the ancient Tarquinii, the capital of the Etruscan federation) may be seen a number of marvelous specimens of dental prosthesis of the sixth and seventh centuries before Christ. They consist mainly of bridgework done by riveted bands of metal. One of them supported three artificial teeth, two of these artificial teeth being made out of a single ox-tooth grooved to imitate rather closely two human teeth. Guerini says that he was never able to find an ox-tooth not worn away by mastication until the idea occurred to him of sectioning the upper jaw of a calf at about the age of the second dentition and taking out the teeth which were already strong and well formed, but not yet worn by mastication. He thinks that his Etruscan colleague must have done the same thing about 2,500 years ago when he made the prosthetic apparatus described. There are nearly a dozen of these specimens in various Etruscan museums.

In the laws of the twelve tables written in Rome 450 B. C., while it is expressly forbidden to bury gold ornaments with bodies, a special exception is made for gold with which the teeth may perchance be bound together. The Museum of Pope Julius at Rome contains "a gold cap made of two small plates of gold stamped out to represent rather closely a middle lower incisor and these two pieces soldered together to form the crown of a tooth." Guerini, who was asked to collate all these specimens by the Italian government, declares that this is a typical example of crownwork.

The satiric poets of Rome, especially Martial, refer frequently to artificial teeth. Martial speaks of an old woman who was so scared that as she ran away her teeth fell out. In one epigram he answers the question why one woman's teeth are dark, while another's are white, though both are of the same age, by saying that one of them buys her teeth, while the other has her own. The Romans had a number of different kinds of dentifrices, and took great care of their teeth. Galen describes a form of pastille containing aromatics and opium that might be used as a toothache gum. The filling of teeth with various kinds of metal is described by Celsus, though the first sure reference to gold filling does not occur until about the middle of the fifteenth century. The transplantation of teeth, especially from the mouths of slaves into those of their mistresses, seems to have been practiced rather commonly in the early days of the Roman Empire.

In ancient dentistry are foreshadowed many dental devices which are generally considered peculiarly modern; and we have the actual specimens to illustrate the mechanical skill of the old-time dentists.

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1. **Guerini:** History of Dentistry, Lea and Febiger, New York, 1909

QUALITY VS. QUANTITY IN MEMBERSHIP OF MEDICAL SOCIETIES

"Straining every effort to secure the enrollment of every man bearing the title of M.D., regardless of his character, scientific attainments or methods," is a mistake. The policy of granting membership in a medical society to a "crooked stick" in order to straighten him out is like that of the girl who marries a man to reform him; it does not pay. Thus runs the argument in a good editorial in a recent number of one of the state journals.[1]

The recent improvement in medical education, to which the Council on Medical Education of the American Medical Association has largely contributed, has raised the average intellectual grade of medical men. But it must not be forgotten that an educated man can be a rascal and of more harm to society because of the education which he misuses. Consequently, in addition to a proper medical education, a good moral character should be an indispensable requirement, not only for obtaining the doctorate, but for good standing in the profession as well. While the medical society is not a reformatory, it is responsible both to the public and to the profession for the conduct of its members. Every component society must guard its membership, both by carefully scrutinizing the character of those whom it admits and by continually requiring its members to make self-interest subservient to public good.

Effective means toward this end are furnished by the judiciary body or board of censors provided for each society in the approved plan of the organization. The members should insist that this court be active, should provide it with sufficient means and should give it such loyal support as will insure a fair trial and a just verdict in every instance in which a violation of professional trust is alleged. When these judiciary bodies shun "star chamber" sessions and welcome the broadest publicity in their actions, when their rulings uphold the dignity of the profession and the welfare of the public rather than the interests of individual members of the profession, the organization will merit and will receive the approval of the public in its efforts to maintain quality in its membership.

Every society that has taken action on unethical practices has condemned them and declared those guilty of them unworthy of membership. It remains to be demonstrated whether the organization which as a body approves ethical standards, disregards or sustains them by the actions of its individual members; in other words, whether or not it is a disciplined society in which each member subordinates his personal interests to the common cause.

Organization should be thorough; every doctor of medicine should be in its ranks. It is even more important than this, however, that every member should be loyal to the ideals of the organization, honorable in his personal and professional conduct, active in promoting the welfare of his profession even when it involves the sacrifice of personal gain—in short, that he should be a gentleman. Quality in membership is of prime importance. Quantity, while desirable, is decidedly subordinate in value.

The editorial referred to is timely and we are sure that the organization is alive to its warning.

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[1] Jour. Med. Soc. New Jersey, November, 1911.

CUI BONO?

Last week we referred to the well-founded criticism of a correspondent that so long as men high in the profession will not only tolerate advertisements of fraudulent proprietaries in medical journals, but will actively support such journals by contributing to them, just so long will the proprietary evil flourish.

Since that time, a concrete example of the abuse to which our correspondent referred has come to notice. It is but one of many that could be given—and of many that probably will be given—and is in no way singled out for the purpose of discrediting the particular journal involved. On another page[1] we deal with this matter more specifically. There is shown the unedifying spectacle of some of the leading members of our profession "featured" as contributors to a medical journal whose advertising pages fairly bristle with pharmaceutical frauds and humbugs, many of which have been exposed in THE JOURNAL of the American Medical Association. Nor is this all. The names of these men—names that command the respect and admiration of the profession—have been further used by the journal in question as a commercial asset to obtain subscriptions. Circular letters have been sent broadcast notifying the profession that articles by these men would appear in certain issues. In this way the names of physicians who, we believe, are at heart opposed to the fraudulence connected with the proprietary evil, are used to strengthen and further the very evil against which they should protest.

The editors and proprietors of the journal referred to are not alone to blame for this condition of affairs. Pharmaceutical frauds can flourish only so long as they can be given publicity, and the exploiters of such frauds, knowing this, are willing to pay well for this publicity. It is evident that the proprietors of such medical journals as those under discussion consider serving the medical profession as a matter incidental and secondar to that of making a commercial success of their publications. Their advertising pages permit of no othe conclusion. And, from a business standpoint, wh should they not cater to medical frauds if, by so doing they do not jeopardize either their subscriptions or the high class of their contributions? The attitude o such publishers seems to be: If the medical professio is indifferent to this sort of double-dealing, why shoul we take a stand in advance of the procession? Commercially, the attitude is a perfectly logical one.

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[1] Propaganda for Reform department: Medical Journals an The Great American Fraud, page 2013.

In all seriousness, do the members of the American Medical Association want the propaganda for reform in proprietary medicines to be continued or do they wish to see therapeutics slip back into the unscientific and chaotic condition that existed before the fight against fraudulent proprietaries was started? This much is certain: no reform instituted too far ahead of public opinion ever was successful. So likewise no therapeutic reform can be a success that is very much in advance of the wishes of the medical profession.

The men forming the Council on Pharmacy and Chemistry have served, with no recompense save that which should come from the consciousness that the medical profession approves and endorses their work, at a thankless, time-consuming and thought-demanding task, and that endorsement and approval has not been forthcoming—except as expressed in mere empty words. On the contrary, these men have been abused and vilified, their work has been belittled and every attempt made to discredit them by those powerful interests that have for years battened on the credulity of the medical profession.

For nearly seven years the fight against proprietary frauds has been waged. What are the visible results of this campaign? The chief one is the unprecedented commercial success of those medical journals whose advertising pages are open to anything that will not debar them from the post-office. In other words, the work of the Council on Pharmacy and Chemistry has resulted in driving every pharmaceutical fraud into the advertising pages of those medical journals that are published "for revenue only." And so long as physicians will subscribe for, contribute or in any way give professional recognition to, such journals, so long will those frauds stay there.

We shall have something more to say on this subject in succeeding issues of The Journal. The time has come when those who are in the front must know whether or not the medical profession wants this fight continued, and, above all, whether its members are willing to make some sacrifices themselves.

Current Comment

MILK SECRETION IN THE NEW-BORN

We recently[1] discussed the factors concerned in milk secretion, pointing out the dominant rôle which hormones derived from various organs have in this process. Recent experiments of Basch[2] supplement this work in an interesting way. Basch investigated the secretion of milk which occurs in the new-born of both sexes, and which is known as "witches' milk"; this name, which dates back some centuries, evidently refers to the mystery surrounding such a purposeless secretion. As long as the view prevailed that the secretion of milk was entirely under the control of the nervous system, which adapted it to a specific purpose, this secretion in the new-born seemed inexplicable; now, as Basch points out, it seems but logical to conclude that the same factors determine the secretion in the mother and in the offspring. Basch put this hypothesis to experimental test: he injected extracts of placenta into children in whom the milk secretion had ceased; the result was a renewed secretion. The same result had been obtained by this author when placenta extracts were injected into adult animals which had at one time lactated. The author concludes that the "witches' milk" is simply due to the passage into the fetus of some of the hormones circulating in the blood of the mother. Basch suggests the possibility of making a practical application of a study of this secretion: he found a close parallelism between the activity of the mammary glands of the mother and those of the child; if the latter were especially active, those of the mother were also and it could be predicted that the mother would prove to be a good nurse. Thus one of the "curiosities" of medicine is not only rendered intelligible but may prove of some value.

THE BINET SYSTEM OF TESTS FOR MENTAL RETARDATION

It was recently reported that Dr. Max G. Schlapp, the neurologist of the New York Society for the Prevention of Cruelty to Children, demonstrated that a lad of 14 years, a ward of the Children's Aid Society, whom he examined by the Binet tests, was mentally of the "Binet age" of 9. The boy had been arrested on the charge, preferred by his mother, of associating with juvenile thieves. The judge of the Children's Court, on consideration of Dr. Schlapp's report, found the boy neither criminal nor idiot, but merely retarded in his development because of unfavorable environment. Instead of putting him into an institution for the feeble-minded, therefore, the judge returned the boy to his mother, on her promise that she would place him on a farm. The officials of the Children's Aid Society, much gratified by the outcome of this case, declared that they would have the Binet tests used in future for all children suspected of criminality or idiocy. These tests were devised by Alfred Binet, director of the psychologic laboratory of the Sorbonne, whose death was recently reported by our Paris correspondent.[1] They are already in use in several institutions for defectives in this country, such as the Lincoln (Ill.) State School and Colony, the New Jersey Institution for the Feeble-Minded at Vineland, etc. They consist of a series of standard questions and commands, worked out on a scale of increasing difficulty. The responses to those for a given age are supposed to be within the power of an average normal child of that age. Whatever the age of the abnormal child may be (say 10 or 12), its "Binet age" is indicated by the grade of the questions which he can answer correctly. Thus, an abnormal child of 10 years may have a Binet age of 2 or 3. For instance, a normal child of 3 should be able to give his family name; he should be able to point to his nose, eyes, mouth; to repeat "it rains"; "I am hungry," and he able to answer the question "What is this a picture of?" At 4 the child should distinguish between lines of different lengths; at 5, between objects of the same size, but of different weights; at 6, he should know the difference between his right and his left hand; at 7, the value of coins. The tests instanced, of course, are merely illustrative of the method. The questions, though they may seem arbitrary, were selected after a long sifting process, and are apparently very serviceable.

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[1] The Journal A. M. A., Nov. 18, 1911, p. 1699.
[2] Basch: München. med. Wchnschr., 1911, lviii, 2266

[1] The Journal A. M. A., Nov. 11, 1911, p. 1627.

THE BANISHMENT OF THE COMMON DRINKING-CUP

Public sentiment is a strange and elusive force. It sometimes fails to respond, in spite of every effort to arouse its interest in a worthy cause. Again, it suddenly asserts itself, without any known reason. One of the strangest of recent manifestations of this force of public sentiment is the present crusade against the common drinking-cup. For years, physicians and sanitarians have urged the danger and the filthiness of common drinking utensils. With few exceptions, their words seemed to fall on deaf ears. The public, apparently, was not interested. But suddenly, without any manifest reason, the point of saturation seemed to be reached. Crystallization of public opinion began. States began to enact laws, and cities to pass ordinances abolishing the common drinking-cup in all public places. State after state took it up. There was no concerted movement; there was scarcely any organization behind it; there was little special effort needed. The people had evidently made up their minds that common drinking-cups were bad and must go. So they have abolished them in at least twenty-four states in a little more than one year's time. These states are California, Colorado, Connecticut, Georgia, Idaho, Illinois, Iowa, Kansas, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, New Hampshire, New Jersey, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont and Washington. Doubtless the other states will act as soon as they have an opportunity. The moral is: Saturate the public with facts, and when the people are convinced, they will act.

THE COMING JOURNALISM

The *University Missourian* is a daily paper published by the School of Journalism of the University of Missouri. If this school turns out graduates who will conduct newspapers that are as clean and as unafraid of the truth as is the *University Missourian*, we predict that the school of journalism at that institution will be of greater value, not only to Missouri, but also to the United States, than any other department of the university. Read this editorial from a recent issue of the *University Missourian*:

> "A Pennsylvania court recently convicted a woman on a charge of selling soothing syrup that contained morphin. For forty years this brand of 'dope' had been on the market. Physicians claim that the dose recommended was four times as large as a physician would dare give a baby of fifteen months. Grown people who wilfully take quack medicines are undeserving of sympathy. So thoroughly has the doctrine of pure food and pure medicine been disseminated that there is no excuse for the taking of nostrums. The mere thought, however, of such near-poison being stuffed down the throat of helpless infancy is enough to incite violence. Were a fiend to pass through the country depositing morphin or cocain in water or food where we must unconsciously take it into our systems, detection would mean lynching. Putting such dope under a false guise and a false label is no less a crime. Insanity might offer an excuse for the first named offender, but in the second case greed for gold is the only explanation. Murder is murder, whether death comes red-handed or lurks disguised inside the falsely labeled bottles of 'soothing syrup.' Mrs. Belle Gunness of Laporte, Ind., was no more a murderess than some well-esteemed ladies that have lent their names to 'syrups' and quack medicines that add to the population of our cemeteries."

Only the truth, physicians will say. Merely facts known by medical men for years! True, but how rarely do newspapers expose the viciousness of "patent medicines" and how few of the general public know the facts here given!

CONTROL OF OCCUPATIONAL DISEASES

A summary of legislation on occupational diseases, by Mr. John B. Andrews, secretary of the American Association for Labor Legislation, is published in this issue. While it may not be gratifying to our pride as a nation that the oldest law we have on this subject is less than one year old, it is encouraging to know that during 1911, six states (California, Connecticut, Illinois, Michigan, New York and Wisconsin) passed laws requiring reports on diseases resulting from occupations. The diseases that must be reported are anthrax, compressed-air sickness, and poisoning from lead, phosphorus, arsenic and mercury. This is only a beginning, but through the cooperation of sanitarians, economists, physicians and labor unions, such a law should be enacted in every state. Publicity, the remedy which has been so effective in curing other social ills, will make short work of occupational diseases, once the extent of their ravages is known.

A COMMISSION TO INVESTIGATE THE VACCINATION QUESTION

The value of vaccination in the prevention of small pox has been regarded, in the minds of intelligent and reasonable persons, as proved. Evidently the Pennsylvania legislature regards the question as one deserving further investigation. In accordance with a bill passed last year, Governor Tener has appointed the following men to constitute the Pennsylvania State Vaccination Commission: Drs. Jay Frank Schamberg and William H. Welch, both of whom are regarded as thoroughly acquainted with small-pox and all that relates thereto Porter F. Cope, secretary of the Antivaccination League of America, and of the Antivaccination Leagu of Pennsylvania; John Pitcairn, "who has spent a grea deal of money in the antivaccination campaign"; Ex Governor Samuel W. Pennypacker, who prior to hi election as governor was presiding judge of the Court o Common Pleas, Philadelphia; George Wharton Pepper a lawyer of national reputation; and Emil Rosenberger a lawyer and financier. This commission is to study the "history, nature and pathology" of small-pox and of vaccination; the means to be used for diminishing the prevalence and mortality of small-pox; the original source from which the vaccine virus now in use has been obtained; the method of preparation; and other matters pertaining to small-pox and its treatment. The commission is required to make its report to the legislature on or before Feb. 1, 1913. It will be interesting to see what kind of a report this commission will make. Two of the members are extreme antivaccinationists; in fact, they may be called the leaders among the antivaccinationists in this country. It is exceedingly fortunate that the antivaccinationists are represented on this commission by two such ardent adherents. It will now be necessary for them, in order to make out a case against vaccination, to present facts instead of the favorite brand of antivaccination fiction which has heretofore passed current for argument. At least two of the lay members of the commission are trained in weighing evidence, and the entire commission will doubtless insist on having facts and official records as a basis for all statements. The work set for this commission is most important, and it should not hesitate to get all the facts. We are not informed how much money has been appropriated for this commission, but it should be sufficient to make the investigation thorough in every particular. The question is an important one, not only to the people of Pennsylvania, but also to those of the whole country; and the truth should be established beyond question, no matter what the cost. The appointment of this commission is at once a challenge and an opportunity. If it cannot be demonstrated to the satisfaction of three unprejudiced laymen that vaccination is harmless and that it effectually prevents small-pox, then the state has no right to require the citizen to submit to it. If it can be so demonstrated, as scientific men have always insisted, then all opposition to its compulsory enforcement should cease. Let the Pennsylvania commission decide it and let the truth prevail.

Medical News

ALABAMA

Coal Operators Study Conditions of Employees.—The Alabama Coal Operators' Association during the last two years has given considerable attention to the subject of accident prevention both on the surface and underground. This work has been supplemented by the organization and training of a number of first-aid corps. At the annual meeting of the association in August the subject of tuberculosis was given special consideration, particularly those features relating to its prevention and cure in its early stages. In extension of this general policy the association has just had made a social and sanitary survey of the coal mining camps represented in the organization. The work as outlined is rather comprehensive, embracing housing conditions, drinking-water supplies, closets, sewage and garbage disposal, etc. The rather difficult problems of education and recreation will also be given proper consideration. As a result of concerted effort along these lines, it is hoped that living conditions throughout the state will be improved. This is perhaps the first instance noted in which the operators of any important district have undertaken such a concerted and scientific study of camp life.

County Society Elections.—At the annual meeting of the Tallapoosa County Medical Society held in Dadeville, November 23, Dr. James O. Griffin, Hackneyville, was elected president; Dr. Aaron L. Harlan, Alexander City, secretary; Dr. Neil B. Dean, Alexander City, treasurer, and Dr. Joseph W. McClendon, Dadeville, county health officer.——At the annual meeting of the Etowah Medical Society held in Gadsden, December 6, Dr. Charles L. Guice was elected president; Dr. Eli S. Jones, censor, and Dr. Ira C. Ballard, county physician, all of Gadsden.——Madison County Medical Society at its annual meeting held in Huntsville, December 4, elected Dr. Isaac W. Howard, Maysville, president; Dr. Marion R. Moorman, Huntsville, vice-president; Dr. Edgar Rand, secretary-treasurer (reelected); Dr. Thomas E. Dryer, Huntsville, county health officer, and Dr. Benjamin E. Graham, Gurley, censor.——Limestone County Medical Association held its annual meeting in Athens, December 4; reelected Dr. Henry A. Darby, president, and Dr. Benton S. Pettus, county health officer; and elected Dr. John S. Crutcher, Athens, vice-president, and Dr. Charles O. King, secretary and treasurer, all of Athens.——At the annual meeting of the Jefferson County Medical Association held in Birmingham, December 4, Dr. Wellington P. McAdory, Birmingham, was elected president; Dr. Thomas I. Conwell, Bessemer, vice-president, and Dr. Charles E. Dowman, Birmingham, secretary and treasurer.

ARKANSAS

District Society Reorganized.—The First Councilor District Medical Society was reorganized at a meeting held in Paragould, October 31, and the following officers were elected: president, Dr. Gus A. Warren, Black Rock; vice-president, Dr. Black, Pocahontas, and secretary, Dr. Oliver A. C. Wilson, Paragould. The society was entertained by the Greene County Medical Society.

ILLINOIS

North Shore Contagious Disease Hospital.—Eighteen physicians of Evanston and North Shore towns met in Evanston, December 4, to discuss the feasibility of the organization of a North Shore Contagious Disease Hospital Association. Dr. M. Gilroth McEwen, Evanston, presided over the meeting and a committee was named to formulate plans for a future meeting.

Society Meetings.—At the annual meeting of the North Central Medical Association of Illinois, held in Dixon, December 5-6, Dr. Thomas W. Burrows, Ottawa, was elected president and Dr. George A. Dicus, Streator, was reelected secretary and treasurer. Pontiac was selected as the next place of meeting.——The La Salle-Peru Medical Society held its annual meeting in Peru, December 5 and elected Dr. Walter W. Greaves, La Salle, president; Dr. Otto Balensiefer, Peru, vice-president; Dr. Frederick A. Guthrie, La Salle, financial secretary, and Dr. Bert E. Fahrney, La Salle, corresponding secretary.——East St. Louis Medical Society, at its annual meeting, December 5, elected Dr. George A. Stewart, president; Dr. John H. Fulghan, vice-president, and Dr. Charles E. Hill, secretary-treasurer.

Antituberculosis Societies Formed.—The Madison County Branch of the Illinois State Medical Society for the Prevention of Tuberculosis was organized in Alton, November 24. Mayor J. C. Faulstich, Alton, was elected president and Dr J. Bernard Hastings, Alton, secretary, and the following physicians were elected members of the executive committee: Drs. Frederick E. Tulley, Granite City; Lay G. Burroughs, Collinsville, Albert F. Kaeser, Highland, and Edward W. Fiegenbaum, Edwardsville.——The Livingston County Antituberculosis Society has been organized at Pontiac, with the following physicians as vice-presidents: Drs. Charles L. Hamilton, Dwight; Hiram M. Presler, Cullom, and Kinney, Odell.——At a meeting of the board of managers of the Winnebago County Association for the Prevention of Tuberculosis at Rockford, Dr. William H. Fitch, Rockford, was elected president; Dr. Sanford R. Catlin, Rockford, vice-president, and M. R. Harned, secretary.

Personal.—Dr. Charles F. Reed has been transferred from the Watertown State Hospital and has been appointed as assistant superintendent of the Kankakee State Hospital.——Dr. George J. Schneider, president of the Elgin Physicians' Club, was presented by the club with a large leather rocking-chair, December 4.——Dr. John H. Rice, Quincy, has started on a trip around the world by way of the Pacific.——Dr. David W. Jump, Plainfield, who has been seriously ill, is reported to be convalescent.——Dr. Frank W. Rulien, Joliet, who has been seriously ill in a hospital in Chicago, is reported to be convalescent.——A fire in Knoxville destroyed the office furniture and equipment of Dr. Thomas W. Thomson, December 2.——Dr. William A. Brittin, Virden, who was operated on for appendicitis in Springfield, recently, is reported to be convalescent.——Dr. Thomas M. McIlvaine, Peoria, slipped on the ice, November 29, sustaining a severe scalp wound.

INDIANA

School Medical Directors Appointed.—The school board of Gary has appointed Drs. Charles W. Yarrington, Calumet, Mich., and Caroline Lawrence, Philadelphia, as medical directors of the public schools of the city.

Staff Additions.—The following additions to the staff of the Indianapolis City Hospital are announced: Dr. Nathan D. Woodard, internal medicine; Drs. Thomas C. Kennedy and Leonard A. Ensminger, alternates in surgery; Dr. Harry K. Bonn, assistant alternate in genito-urinary diseases; Dr. Charles D. Humes, assistant in nervous diseases; and Dr. Edward A. Willis, alternate in ophthalmology; Drs. George D. Kahlo and Charles P. Emerson were appointed to the department of internal medicine, and Dr. Willis D. Gatch was appointed a member of the surgical staff.

District Society Meetings.—The annual meeting of the Seventh Indiana Councilor District Medical Association was held in Franklin, November 24. After the scientific session, Dr. Lindsey L. Whitesides entertained the society at dinner at his home. Dr. William F. Howat, Hammond, president of the Indiana State Medical Association, gave an evening address. The officers of the society are: president, Dr. Lindsey L. Whitesides, Franklin; secretary, Dr. Wilson T. Lawson, Danville, and councilor, Dr. William N. Wishard, Indianapolis.——The Twelfth District Medical Association met in Fort Wayne, November 8, and elected Dr. William F. Shumaker, Butler, president; Dr. Benjamin P. Weaver, Fort Wayne, vice-president, and Dr. Homer E. Glock, Fort Wayne, secretary and treasurer. In the morning a clinic was held in Hope Hospital under the direction of Dr. Charles P. Emerson, Indianapolis.

Personal.—Dr. Luzerne H. Cook, Bluffton, fractured his right wrist while cranking his automobile, November 28.——Dr. George E. Denny has succeeded Dr. Edward A. Carlson, resigned, as secretary of the Madison Health Commission.——Dr. Thomas E. Courtney, Indianapolis, fortunately escaped with slight injuries when his automobile was wrecked in a collision with a street car, November 20.——Dr. Daniel V. McClary, Dale, is reported to be seriously ill with septicemia in a hospital in Evansville.——Dr. John P. Ramsey has been elected medical superintendent of the Good Samaritan Hospital, Vincennes.——Dr. Ethan Allen Kentland, while making a hurry call, was seriously injured in a collision between his automobile and a train, near Kentland.——Dr. E. DeBaum Thixton, Terre Haute, escaped with slight injuries when his automobile was struck by a train at Keller's Crossing, November 14.——Dr. Ella A. Hollis, Hartford City, is reported to be seriously ill with disease of the spinal cord at a hospital in Fort Wayne.——Jack J. Hinman has been appointed chemist of the Indianapolis City Board of Health, vice W. D. McAbee, resigned.

County Society Elections.—St. Joseph County Medical Society—held in South Bend, December 5; president, Dr. Stanley A. Clark, South Bend; vice-president, Dr. Walter H. Baker; secretary-treasurer, Dr. Robert C. Shanklin; assistant secretary and treasurer, Dr. Roscoe L. Sensenich; delegate to the state association, Dr. Hugh T. Montgomery, and alternate, Dr. Harry F. Mitchell, all of South Bend.——Gary Medical Society, December 5; president, Dr. Charles A. DeLong; vice-president, Dr. Chester W. Packard; secretary, Dr. Mabel Faulds; treasurer, Dr. William Alexander, and censor, Dr. Milton S. Hopper.——Floyd County Medical Society—December 1; held in New Albany; president, Dr. Henry B. Shacklett, New Albany; vice-president, Dr. Felix W. Hazelwood; secretary, Dr. James W. Baxter, Lanesville, and censors, Drs. Elihu P. Easley, John F. Weathers and William L. Starr, all of New Albany.——Delaware County Medical Society—in Muncie, December 1; president, Dr. Arthur E. Vinton; vice-president, Dr. George W. Bucklin; secretary-treasurer, Dr. Herbert D. Fair; censor, Dr. Orville E. Spurgeon, and delegates to the state association, Dr. Isaac N. Trent, all of Muncie.

MARYLAND

Personal.—Dr. Charles L. Mattfeldt, Catonsville, has been elected president of the Good Roads Commission of Baltimore County.——Dr. Henry A. Naylor, Pikesville, who was operated on for appendicitis, is making satisfactory progress toward recovery.

Baltimore

Officers to be Inaugurated.—On Jan. 5, 1912, the inauguration of the new officers of the Medical and Chirurgical Faculty of Maryland will be held in Osler Hall. Addresses will be made by the retiring president, Dr. Frankin Buchanan Smith, Frederick, and by Dr. Hugh H. Young, Baltimore, the president-elect.

Personal.—Dr. Samuel Amberg, associate professor of pediatrics of Johns Hopkins University, visited Detroit, November 20, and spoke before the Wayne County Medical Society on "A Few Phases of Breast Feeding."—Dr. George Reuling celebrated his seventy-second birthday anniversary and also the forty-fifth anniversary of his entrance into practice, November 11.——Dr. George L. Wilkins has been reelected physician to the city jail.——Dr. Henry Barton Jacobs has been elected president of the Johns Hopkins Hospital Historical Club.

City Medical Society Meeting.—At the annual meeting of the Baltimore City Medical Club, December 5, the following officers were elected: president, Dr. Robert W. Johnson; vice-president, Dr. Gordon Wilson; secretary, Dr. Emil Novak, and treasurer, Dr. William S. Gardner. The topic for discussion at the meeting was typhoid vaccination. Major Frederick F. Russell, M. C., U. S. Army, reported twelve cases of typhoid fever among 81,340 soldiers who had been vaccinated. Dr. Harry W. Stoner described the local work and said that of the 1,579 persons vaccinated against typhoid in Baltimore, consisting chiefly of physicians, nurses and inmates of institutions, not one had developed typhoid fever. Four nurses who had been absent from the hospital at the time of inoculation took typhoid fever on their return. Major Russell pointed out that the reaction following the vaccination is never serious and also that as the purification of water, disposition of sewage, inspection of milk and other sanitary precautions to check typhoid will not be brought to final perfection for several generations, vaccination is the only sure precaution. Dr. Warren P. Morrill, superintendent of the Sydenham Hospital for Infectious Diseases, declared that with the present advance in typhoid vaccination, the individual who contracts typhoid has only himself or herself to blame.

MASSACHUSETTS

Personal.—The executive council has confirmed the nominations of Dr. John B. Bebee, Great Barrington, as medica examiner of Berkshire County; of Dr. Clifford S. Chapin Great Barrington, as associate medical examiner of Berkshir County, and of Dr. Ephraim Norwood, Spencer, as medica examiner of Worcester County.——Dr. Eliza J. Dadmun ha been provisionally appointed a school physician of Boston.

Work of Dispensary.—The director of the Boston Dispensary announces that during the fiscal year just ended 30,30 out-patients were treated and 96,250 visits were made. Th dispensary physicians made 20,448 calls on 11,827 patients.——While workmen were removing an old portion of the dispensary building to make a place for the new nurses' hom they came on an old box of papers and records. Among thes was a list of patients of the first year of the dispensar 1797, in which eighty patients were recorded.

Work in Boston Against Tuberculosis.—At the annual mee ing of the Boston Association for the Relief and Control o Tuberculosis, the following officers were appointed: presiden Robert Treat Paine; vice-president, Dr. Arthur K. Stone clerk, Miss Alice L. Higgins; and treasurer, George S. Munford. The following physicians were elected members of th executive committee: Drs. George S. C. Badger, Arthur T Cabot, James J. Minot, Edward O. Otis, Charles P. Putna and Arthur K. Stone (all of Boston), and Dr. Roger I. Le Peabody. The secretary reported a profit to the associati of $2,575 from the sale of Red Cross Christmas seals.

Free Medical Lectures.—The Faculty of Medicine of Harva University announces a course of free public lectures to given at the Medical School, Longwood Avenue, on Sunda afternoons, beginning January 7. The speakers at the lectures and the lectures are as follows:

January 7—Dr. Frederick C. Shattuck, "Catching Cold," etc.

January 14—Dr. John Lovett Morse, "Feeding of Infants."

January 21—Dr. Myles Standish, "The Care of the Eyes."

January 28—Dr. Simeon B. Wolbach, "A Medical Expedition West Africa."

February 4—Dr. Abner Post, "Syphilitic Heredity."

February 11—Dr. Elmer E Southard, Cambridge, "The Men Life in the Light of Modern Efforts to Map the Brain."

February 18—Dr. Charles S. Minot, "The Human Face."

February 25—Dr. Joel E. Goldthwait, "The Effect of Post on the General Efficiency of the Human Being."

March 3—Dr. Charles P. Putnam, "The Care and Training Children."

March 10—Dr. Maurice H. Richardson, "Conservation, N Destruction, the Chief Object of Surgical Endeavor."

March 17—Dr. Charles J. White, "Possibilities of Infection of the Skin in Public Places."

March 24—Dr. Edward H. Bradford, "Some Causes of Backache."

March 31—Dr. George Burgess Magrath, "The Massachusetts System of Medicolegal Inquiry."

April 7—Dr. Charles M. Green, "Certain Topics in the Hygiene of Women." (To women only.)

April 14—Dr. Edward H. Nichols, "The Sexual Instinct—Its Abuse and Control." (To men only.)

April 21—Dr. John Babst Blake, "Fractures, Sprains and Minor Injuries; Diagnosis and Treatment." Illustrated by lantern slides.

April 28—Dr. George T. Tuttle, "Some Forms of Mental Disease and the Methods Now Employed in Their Treatment."

May 5—Dr. Clarence J. Blake, "The Prevention of Unnecessary Noise."

NEW YORK

Gives Library to City.—Through the liberality of Mrs. Evangeline F. Hubbell, the valuable medical library of her late husband, Dr. Alvin A. Hubbell, properly card indexed and cross indexed, has been donated to Grosvenor Library, Buffalo.

New Hospital Opened.—The Tarrytown Hospital was opened on December 9. It was built at a cost of $80,000, a large part of which was given by John D. Rockefeller, Mrs. John D. Archbold and Miss Helen Gould. It is said to be one of the best equipped small hospitals in the country.

New Staff for Medical Journal.—The *Buffalo Medical Journal*, which is now in its sixty-seventh year, appears under new management. Dr. A. L. Benedict is the new editor and Drs. Grover W. Wende, Buffalo, Charles W. Hennington, Rochester, and Fayette H. Peck, Utica, are associate editors.

Antituberculosis Association Formed.—An antituberculosis association has been organized at Fredonia to aid in the fight against tuberculosis which is being carried on by the state Charities Aid Association and the State Board of Health. Dr. A. Wilson Dods has been elected president of the association.

Academy Election.—The annual meeting of the Elmira Academy of Medicine was held December 6 and the following officers were elected: president, Dr. Herbert W. Fudge; vice-president, Dr. John C. O'Brien; secretary, Dr. Charles Haase; treasurer, Dr. Charles G. R. Jennings (reelected); censors, Drs. Alfred J. Westlake, Elliot T. Bush and John A. Bennett, and trustees, Drs. Sherman Voorhees and Ross G. Loop.

Cancer Hospital Assured.—The fund of $20,000 for the purchase of a site for a cancer hospital adjoining the Gratwick Cancer Laboratory, Buffalo, has been pledged by public subscription. The state has appropriated $65,000 for the building which is now available. The board of trustees comprises: Dr. Roswell Park, president; Dr. Charles Cary and W. H. Gratwick, Buffalo; John B. Milburn, New York City; Frederick V. Stevens, Attica, and Charles S. Fairchild, Cazenovia.

Buffalo Personal.—Dr. John B. Coakley has been appointed a member of the Buffalo Civil Service Commission.——Dr. Christina M. Green has been appointed assistant medical school inspector in the department of health.——Dr. Francis E. Fronczak has been reappointed health commissioner for five years, beginning Jan. 1, 1912. Dr. Fronczak has started on an extended trip to Cuba and South America.——Dr. Arthur C. Schaefer has been reappointed deputy health commissioner.——Dr. Stephen Y. Howell has donated a collection valued at about $15,000 of violin and viola music to the Buffalo Public Library.——Dr. Clarence L. Hyde has succeeded Dr. George J. Eckel, resigned, as physician in charge of the tuberculosis dispensary.——The Buffalo Society of Sanitary and Moral Prophylaxis at its annual meeting elected Dr. Lucien Howe, president.

New York City

German Medical Society Elects.—At the meeting of this society, December 4, the following officers were elected: president, Dr. Carl E. Pfister; vice-president, Dr. Albert A. Ripperger; recording secretary, Dr. Hugo O. Klein; corresponding secretary, Dr. Alfred A. Herzfeld, and treasurer, Dr. Sigmund Breitenfeld.

New Dispensary Building to be Dedicated.—The dedication of the new Dispensary Building of Lebanon Hospital and the inauguration of a social service department will take place at the hospital, December 17. Addresses will be made by Dr. Abraham Jacobi and Rev. Stephen Wise.

Buys Streets for Rockefeller Institute.—The Rockefeller Institute for Medical Research, which owns all the property from Sixty-Fourth to Sixty-Seventh Street and from Avenue A to Exterior Street has secured from the city the title to Sixty-Fifth and Sixty-Sixth Streets from Avenue A to Exterior Street. While these streets have been laid out, they have never been cut through, and now that the institute is assured that they never will encroach on the property, extensive building operations will be begun.

Nurses' Pensions.—The superintendent of Mount Sinai Hospital announces that subscriptions have been received which complete a pension fund of $60,000 for the relief of nurses who after graduation from the training school of the hospital have supported themselves at least in part by nursing for a period of twenty years. The fund is to be administered by a committee of the Mount Sinai Alumnæ Association. In exceptional circumstances, relief may be given to nurses who become incapacitated before the expiration of twenty years of active work.

Personal.—Dr. John P. Munn has been elected president of the New York University Athletic Association. Dr. Munn made a gift to the association in the form of cups and medals to be competed for in intramural sports and has placed a considerable sum of money at the disposal of the physical director of the association.——Dr. and Mrs. Thomas M. Dillingham and Dr. A. J. Anderson have sailed for Europe.——Dr. Anthony Bassler has accepted the editorship of the American Journal of Gastro-Enterology.——Dr. Max G. Schlapp has been appointed president of the State Commission in Lunacy, succeeding Dr. Albert W. Ferris.

Presbyterian Hospital Celebrates Anniversary.—Exercises were held at the Presbyterian Hospital, December 2, in celebration of the forty-third anniversary of the hospital. Dr. William H. Welch came from Baltimore to deliver an address commendatory of the recent affiliation of the Presbyterian Hospital with the College of Physicians and Surgeons of Columbia University. He took as the subject of his address "The Advantage to a Charitable Hospital of Affiliation with a University Medical School" and commended the hospital for having set an example that would be of great service to medical education. The offer of Edward S. Harkness to erect a surgical pavilion containing 150 beds and a complete laboratory for advanced research and also the offer of a trust fund of $1,300,000 from an unknown donor have both been accepted by the hospital and college.

Board of Health Wins Suit.—The Appellate Division of the Supreme Court handed down a decision, December 1, upholding the appeal of the department of health from a lower court which granted an order some time ago to Dr. William Allen of the Bureau of Municipal Research for permission to examine the records of the department. Dr. Allen contended that as a tax-payer he had the right to inspect the records. The Appellate Division denies that he has any such right and holds that public policy is opposed to giving taxpayers the right to inspect the private records of a department of the character of the department of health. The Appellate Division also denies that the Bureau of Municipal Research has any peculiar rights to delve into the records of the department. The legislature has left it to the department of health to determine what policy it shall pursue in order to protect the privacy of its records.

PENNSYLVANIA

Personal.—Dr. Franklin P. Lytle of Birdsboro, has been appointed medical examiner of public school children and school buildings.——Dr. Dexter W. Draper has been chosen professor of hygiene and director of athletics at Franklin and Marshall College.

Philadelphia

Personal.—Dr. Edward MacInall has been appointed superintendent of the City Hall. The position carries with it a salary of $2,000 a year.——Dr. William G. Shields had a narrow escape from suffocation in a fire which damaged his house in Germantown, December 4.

Pneumonia and Diphtheria Prevalent.—Pneumonia and bronchopneumonia caused sixty-eight deaths last week and 101 new cases of diphtheria were reported with ten deaths. The prevalence of the latter disease is giving the department much concern and drastic isolation is contemplated unless there is an early abatement.

Hospital Sells Lot.—The American Oncologic Hospital has sold a lot of ground at the northeast corner of Fiftieth and Chestnut Streets, 250 by 234.6 feet, for $25,000, subject to an annual ground rent of $875, the principal of which is $17,500. The lot was purchased several years ago by the hospital as a site for a new buidling, but the project was subsequently abandoned.

Testimonial to be Presented to Dr. Neff.—Arrangements have been made by a committee of one hundred citizens and leaders in medical, educational and charitable organizations to present a testimonial to Dr. Joseph S. Neff, director of the

Department of Health and Charities in recognition of his services to the city. The committee was organized by George Wharton Pepper, John S. Newbold, Dr. S. Weir Mitchell, George Vaux, Jr., Max Herzberg and Walter G. Smith.

Tuberculosis Day Camp Report.—The director of the Tuberculosis Day Camp, located on Pier 32 on the Delaware River front, which was opened July 7, and closed December 1, reports that ninety-four patients were treated, eighty of whom were adults; the average daily attendance was 25; the average length of stay for each individual forty days, and the total weight gained by patients at the camp was 180 pounds.

Contract for Cottages Awarded.—Dr. Joseph S. Neff, director of Public Health and Charities, awarded the contract, December 6, for the construction of three cottages for the home of the feeble-minded. These cottages will form the nucleus of a municipal institution for the feeble-minded to be erected on the Brown estate at Torresdale. Two of the cottages will cost $70,968 each, and the third and smaller cottage will cost $46,968.

MacCracken Fund.—In appreciation of the work of Dr. Josiah H. MacCracken, head of the University of Pennsylvania Medical School, Canton, China, the Christian Association of the University has commenced to raise a fund of $6,000 to build a new residence for Dr. MacCracken in Canton. George W. Pepper has promised to contribute $1,000 to this fund contingent on the raising of $5,000 by the undergraduates of the university.

Contract Awarded for Municipal Institution.—The Wayne Contracting Company has been awarded a contract for the construction of a group of buildings to comprise the city's home for the indigent on the Holmesburg Race Track site, adjoining the House of Correction. The contract price is $621,000. The site for this institution was purchased by the city more than a year ago for $50,000. The lot covers 50 acres, almost half of which has been reclaimed since the city came into possession.

Solarium Dedicated.—The new Freeman Solarium at the Methodist Hospital was dedicated November 24. The solarium is the gift of Frank A. Freeman, the first vice-president of the institution, is situated at the rear of the administration building and serves as a connecting link between the main building of the hospital and Bradley Hall. It is of cement and stone and has windows on all sides, allowing the patients to obtain the warmth of the sun at every angle, and to look out on the lawn of the hospital. It is fitted with chairs, settee and tables.

Hospitals Acquire Property.—The Presbyterian Hospital has added to its holdings in State Street in the rear of the hospital, by the purchase of two lots, each 25x48 feet. These are assessed at $1,000 each.——The Women's Hospital of Philadelphia has bought the dwellings 1233-35-37-39 N. 27th Street, on a lot 56x100 feet for a nominal consideration. The properties are assessed at $2,400 each.——The Children's Hospital has taken title to the property, 1712 Bainbridge Street, 17x71 feet, adjoining the site presented to it some years ago on Eighteenth Street, from Bainbridge to Fitzwater Streets, by Eckley Coxe, Jr.

Students Aid Food Tests.—In order to ascertain whether the use of alum in foodstuffs is injurious to the health, twelve members of the junior class at the University of Pennsylvania, have been following Dr. Wiley's directions since October 1, and will continue until June. The students meet three times daily in the basement of the medical school for their meals and all but two partake of the same food, prepared by the same cooks. These two, for comparative purposes, are served with food without alum. They are all under the charge of Dr. Alonzo E. Taylor, an expert government chemist, who examines the men frequently.

GENERAL AND FOREIGN

Sajous Becomes Supervising Editor.—The publishers of the *New York Medical Journal* announce that Dr. Charles E. De M. Sajous of Philadelphia has become supervising editor.

Hospital Renamed.—The General Hospital, Presidio of San Francisco, under recent general orders of the War Department, is designated as the Letterman General Hospital, in honor of the late Major Jonathan Letterman, surgeon U. S. Army, who effected the organization of the Medical Department of the Army of the Potomac in the Civil War.

Infantile Death-Rates.—The Bureau of Census has issued an advance bulletin, giving the death-rates of infants under one year of age in 1910 in cities with a population of 50,000 or more. Among the cities having a high infant death-rate are Lowell, Mass., 231 per 1,000; Holyoke, Mass., 213 per 1,000; Manchester, N. H., 193; Fall River, Mass., 186; Detroit, Mich., 179; New Bedford, Mass., 177; Lawrence, Mass., 167; Johnstown, Pa., 165; Washington, D. C., 152, and Pittsburgh, Pa., 150.

Seaboard Medical Association.—The sixteenth annual meeting of the Seaboard Medical Association of Virginia and North Carolina was held in Newport News, Va., December 5-7. Newbern, N. C., was selected as the next place of meeting and the following officers were elected: president, Dr. Norflut M. Gibbs, Newbern, N. C.; vice-presidents, Drs. Japheth E. Rawls, Suffolk, Va., Henry W. Carter, Washington, N. C., George J. Williams, Newport News, Va., and W. H. Hardison, Creswell, N. C.; secretary, Dr. Clarence Porter Jones, Newport News, Va.; treasurer, Dr. Israel Brown, Norfolk, Va., and orator, Dr. Robert L. Paine, Norfolk, Va.

Destroy Breeding Places of Mosquitoes.—As the result of the discovery of a case of yellow fever in Honolulu in October, which is supposed to have been brought from Central America, Honolulu is having a most vigorous sanitation campaign under the direction of the federal quarantine officer, the Territorial Board of Health and a special citizens' committee. As a part of the campaign the city has been cleared of all banana trees, the experts declaring that yellow fever mosquitoes breed in the standing waters between leaves and stalk. More than 150,000 banana trees were cut down in the city. The next step planned is the elimination of "wet" farming, such as the growing of rice and taro, in or near the city and the filling in of swamps.

Bequests to Hospitals.—The following bequests to hospitals are announced:

Hospital of the Woman's Medical College of Pennsylvania, Philadelphia, $10,000; by the will of the late Anne B. Henzey.

Mount Sinai Hospital, Philadelphia, $1,000; given by Samuel, Ralph and Bernard Harburger to endow a private room in memory of their parents.

Home of the Merciful Savior for Crippled Children, $5,000; by the will of the late Mrs. Lelia H. Sharpless.

Union Hospital, Elkton, Md., $51,243; bequest from an estate.

Free Hospital for Women, Brookline, Mass., $5,000 and Boston Floating Hospital, $8,000, in memory of Carrie J. Conant and Lydia A. Cowan, by the will of the late Mrs. Mary H. Heath.

Presbyterian Hospital, New York City, $10,000; and German Hospital, New York City, $10,000, by the will of the late John M. Loose.

German Hospital, New York City, $10,000, by the will of Mrs. Elise Timme, as a memorial to her deceased husband.

Jewish Hospital, Brooklyn, a gift of $2,500 for the maintenance of an *x*-ray room.

The Cholera Situation is Better.—With the approach of winter, the cholera situation in Italy continues to improve. According to the U. S. P. H. and M.-H. S., all the provinces of northern Italy were declared by the authorities free from cholera on November 10. Only a few scattered cases of the disease are now being reported each week in Russia. In Austria-Hungary a few cases continue to be reported. According to last advices an occasional case of cholera was still occurring in Marseilles. In Tunis, Africa, the disease has continued to spread, and a large number of cases are being reported. In Asia Minor the disease has been reported from certain localities.

Eminent Naturalist Dies.—Sir Joseph Dalton Hooker, the eminent surgeon and naturalist, died in London, December 11, aged 94. After his graduation from the University of Glasgow, Dr. Hooker entered the Royal Navy as surgeon and in that capacity accompanied the expedition of *H. M. S. Erebus* to the Antarctic in 1839 to 1843. Later he published a work entitled "Botany of the Antarctic Expedition." He traveled extensively throughout the world and the records of his scientific expeditions are standard to-day. In 1855 he was made assistant director of the Royal Botanic Gardens, Kew, of which his father had previously been director and in 1865 he was made director, holding this position for twenty years. He was the recipient of numerous English and foreign orders and of many honorary degrees, by reason of his prominence as a naturalist, especially in the field of botany.

CANADA

Provincial Association Meeting.—The Alberta Medical Association, at its annual meeting, elected the following officers: president, Dr. George A. Kennedy, McLeod; vice-presidents, Dr. Charles E. Smythe, Medicine Hat, and Dr. Stevenson, and secretary-treasurer, Dr. Alfred McNally, Lethbridge.

Fraternity Chapter Installed at McGill.—On November 28 the Alpha of Quebec Chapter of the Alpha Omega Alpha Honorary Fraternity was installed at McGill University, Montreal, by Primarius Winfield Scott Hall, Chicago. This is the seventeenth chapter to be organized. The address at the annual banquet of the chapter is to be given by Prof. J. J. Mackenzie, Toronto, of the Ontario Chapter.

Personal.—Dr. Henry B. Aikins, Toronto, has returned from Europe.——Dr. Thomas S. Sproule, Marksdale, Ont., has been elected speaker of the Canadian House of Commons.——Dr. Helen MacMurchy, Toronto, has resigned as medical inspector of schools.——Dr. James C. Connell has been elected president of the Sir Oliver Mowat Memorial Hospital for Consumptives, Kingston, Ont.——Sir James Grant, for more than forty years physician to the governors-general of Canada and still in active practice in Ottawa, visited in Chicago last week and went from there to New York to attend the banquet of the Edinburgh University Club of America, of which he is the honorary president.——Dr. G. E. Jurben Lannin, Hamilton, has been appointed associate coroner for the County of Wentworth.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 2, 1911.

The National Insurance Bill

The struggle between the profession and the government on the national insurance bill continues. A special meeting of the representatives of the divisions of the British Medical Association has been held to consider again the bill, which has almost passed through the committee stage in the House of Commons. The six points demanded by the association from the first (see previous letters to The Journal) were unanimously reaffirmed. Only some of these have been embodied in the bill and the one which the profession considers most important—a wage limit of $10 a week—has not been adopted. There was some difference of opinion as to the best method of insisting on the demands of the profession. Some were of opinion that further negotiations with the government should be broken off and that the association should declare its unwillingness to work under the bill on any terms. Others were in favor of demanding that the six points should be embodied in the bill. Eventually a third course was adopted; it was agreed that the association should continue its efforts to obtain such amendments in the bill as would improve the position of the profession and in the meantime reaffirm its determination to adhere to the six points and advise the profession not to accept any terms of employment not in accordance with them. The reason for not adopting the first course was that there was no prospect of the bill being withdrawn and if it became law the profession would still have the power to refuse to work under it. With regard to the second proposal—to insist that the six points should be specifically provided for—it was pointed out that to include two of them—the method and amount of remuneration—would reverse the policy followed by the association which was that a uniform rate, whether per attendance or per head, should not be imposed on every district of the country, as the circumstances, as regards distance of visits, etc., varied. In order to make the above resolutions effective it was resolved "that in the event of the insurance bill becoming law, the British Medical Association use every possible means to ensure that no medical practitioner undertakes the attendance and treatment of insured persons under arrangements that are not absolutely in accordance with the six cardinal principles of the association." Another point on which the association determined to fight the government is an amendment to the bill, introduced at the instigation of the friendly societies, providing for attendance on their aged and infirm through existing organizations at present rates. The association is willing to attend them only on the same rates as other insured persons. It was also resolved that the government proposal to pay a capitation rate of $1.25 per annum is inadequate for medical attendance and that the inclusion of married women as beneficiaries necessitates a considerable increase per head on the amount originally necessary, and finally that there should be one-tenth medical representation on each insurance committee.

Eleventh Report of the Sleeping-Sickness Commission

The third sleeping-sickness commission, sent out to Uganda in 1908, under the direction of Sir David Bruce, by the Royal Society, has issued the eleventh report on the disease. The conclusion is arrived at that in the course of the development of the *Trypanosoma gambiense* in the *Glossina palpalis* the proboscis of the fly does not become involved. After an infective feed the trypanosomes disappear from the alimentary canal of the great majority of the glossinas, but in a minority this disappearance is followed by a renewed development in about twenty-eight days, and the fly then remains infective for at least ninety-six days and possibly for the remainder of its life. At the same time as the renewed infectivity, the salivary glands are invaded. Without this invasion it is believed that the bite of the fly is not infective. The type of trypanosomes found in the salivary glands resembles the short stumpy forms found in the blood of vertebrates. It is thought that this reversion to the blood type is essential to the infective process. Mechanical transmission of the infection by the fly after an infective feed plays a much smaller part in infection, if any, than has been supposed. One of the most difficult problems confronted by the commission was to account for the continuance of the infection in the flies caught on the depopulated shores of Lake Victoria Nyanza two years after the removal of the whole native population. It was suspected that some animal was acting as a reservoir. It was found that cattle may in nature carry the trypanosome in their blood. It was shown that there could be no hereditary transmission of the trypanosome in the *Glossina palpalis*. The interesting discovery was made by the commission that an illness known to the natives as "muhinyo" is none other than Mediterranean fever and that it is spread in Uganda, as elsewhere, by infected goat's milk.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 1, 1911.

Two More Deaths from Salvarsan

On November 21, Dr. Gaucher, clinical professor of cutaneous and syphilitic diseases at the Faculté de médecine de Paris, reported before the Académie de médecine two new cases of death from salvarsan, one of which had been reported to him by Dr. Oltramare of Geneva. Dr. Oltramare treated a man, aged 48, very corpulent, who had had syphilis for fifteen years but who at the time of treatment showed no manifestations. On complete examination no cardiac, renal, cerebral or spinal trouble was found. Four days after an intravenous alkaline injection of 0.6 gm. of salvarsan, the patient was found in his room lying on the floor, completely unconscious and moving convulsively. The next day he was in the same condition of stupor. Convulsive crises occurred again. The patient was cyanosed and covered with perspiration; the pulse was rapid; respiration frequent; the pupils were at first dilated, then became contracted; temperature rose to 40.5 C. (105 F.) and death occurred at midnight. Autopsy showed a leptomeningitis.

The second observation was one made by Dr. Caraven of Amiens on a young man of 21 who had a syphilitic chancre of the gland but showed no organic defect. After two intravenous alkaline injections of 0.6 gm. of salvarsan, made seven days apart, symptoms of meningitis were observed (delirium, carphology, rigidity of the neck and of the arms, Kernig's sign). Lumbar puncture drew forth a cloudy amber fluid. Urine contained 2.3 gm. of albumin per liter (before the injection there was no albumin in the urine). At the autopsy it was found that the patient had succumbed to an intense and generalized congestion of the brain and lungs.

Professor Gaucher had received, moreover, from Dr. Broquin, director of the bureau of hygiene of Troyes, report of two cases of recurrence of syphilitic manifestations after salvarsan treatment. The first was the case of a woman of 24, a prostitute, who had an indurated chancre with specific adenopathy. She came to Paris and received six injections of 0.3 gm. of salvarsan, following which the chancre and adenopathy disappeared and the Wassermann reaction was negative. Being convinced that she was cured, the woman returned home. Some time afterward she presented secondary lesions and infected several persons. The second case was that of a man of 25, married, who contracted syphilis and went to Paris to be treated. He received injections of salvarsan, following which the lesions rapidly disappeared. Being convinced on the word of his physician that he was completely cured and had nothing to fear, he returned home and soon infected his wife.

Gaucher insists that relapses occur not in isolated cases but regularly following the treatment of syphilis by salvarsan.

Manifestations of a Special Type Occurring Suddenly After a Second Injection of Salvarsan

On November 17, Dr. Ravaut reported, before the Société médicale des hôpitaux de Paris, seven cases, one of his own, in which from three to five days after a second injection of salvarsan, in subjects healthy except for syphilis and without any anterior defect, epileptiform convulsions appeared, followed soon by coma, and death eighteen or twenty-four hours after the beginning of the manifestations. In the other patients, there appeared under the same conditions and after the same intervals, such phenomena as agitation, nausea, hyperthermia, cutaneous eruptions of various types (scarlatiniform, varioliform, etc.).

According to Ravaut, these manifestations ought not to be attributed to the technic employed or to the dosage of the medicament. They are due to humoral phenomena analogous to those in anaphylaxis. The means of avoiding them, if not completely, at least partially, is to inject only 0.3 gm. the first time, then to wait eight or ten days before giving the second injection and meanwhile to institute mercurial treatment, preferably by the soluble salts.

Meningitis in Syphilitic Patients Treated with Salvarsan and Mercury

Dr. Audry, clinical professor of cutaneous and syphilitic diseases at the Faculté de médecine de Toulouse, maintains that while meningitis is sometimes observed in syphilitic patients treated by salvarsan, this is due not to the latter drug but to the fact that the patients have not undergone any mercurial treatment afterward. This view is contradicted by the observations of Drs. Fage and Gendron, who, on November 17, reported before the Société médicale des hôpitaux de Paris, two cases of relapses observed in the service of Dr. Brocq in syphilitics treated first by salvarsan and then by mercury.

The first case was that of a woman who after two intravenous injections of 0.3 gm. of salvarsan, received twelve injections of 15 mg. each of cyanid of mercury. Twenty days afterward meningeal symptoms appeared (vertigo, vomiting, etc.) with lymphocytosis of the cerebrospinal fluid. The second case was that of a man who had secondary syphilis which was treated first by biniodid of mercury, then by salvarsan in very small doses, 0.3 to 0.15 gm. and finally by Dupuytren's pills (bichlorid of mercury). Three weeks after this treatment meningeal symptoms occurred which were identical with those in the preceding patient.

Honors to Professor Hayem

Dr. Hayem, who has just retired from his position of physician of the Saint-Antoine Hospital, and professor of clinical medicine at the Faculté de médecine de Paris, received on November 19, from his pupils, friends and colleagues, assembled at the hospital in the pavilion where he gave his clinical instruction, a medal, the work of the sculptor, Roger Bloche. This medal has Dr. Hayem's portrait on one side and on the other a representation of a clinical lecture in the amphitheater, a patient being examined by the professor in the foreground, and the crowd of pupils pressing around in the background.

The ceremony was presided over by Dr. Millard, who spoke of some of the features of Dr. Hayem's career. He was appointed *agrégé* and physician of the Saint-Antoine Hospital in 1872, professor of therapeutics in place of Gubler in 1879 and professor of clinical medicine in place of Peter in 1893. Other speeches were made by Professor Landouzy, dean of the Faculté de médecine de Paris, M. Mesureur, director of the Public Charities of Paris, Professor Gilbert, Dr. Magnan and others.

The Right to Reproduce Clinical Lectures

This subject was discussed in the general assembly of the Association des journalistes médicaux français. It was held that legally a periodical has not the right to reproduce a lesson without the consent of the one who gave it, if it is his property. While the law which safeguards literary and artistic property mentions only writings, the courts have held that it applied to oral productions, lectures, sermons, lessons, etc., as well. The salary which a professor receives for his instruction is held to pay merely for the time which he devotes to his course. It is not considered as a purchase price for his lessons, which are the result of long labor and painful and studious research. The author may obtain penal and civil amends from anyone who reports or publishes his clinical lessons without his consent. He may also demand the destruction of the copies of the journal which contain his clinical lessons or their removal from the journal. Medical periodicals, to avoid such a danger, should secure the author's permission to publish and should submit proofs to him, or should accept a manuscript only if it has been endorsed by the author. In spite of this publication, the author of the lesson preserves absolute right to dispose of his clinical lessons in future. These principles apply in cases which occur in any country which subscribes to the convention of Berne, revised three years ago by the convention of Berlin.

Population in France

The *Journal Officiel* has just published vital statistics in France for the first semester of 1911. It seems that there were almost 14,000 fewer births than during the corresponding semester of 1910. Last year the births, which were few enough already, amounted to 399,669. This year there were not more than 385,999. While births are diminishing, deaths are increasing. They increased from 378,480 during the first semester of 1910, to 404,278 during the first semester of 1911, an increase of 25,798. During the six first months of the current year the deaths exceeded the births by 18,279. The number of marriages has decreased in a slightly less proportion. There were about 156,761 last year. There are not more than 153,931 this year. Divorces, which last year amounted to about 6,303, in 1911 have increased to 6,374.

Municipal Services of Disinfection

The premier has just proposed a bill to encourage increase in municipal disinfection services. It is proposed to permit the minister of the interior to authorize communes of less than 20,000 inhabitants to own their own service under special conditions. At present in many communes containing only a few thousand inhabitants, the disinfection service is still badly organized or non-existent.

Measures Against Tuberculosis Among Soldiers

For a long time the Union des Femmes de France, one of the three charitable societies which makes up the French Red Cross, has been studying the means of coming to the aid of young soldiers temporarily invalided who have not proper care at home and who bring into their families the germs of tuberculosis. A large bequest recently made to the society will permit the realization of this idea.

Jubilee of Prof. Armand Gautier

The colleagues, friends and pupils of Prof. Armand Gautier, professor of chemistry at the Faculté de médecine, and president of the Académie des sciences, on November 26, celebrated the fiftieth anniversary of his connection with the university. M. Bayet, director of superior instruction, who represented the minister of public instruction, presided over the ceremony and brought Professor Gautier the official congratulations of the government of the republic. Speeches were made by several prominent men.

The Reform of Medical Studies

A decree has recently been promulgated for the improvement of the scientific and clinical education of the future physician. Its main features are as follows: (1) the duration of the medical course is increased from four to five years; (2) practical work in physiology and medical physics and chemistry and bacteriology is to be compulsory; (3) the hospital *stage* will be coextensive with the medical course and will include the various services; (4) to decrease the effect of chance in examination, each student will have a record book in which will be noted the credits he has obtained in laboratory and chemical work and previous examinations.

In one of its last sessions the chamber of deputies finally voted the appropriation for the reorganization of medical studies. But in place of the $900,000 (4,500,000 francs) which the minister of public instruction found necessary for the purpose, only $15,000 was appropriated.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 24, 1911.

Founding of a National Chemical Institute

An institution for furthering the progress of scientific chemistry without the obligation of teaching is to be founded at Dahlem near Berlin. The institute is to be erected jointly by the Kaiser Wilhelm-Gesellschaft für wissenschaftliche Forschungen (association for progress of scientific research), by a society founded especially for this purpose consisting principally of proprietors of chemical factories, and the state of Prussia. The society guarantees a yearly contribution of $15,000 (60,000 marks) and for the building alone $225,000

(900,000 marks). The government gives the ground and promises to furnish one of the professors of the university as the director of the institution. The management of the new imperial institute is to be in the hands of a committee.

Death-Rate in Prussia

The mortality of the entire population of Prussia has undergone a very satisfactory reduction in the past year. According to the last issue of the *Medizinalstatistischen Nachrichten* 637,982 persons (329,951 males) died. This was 29,800 less than the previous year. Reckoned per 1,000 living on Jan. 1, 1910, this gives a rate of 16.1 (previous year 17.1) 16.9 for males and 15.4 for females. For the year 1875 it was 26.3 and for the last four years it has varied between 19.3 and 19.9. The police district of Berlin gives the most favorable figure, 13.3; for the city of Berlin it is 14.2 per 1,000 living; 156,698, or 24.56 per cent. of the deaths were from communicable diseases, 60,479 or 9.48 per cent. from tuberculosis.

Agreement Between Germany and France Regarding Exchange of Information of Communicable Diseases

The German and French governments have concluded an agreement for the exchange of information regarding communicable diseases of men or animals occurring at or near their frontiers. The notification of the following contagious human diseases is made obligatory: cholera, typhus, yellow fever, plague, small-pox, typhoid fever, dysentery, diphtheria, scarlet fever, epidemic cerebrospinal meningitis, relapsing fever and trachoma. The infectious diseases of animals to be reported are: cattle plague, rabies, glanders, foot-and-mouth disease, pleuropneumonia, sheep-pox, mal du coit in horses, scab in sheep and swine plague. For the first six human diseases mentioned above, an immediate report must be made on the appearance of the first case, while in case of the others only an unusual frequency in a locality need be noticed. The information regarding animal diseases is to be given weekly by a formal report; only the occurrence of foot-and-mouth disease is to be reported immediately on the occurrence of a case by a special notice. The provisions of the entire agreement are to go into effect Dec. 15, 1911.

Tax on Bachelors in Mecklenburg

Following the example of Reuss in Thuringia, of which I recently wrote you, Mecklenburg has imposed a tax amounting to 25 per cent. above the regular tax, on unmarried men over 30, provided they have no relative living with them whom they are legally bound to support.

Prizes Offered for Articles on Animal Experimentation

The union of the societies for protection of animals of the German empire (Tierschutzvereine) offers a prize for articles on the question "Within What Limits is Scientific Research on Living Animals to be Regarded as Indispensable?" The following is a part of the announcement of the prizes: "The union of the societies for protection of animals of the German empire is actuated by the desire that scientific research on living animals should not only be carried out in as inoffensive a manner as possible but that it shall also be restricted to the degree that is unconditionally necessary, something which is not always the case (unnecessary repetitions and demonstrations, unimportant research, private experiments by students, etc.). In pursuance of its efforts in this direction the union calls on scientific men for help and advice. Especially it is desirous to learn to what extent the restriction of research can go without endangering the interests of human welfare. For the best article it offers a prize of $500 (2,000 marks) and for the second best a prize of $250 (1,000 marks). It however reserves the right at the discretion of the jury to divide up the entire sum of 3,000 marks equally between the authors of the first and second best articles, if these appear to be of equal value. Only such articles will be entitled to compete for the prizes as fulfil the following conditions: 1. They shall be written by scientists who have completed their professional education. 2. When printed they shall not exceed ninety-six pages of text (6 Druckbogen). 3. They shall be in the German language, in easily legible writing, and written only on one side of the sheet. The articles are not to be marked with the name but with a motto, accompanied by a sealed envelope containing the name and address of the writer and bearing the motto of the article on the outside. The articles can be sent up to June 30, 1912, to the president of the union, Mr. Otto Hartman, Cologne. (Address Rentner Otto Hartman, Köln, a. Rh.) The jury to award the prizes consists of Professor His of Berlin, Professor v. Frey of Würzburg, Professor Mensel of Gotha, Professor Ellenberger of Dresden and Mr. Otto Hartman of Cologne.

Appeal for a Memorial to Robert Koch

The appeal for the erection of a monument to Robert Koch, the private preparations for which I wrote to you about a few weeks ago, has now appeared in the political and medical press. As announced, the honorary presidency of the committee has been taken by the imperial chancellor while the acting president is the new chief of the Prussian Medizinalabteilung (state medical department), Professor Kirchner. To the committee belong in addition to most of the members of the Prussian cabinet and the cabinets of the other states of the empire, the mayor of Berlin and the mayors of a large number of other cities, the most distinguished pupils of Koch and other notable persons. It is expected that the city of Berlin of which Robert Koch, as is well known, was an honorary citizen, will contribute a large sum and furnish a place for the statue free of charge. On the part of the committee it is purposed to place the memorial on the Luisenplatz in front of the Kaiserin Friedrich-Haus for postgraduate instruction. In view of the monstrous monument to Virchow, over the design for which, as your readers will remember, there was so much indignation at the time, the *Deutsche medizinische Wochenschrift*, whose editor is the secretary of the committee, remarks that the Koch monument will be marred neither by mythology nor zoology. It is to be expected that physicians in America, especially those who have emigrated thither from Germany, will contribute to the collection for this memorial that is dedicated to one of the greatest physicians of all times.

Penalties Imposed for Adulteration of Foodstuffs

On account of adulteration of foodstuffs and having for sale adulterated or decomposed foodstuff as well as transgressions against the law regulating the sale of substitutes for butter, wines, artificial sweets, beer, etc., 4,098 persons were convicted in 1909 (as compared with 4,055 in 1908).

First-Aid Drill on Government Railroad

The management of the government railway in Saxony has directed that investigation shall be made at the stations on its line to learn whether the sanitary arrangements for the prevention of accidents are sufficiently known to the employees. For this purpose the managers of the stations from now on are to be drilled in first-aid exercises, the chief stress being laid on the prompt arrival on the scene of the railroad employees trained in first aid and of the material provided, such as bandages, stretchers, etc.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Nov. 24, 1911.

The Sale of Alcoholic Drinks by Automatic Machines

In this country drinks and articles of food are frequently sold by means of special automatic devices like "penny-in-the-slot" machines, especially at railway stations, in busy thoroughfares, etc. The government, intending to decrease the consumption of spirits, contemplates the prohibition of such automatic sale of alcohol. The idea has been taken up both by the medical profession and the Anti-Alcohol Society; on the other hand, those concerned in the liquor trade oppose such an ordinance on the ground that established business enterprises must not be ruined by one-sided policy. Investigations have shown that beer and low-grade gin was mainly demanded and that the sale in a single automatic shop was larger than in any of the regular gin-shops so much patronized by laborers. In one automatic shop as much as 20 gallons of "gin," called here "cognac," were sold daily, and there was no control of the customers as regards the quantity they could purchase. There is little doubt that the opposition by the manufacturers against the ordinance will be useless.

The Fourth Clinic

A few days ago the fourth medical clinic was opened on the premises occupied until quite recently by the clinic of Noorden, in the old general hospital. The increase in the number of medical students, the specialization of medicine, and the personal interest of the temporary successor of Strümpell, Professor Chvostek, caused the addition of another clinic to the existing three. It will have forty-five clinical beds, besides fifty non-clinical beds; the clinical beds can be filled by patients selected by the professor or his assistant from among the fresh arrivals in the hospital, while the other beds must be filled as they are required by the receiving office.

This circumstance makes the latter less suitable for teaching purposes. Professor Chvostek was made fourth clinical professor (besides Noorden, Nensser and Ortner), and has commenced his lectures, which will deal mainly with diseases of the nervous system.

The Action Against the New Medical Regulations

The proposed new medical regulations have caused quite an excitement among our profession in this country (The Journal, Oct. 28, 1911, p. 1469). The main arguments are simple; namely, that the act has been concocted without consulting the responsible and representative medical organizations. Therefore the Vienna Medical Council has entered a violent protest against the proposed regulations, in terms which have seldom been used in a message to the government. It appears that the medical department of the ministry has not been asked at all to give its opinion, but that only juristic officials have had their hand in framing the act. As one man said in the medical Council, the regulations show a marvelous degree of "absence of knowledge of life" (*Weltfremdheit*). All the medical councils of Austria have been urged to adopt the same way of bringing to the notice of the government the impossibility of enforcing such an act. In fact, a general passive strike is contemplated if, in spite of all demonstrations, the original regulations should be made law. The cooperation of all medical organizations has been secured for the protest movement.

Mercurial Poisoning of Laborers on Electric Lamps

At a recent meeting of the Gesellschaft der Aerzte, Dr. Teleky demonstrated a few cases of mercurial poisoning caused by working with mercury vapors, the mode of poisoning being quite unusual. During the process of manufacturing special incandescent lamps, a very high gas-pressure is required, which is produced by mercury vapor. The lamps always contain traces of this vapor. Although only one laborer has been in contact with metallic mercury, fourteen men in this line of work were attacked by similar symptoms: stomatitis, anemia, nervousness and tremor. It has not been possible to find the actual way of poisoning. Most likely it has been inhaled, although utmost precaution was taken to prevent it. The men affected had been engaged in this work a little over a year before any symptoms were noticed. As a consequence of the observations by Dr. Teleky, increased precautions were taken, thus, for instance, all handling of the lamps before their definite air-tight closure is now done in air-tight chambers, into which only the hands of the men employed are introduced.

Miscellany

The Canteen Again

A circular is being sent out, signed by 275 medical men, arguing that the canteen ought to be restored in the army. Dr. W. W. Keen, 1729 Chestnut Street, Philadelphia, seems to be in charge of the publicity department. The text of the circular is as follows:

To the Honorable, the Members of the U. S. Senate and House of Representatives:

The undersigned, all medical men from many different parts of the United States beg leave respectfully but urgently to petition your honorable bodies to pass the bill (H. R. 30) introduced in the 62nd Congress by Mr. Bartholdt and thus to reestablish the so-called "canteen" in the United States Army.

Many well-informed persons think that the canteen was like a hotel "bar," where all sorts of liquors could be had at all times no matter whether the soldier was drunk or sober. Let us see then what the canteen really was.

It was regulated by general orders No. 10 of General Schofield, dated Feb. 1, 1889, and No. 51, dated May 13, 1890. Rooms were set apart for recreation such as "gymnastic exercises, billiards and other proper games." A piano was often obtained. "The sale or use of ardent spirits or wines in canteens is strictly prohibited; but the commanding officer is authorized to permit light beer to be sold therein by the drink, on week-days, and in a room used for no other purpose, and, when practicable, in a building apart from that in which the canteen is located, whenever he is satisfied that the giving to the men the opportunity of obtaining such beverage within the post limits has the effect of preventing them from resorting for strong intoxicants to places without such limits, and tends to promote temperance and discipline among them. The practice of what is known as 'treating' must not be permitted." "Gambling or playing any game for money or other thing of value is forbidden." Credit not beyond one-fifth of their monthly pay might be allowed, but only "to soldiers in good standing." All profits were divided among the "company funds" to give extra comforts and little luxuries not otherwise obtainable.

It will be observed particularly that the very object aimed at in thus establishing the canteen was to provide a pleasant club for the soldiers and especially to give the men "the opportunity of obtaining such beverages within the post limits," that is to say "at home," and to "prevent them from resorting for strong intoxicants to places without such limits."

Since the abolition of the canteen in 1901, the practically unanimous testimony of general officers and post commanders, from General Leonard Wood (formerly an army surgeon) and General Fred. D. Grant (a total abstainer) down, is that intemperance has been increased with a corresponding increase in infractions of discipline and in desertions.[1]

But we wish to urge the reestablishment of the canteen chiefly for medical reasons, as to which we may claim to have expert knowledge. •

The intimate connection between the use of strong alcoholic stimulants and the contraction of venereal diseases is well known to us in civil life and holds good equally in military life. A small minority of young men no doubt deliberately incur the danger, but the large majority first lose their self-control and have their passions inflamed by alcohol and then, if in the army, resort to what the surgeon-general in 1889 well called "the dens of dissipation and disease just beyond the jurisdiction of the commanding officer" where they are further supplied with impure and often drugged whiskey, robbed of their hard-earned pay and often, if not indeed generally, contract disease. It is by reason of this latter phase of the matter that we especially urge the reestablishment of the canteen.

Few non-medical men realize the frequency and the disastrous consequences of venereal diseases, whether in civil life or in the army. "The statistics collected in 1908 by the President's Homes Commission, show that out of 274,611 patients treated in the city hospitals of Washington there were 27,947 cases of venereal disease."[2]

"In 1901, a committee of seven, under the auspices of the Medical Society of the County of New York, made an investigation into the prevalence of venereal diseases, and concluded that there were not less than 243,000 cases of venereal diseases treated in one year in that city. During the same year there were only 41,585 other cases of infectious or communicable diseases reported to the health department, viz., measles, 12,570; diphtheria, 11,001; tuberculosis, 8,877; scarlet fever, 7,787; chickenpox, 99. In other words, the [total of] venereal diseases was nearly six times greater than that from all the above named infectious diseases combined."

According to Dr. Prince A. Morrow, who has studied and written much on the subject, 10 per cent. of the men who marry infect their wives. The report of the New York committee "would indicate that nearly 30 per cent. of all venereal infections occurring in women in private practice in the city are communicated by their husbands;" and from his personal observations at the New York hospitals over a period of several years, Dr. Morrow concludes that "fully 70 per cent. of all women who come therein for treatment were respectable married women who had been infected by their husbands."[3] "The Tragedy of the Marriage Altar"[4] is no myth, but a dreadful and sorrowful fact. One form of the disease (gonorrhea) is responsible for a very large number of sterile marriages. To it are due, as estimated by various authors, from 20 per cent. to 40 per cent. (and some writers give even much higher percentages) of the cases of pelvic disease in women, many if not most of which require abdominal operations.

Dr. Swan M. Burnett, professor of ophthalmology in Georgetown University, believes that at least 15,000 of the 50,000 blind in the United States have lost their sight because their eyes became infected at birth from their infected though often innocent mothers.

Another form (syphilis) is often communicated by husbands to their innocent wives. A woman so infected suffers abortion after abortion and if living children are born three out of four (happily for themselves) die very early or if they sur-

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1. North Am. Rev., March, 1911, pp. 421, 410, 411.
2. Jour. Am. Pub. Health. Assn., March, 1911, p. 166.
3. Idem, p. 167.
4. Ladies' Home Jour., October, 1908.

vive they carry the (most often) paternal curse with them through life. Many a wet-nurse has been infected by such a syphilitic infant. Public drinking-cups, the tubes used in glass blowing, and occasionally kissing have propagated the disease. Nearly every one of us knows medical friends who have been infected by making professional examinations while suffering from unobserved hang-nails or abrasions, and have suffered untold misery for years or for life.

Turning from civil life to the army, what are the facts there? "The venereal peril," says Surgeon-General Torney,[5] "has come to outweigh in importance any other sanitary question which now confronts the army and neither our national optimism nor the Anglo-Saxon disposition to ignore a subject which is offensive to public prudery can no longer excuse a frank and honest confrontation of the problem." Are these strong words justified? Let us see. "Reports since the Spanish-American War show a steady and progressive increase in this class of diseases, so that the admission rate, which was 8.46 per cent. in 1897, has now reached the enormous figure of 19.7 per cent."[5] In other words, for the last six years very nearly one-fifth of the entire army has suffered from venereal diseases every year and to that extent, while ill, have diminished its effective force. "These figures," again says the surgeon-general, "are all out of proportion to those which obtain in the European armies, the rates for the latter being, according to the latest obtainable information:

"British (at home 6.8 per cent.)	7.6 per cent.
"Austro-Hungarian	5.4 per cent.
"French (at home 2.8 per cent.)	3.5 per cent.
"Prussian	1.9 per cent.
"Bavarian	1.5 per cent."

(We have taken the liberty of changing the proportion from per 1,000 to per cent.)

Were this all it would be bad enough. But, as we have already shown, the soldier himself is not the only one to bear the penalty. Our army is very largely composed of young unmarried men. When they marry they should become fathers of healthy children, and so add to our population, vitality and success as a nation. But the fact is that among those who have contracted venereal diseases in the army a considerable proportion of their marriages will be sterile, others will be characterized by many abortions, and their living children will be defective, blind and diseased. What the sorrows of their infected wives may be we know in part, the rest can only be surmised.

What now are the remedies proposed by the surgeon-general himself? In his report of July 1, 1910, he urges proper surgical treatment, but especially prevention and education:

"The organization of soldiers' clubs, canteens, etc., where enlisted men can find amusement and recreation sufficiently attractive to keep them at home and away from vile resorts."

"The formation of temperance associations among the enlisted men, the association of intemperance and venereal indulgence being well understood."

"Instruction of the men by lectures and by informal advice whenever the opportunity offers as to the nature of venereal diseases, the extent of their prevalence among prostitutes, and the grave peril not only to those who contract them, but to their families and posterity. They should also be taught that sexual intercourse is not necessary to good health and the highest degree of mental and physical vigor."

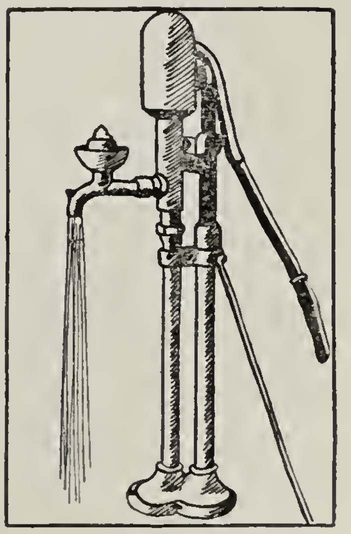
These are in line with the proposals of Lord Roberts for the British army in India.[6] He did not abolish the liquor bar in the canteen, but restricted its size and its sales chiefly to beer and encouraged the furnishing of recreation rooms, the promotion of temperance societies, etc., "an arrangement," he says, "which has been followed by the happiest results." Exactly the same condition existed in our former army canteen, and we believe would prevail again.

The demands of military discipline require the soldier to surrender, for the good of the state, much of his individual liberty and many of the privileges enjoyed by other citizens. Is it wise further to restrict these by legislation in a way which not only does not contribute to military discipline but, as we learn from the almost unanimous testimony of army officers, impairs it? Soldiers are required by the special conditions of military life to give up their home life, and the moral protection of marriage, and to live a life of enforced celibacy. Is it wise to diminish the attractions of their club, and to increase the moral and physical risks of their environment by act of Congress?

In view of what we have set forth above, we respectfully pray your honorable bodies in the interest of temperance; of military order and efficiency; and of the health and happiness of our soldiers and of their future wives and children to reestablish the canteen in the United States Army by passing the Bartholdt Bill (H. R. No. 30).

Colonies for Feeble-Minded.—It is argued by some that to commit an individual that showed no very clear marked signs of mental defect, to a semipenal institution would be a gross infringement of the liberty of the subject, and that, as there is sometimes difficulty in diagnosing the border-line cases of feeble-mindedness was urged for the defense, and ultimately branding of such cases as persons dangerous to the community, unless and until they have revealed their tendencies by some antisocial act. This argument is a specious one, and is founded chiefly on the prevailing ignorance of the nature of mental and moral defect. Granted that the liberty of the subject must be sedulously safeguarded, it must be pointed out that the experience of every colony and institution proves that the feebly-gifted person feels no deprivation of liberty by reason of his intellectual limitations, and because he is relieved from the storm and stress of the struggle for existence, under which conditions alone he is capable of self-support. It must be remembered further that such segregation entails infinitely less anxiety and trouble to the relatives and to the community than that occasioned by the perpetration of some criminal act which may cause life-long sorrow to all concerned. Take, for example, a recent trial for murder at the Birmingham Assizes, in which the plea of feeble-mindedness was urged for the defense, and ultimately earned a commutation of the death sentence. Had the lad in question been relegated to a colony for such cases his family would have been spared the ordeal of a criminal trial, while the parents of his victim would not have had to bear the burden of sorrow for a young life so needlessly and cruelly cut off.—G. A. Auden in *Jour. Crim. Law and Criminology.*

Bubbling Cup Attachment for a Pump.—It now develops that the bubbling cup does not necessarily require a running water-supply. Recently the pump has been modernized to serve the sanitary drinking idea and the adaptation seems both simple and practical. Three or four movements of the handle fill the cylinder at the top, which holds a gallon of water, which then flows through the bubbling cup and the waste water runs out the nozzle below. This timely invention ought to be employed at every rural school house, or at any place where large gatherings take place; and, in the course of a short time, it should be found on every farm. The country practitioner who so often was baffled by the apparently mysterious spread of an epidemic should look for such devices as this modernized pump; they might be important factors in preventive medicine.



Tetanus.—The occurrence of tetanus after the injection of quinin in the treatment of malaria, even when every possible care has been taken to insure the sterility of the solution and of the syringe, has been investigated by Sir D. Semple of the Indian Government Service. He says that it is a curious fact that tetanus spores, free from other organisms and free from any adherent toxin, may be injected into an animal without harm and may remain latent at the site of the inoculation for months. If, however, the spores have adherent toxin on them or if some weak lactic acid is injected at the same time, the organism grows and multiplies and sets up tetanus. Apparently, he says, some agent must be present to lessen the resistance of the tissues before tetanus can develop. In his memoir he says that he finds that quinin injected into the tissues produces necrosis at the site of injection and that pure washed tetanus spores mixed with quinin and injected always cause tetanus, which may even occur when the quinin injection is at a point remote from the washed tetanus spores. He therefore suggests that the tetanus following quinin injections, when every precaution has been taken, may be due to tetanus spores lying latent in some situation introduced by some previous wound or otherwise and activated by the quinin injection. A small dose of tetanus antitoxin given at the same time as the quinin injection will effectually prevent the development of tetanus. Tetanus infection is sometimes present in the bowel of a healthy individual and we can readily suppose that it might possibly, in view of the above stated facts, be a possible source of trouble. Semple's explanation may account for some mysterious cases of tetanus occurring after vaccination or prophylactic injections that have been extensively utilized by antivaccinationist writers. Some authorities have held that tetanus may occur in a mild or abortive form and it is not impossible that many really infected wounds have given no symptoms that were noticed by the individual. It might be a good precaution in some regions where tetanus is more or less endemic, as is said to be sometimes the case, especially in hot countries, to have tetanus antitoxin used in connection with vaccination or serum treatment. Semple also finds that rabies virus is killed by a 1 per cent. solution of phenol in twenty-four hours at a temperature of 37 C., but still forms a safe and sufficient anti-rabic vaccine, and he suggests that this method may be employed in the prophylactic antirabic treatment.

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[5] Report of the Surgeon-General of the Army, July 1, 1910, pp. 59 and 60.

[6] Forty-One Years In India, II, 418-421

Deterioration of Meat by the Fright of the Animals.—The unfavorable conditions under which beef cattle are slaughtered in France and the ill effects which may be caused by the meat of animals killed when in a depressed nervous state are the theme of a communication to the *Presse Médicale* (July 12, 1911) by Bonnette. He refers to his experience when as a sanitary inspector of meat for the army he had occasion to examine the animals both before and after slaughter. Cattle may be divided into two classes: first, those that are generally quite fat, but non-excitable, although their appetite may fail in the conditions in which they are placed while waiting to be killed, and second, those that are less fat, indicate a sensitiveness to their abnormal surroundings, listen to every sound and are affected by the smell of blood. Their appetite fails and they lose flesh during their stay in the pens. Some seem possessed with a genuine fear of death. The two classes behave quite differently when driven to slaughter. The first are apathetic and go willingly or with little urging to their place; the others attempt to escape, tremble, defecate and resist until they are forced to receive the fatal blow. Bonnette thinks such agitation has an ill effect on the processes occurring in the tissues both before and after death. He suggests that the pens in which animals intended for slaughter are confined be removed to a distance sufficient to avoid disquieting sounds and smells, that these pens be connected with runways that will allow the animals a desirable amount of liberty, and that when the time for slaughter has come they be conveyed to the place of death in cars that will prevent exciting and fatiguing driving.

Sewage and Garbage Disposal in Berlin.—According to A. M. Thackara, consul-general at Berlin, Germany, that city has a practical method of disposal of sewage, garbage and street sweepings. He says: No sewage is permitted to be discharged into the river or canals that pass through the city. It is all pumped through large pipes to the city sewage farms a few miles north and south of Berlin. Of the 40,000 acres, about 6,200 are leased in small holdings to farmers and the remainder cultivated by the municipal authorities. While the city administration supervises the cleaning of the streets, the disposal of the sweepings and refuse gathered is left to various contractors. Some of these concerns have purchased barren and unproductive land to be used as dumping grounds, and as the garbage contains principally sand and horse manure, it is exceedingly valuable as a fertilizer and filler for such lands. By law and by municipal police regulations, house owners are obliged to provide for the removal of the waste from their buildings. For this purpose they have formed an association that includes most of the owners in Berlin. This association has made a contract for thirty years, twenty-one of which are still to run, with a limited liability company, which was formed for the purpose of disposing of household and other waste. They have erected a building for the purpose of handling the garbage, disinfecting it, and separating the different articles, such as metal, rags and bones. All the refuse is then disposed of for fattening hogs, fertilizing, paper making, grading, etc. Ingeniously contrived wagons are used in collecting the garbage. In every building large sheet-iron tanks or buckets are placed. The daily refuse is thrown into these tanks, which are capable of holding 100 or 200 pounds of ashes and garbage, and which close with a lid. The ashes and garbage are placed in separate receptacles. On certain mornings of the week the tanks are collected by wagons accompanied by three or four men. The wagons are large and tightly covered. A chain elevator is arranged so that a bucket can be placed on a shelf on the side of the wagon and then raised and dumped into the wagon without permitting any of the dust to escape. Ash barrels or other such receptacles are not permitted on the streets in Berlin. The experiment of burning the organic waste of Berlin was tried, but it proved costly and unsuccessful and was abandoned.

Early Diagnosis of Cancer.—Fischer-Defoy's monograph on this subject was awarded the first prize in the recent competition organized by the German Cancer Research Committee. It is published in full in the last *Zeitschrift für Krebsforschung,* 1911, XI, 65. He cites statistics to show that in nearly one-fourth of all the cancer cases the diagnosis is made only at necropsy. He discusses the early signs and symptoms of cancer at the forty-five different parts of the body liable to be the seat of malignant disease, in alphabetical order from *Anus* to *Zunge* (tongue). He rejects the idea of contagion and heredity of cancer but admits the possibility of certain local favoring factors, such as prevalence along certain streams. He emphasizes that cancer may occur at any age and that exceptions are liable to the general rule that the malignant lesion is single. Persistent loss of weight, pallor and tendency to chilliness may be evidence of a carcinoma still in its incipiency, but a healthy, robust appearance should never divert the physician from the idea of cancer. The serologic tests are still confined to the laboratories, and are generally positive only in advanced malignant disease. The natural color of the hair is often retained with cancer, but this has no diagnostic value. Incipient cancer generally causes no symptoms or at most they point merely to some special organ. An ulcerating gumma never has the ridge around the edge, like cancer, and the regional lymph-nodes show no change, but he warns that the patient may have both syphilis and cancer, and old syphilitic lesions on the tongue seem to invite cancer. He warns that calling in laboratory aid generally means delay, while time is so important in cancer cases; he adds that laboratory findings are valuable only when weighed in connection with the most painstaking repeated physical examination and study of the history of the case. Direct local examination with electric lights and the Roentgen rays should not be neglected if needed, but microscopic examination is liable to be misleading if too minute scraps are obtained. Cancer pearls are unmistakable but are not found exclusively with carcinoma. Examination under general anesthesia frequently clears up the diagnosis; it is not applied in as many cases as it should be. The individual waits for pains and thus permits the phase of operability to pass, but cancer often runs its entire course without any pain.

Vital Statistics.—Newsholme has defined vital statistics as the science of numbers applied to the life history of communities and nations; Wilbur, as the Cinderella of modern public hygiene, sitting in the chimney corner sifting the ashes of dusty figures while the proud sisters, Bacteriology and Preventive Medicine, go to the ball and talk about the wonderful things they have done. The term might also be defined as the numerical registration and tabulation of population, marriages, births, diseases, and deaths, coupled with analyses of the resulting numerical phenomena with the end in view of "searchlighting" the path of sanitary progress.—W. H. Guilfoy in *Journal American Public Health Association.*

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

MEDICAL JOURNALS AND THE GREAT AMERICAN FRAUD

Elsewhere in this issue[1] we discuss in general terms the ethics of medical advertising and the attitude taken by physicians toward medical journals that violate the principles of such ethics. The *American Journal of Surgery* is a good example of the evil against which we are protesting. In its editorial and reading pages generally, there is little to criticize and much to praise. In the advertising pages, however, conditions are reversed. Incidentally, the advertising pages of this journal outnumber the reading pages nearly two to one. However, this is immaterial. The point is, that page after page is given over to the exploitation of the worst kind of nostrums. Here are some of them:

Antikamnia
Phenalgin
Micajah's Wafers
Tyree's Antiseptic Powder
Campho-Phenique
Anasarcin
Sal Hepatica
Cactina Pillets
H-M-C
Resinol
Ecthol
Hagee's Cod Liver Oil Compound
Gonosan
Colchi-Sal
Scott's Emulsion
Hydrozone
Glycozone
Papine
Tongaline
Aletris Cordial Rio
Bromidia
Celerina
Resor-Bisnol
McArthur's Syrup of Hypophosphites
Hayden's Viburnum Compound
Gray's Glycerine Tonic
Listerine
Fellow's Syrup of Hypophosphites
Pepto-Mangan
Pinus Canadensis
Dioviburnia
Neurosine
Peacock's Bromides
Chionia
Prunoids
Seng
Antiphlogistine
Glycothymoline
Unguentine

As will be noticed, many of the above are frauds that have been exposed in THE JOURNAL. All of them have failed to obtain recognition by the Council on Pharmacy and Chemistry, and inclusion in New and Nonofficial Remedies. All of them could be rejected and the physician's armamentarium be none the poorer—in fact, the public would be a distinct gainer. Now, what is the attitude of the medical profession toward a journal that offers such products to the medical profession—that lends its pages to the exploitation of such nostrums? Of its subscription list, we cannot speak; it may be good, bad or indifferent. Its list of contributors, however, is necessarily an open book and from it we are able to judge to what extent men, high in the profession, lend their influence to the furtherance of one of the greatest evils that, to-day, besets the medical profession and, through the medical profession, the public.

In circular letters and in an editorial announcement in its December issue, the *American Journal of Surgery* "features"—to use a newspaper term—some of the contributors to its January issue. The list comprises men who hold or have held high offices in the American Medical Association. Presidents, vice-presidents, chairmen, secretaries and members of sections of the Association—these are some of the men whose names appear as contributors to this nostrum-promoting publication.

Is it any wonder that the proprietors of the *American Journal of Surgery* assume an attitude of indifference to the class of proprietary preparations which they admit to the pages of their publication? Is it any wonder that they—and other commercial interests—look on the propaganda for reform in proprietary medicines, instituted by the American Medical Association, as a joke? Is it any wonder that these men assume—with a large degree of reason—that the prominent men in the American Medical Association repudiate the propaganda work of the Association? Surely it would be expecting too much from men who are in the business of publishing medical journals to refuse money, however tainted, so long as they receive no protest either in word or deed from, but on the contrary, the cooperation of, men who are regarded as leaders in the medical profession.

ALCOHOLIC CONTENT OF ELIXIRS

The November meeting of the Washington Branch of the American Pharmaceutical Association was devoted to the discussion of the new low-alcohol-content elixirs which it is proposed to include in the forthcoming edition of the National Formulary, so as to give physicians a choice of vehicles containing varying amounts of alcohol. While the principles actuating the inclusion of these preparations were commended, it was also thought that the Committee on National Formulary might well go even further and eliminate, or at least reduce, the alcohol in many other N. F. preparations.

It was clearly shown that the introduction of elixirs and other "permanent" proprietaries was followed by the rather wide-spread use of many of these mixtures as vehicles for more active medicaments, the physician usually losing sight of the fact that the preparation he was prescribing contained from 20 to 50 per cent. of alcohol and was, in fact, the equivalent of ordinary whisky. It was suggested that probably the so-called "patent-medicine" manufacturer was really to blame for the introduction of alcohol-containing proprietaries and the subsequent inclusion of preparations of this type in the U. S. P. and N. F., and that now, being compelled by legislative measures and an awakened public opinion to forsake the use of alcohol in "patents," he would no doubt drive the drug trade generally to the disuse of alcohol for all purposes other than as a solvent.

W. S. Richardson called attention to the fact that during the years that he has been engaged in the drug business the diluent or vehicle used in extemporaneous prescriptions had changed from aromatic waters and syrups to elixirs and cordials, and that the use of these preparations, largely owing to the fact that they have been included in the U. S. P. and the N. F., has become so general that it is not an uncommon occurrence to find a prescription for a child directing that some comparatively simple medicament be dissolved in the official aromatic elixir containing upward of 25 per cent. alcohol.

W. H. Bradbury pointed out that in addition to the U. S. P. aromatic elixir, the elixir of calisya N. F. and the digestive elixir N. F. are perhaps the most widely used vehicles or diluents and are equally objectionable because of the contained alcohol. The latter preparation he considered to be particularly objectionable, in that the name as well as the formula would lead the unwary physician to believe that he was prescribing a mixture of the digestive ferments, when in reality he was directing his patient to take a strongly alcoholic cordial.

Lyman F. Kebler stated that the Internal Revenue Department had been severely hampered in its campaign against alcohol containing nostrums by the inclusion in the Pharmacopeia and in the National Formulary of a number of strongly alcoholic preparations that could be and were being used as tipples. One of the most widely abused of these preparations, he asserted, was the Beef, Wine and Iron of the National Formulary. Druggists in many sections of this country are regularly advertising this preparation at 25 cents per pint bottle, and in prohibition districts particularly it is a popular beverage.

Prof. H. E. Kalusowski expressed the belief that the proposed elixir of formates could readily be replaced by nonalcoholic preparations; so could the elixir of glycerophosphates and a number of other National Formulary preparations that are as yet not thoroughly established as alcohol-containing mixtures. He also pointed out that the U. S. P. includes proportionately more alcohol-containing preparations than did any of the recently published foreign pharmacopeias. He believed that alcohol should not be used primarily as a preservative, but as a solvent.

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[1] Editorial department, "Cui Bono," page 2000.

On motion, the following resolution was unanimously endorsed as representing the consensus of opinion of the members present so far as the National Formulary preparations are concerned:

Be it resolved, That the members of the City of Washington Branch of the American Pharmaceutical Association present at this meeting regard with regretful disfavor the continuance, in the National Formulary, of preparations that can be used as tipples, and suggest that the alcohol in all National Formulary preparations be reduced or eliminated wherever not actually necessary as a solvent.

THE DE BARTHE TREATMENT

A Rheumatism Cure Conducted Under the Auspices of the Neal Institute

We have received a number of inquiries about a Chicago concern known as the "DeBarthe Treatment for Rheumatism." The so-called treatment is "administered" at the Chicago Hospital, which was purchased from reputable physicians some time ago by the persons who, under the name of the Neal Institute, are exploiting a "three-day liquor cure."

Of the "treatment" employed by the Neal Institute in the "cure" of the liquor habit, we have nothing to say at present. We believe that physicians are not informed as to the details of this "cure," although physicians are offered a 20 per cent. commission on all patients sent to the institute! In passing, it may be said that B. E. Neal, the "founder" of the Neal Institute, is reported to have been sued by the Gatlin Institute, another concern in the "three-day liquor cure" business. The Gatlin Institute is said to have declared that Neal, who was in its employ for about six years, used the secrets learned when in its employ and that, too, in spite of the fact that Neal is alleged to have made an oral contract not to divulge what he learned as an employee and not to employ the methods that he learned in a similar business if ever he severed his connection with the Gatlin Institute.

The president of the Neal Institute is one James E. Bruce, also president of the "DeBarthe Treatment for Rheumatism." The DeBarthe treatment is advertised by methods common to quackery. For example, in a Chicago paper a few months ago, an advertisement appeared headed in large black letters:

> "Chicago Physician has Positive Cure for Rheumatism. Dr. DeBarthe's Treatment a Universal Success."

Some of the claims made for the DeBarthe Treatment are:

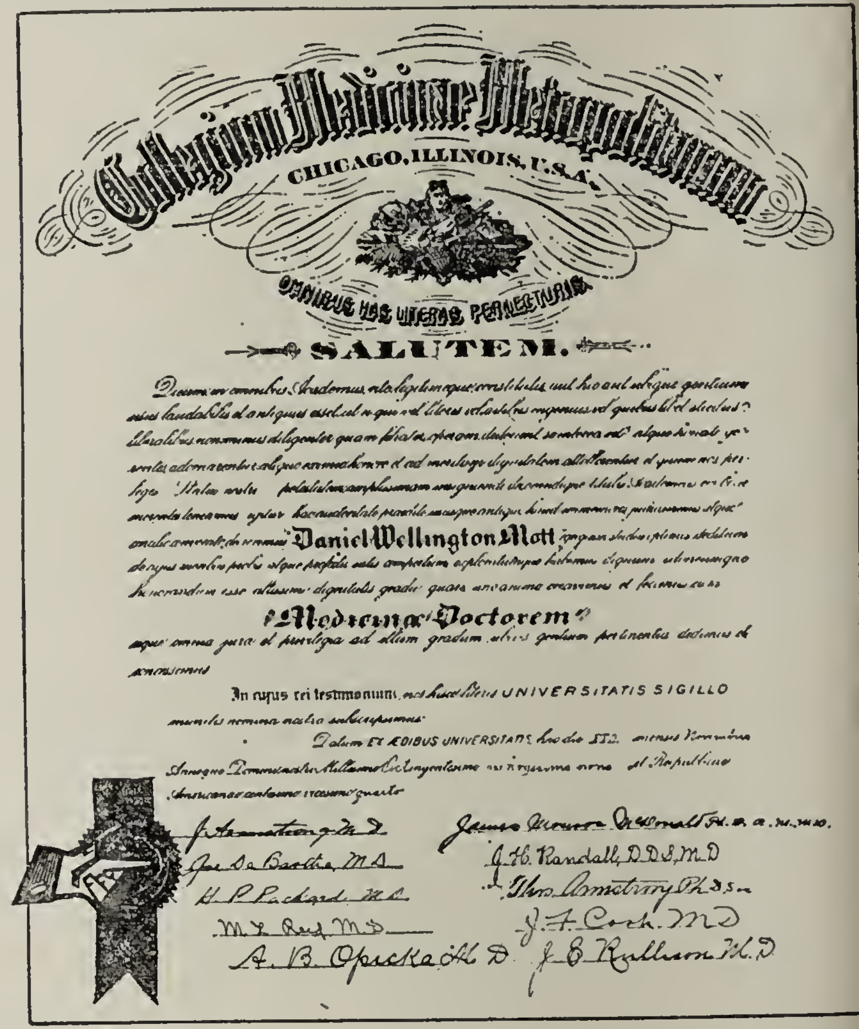
> "A cure is within the reach of all."
> "We cure all forms of rheumatism that are curable."
> "An absolute cure for rheumatism in all its various forms."
> "An internal Turkish bath that cures rheumatism, liver, stomach and nervous diseases."
> "All forms of rheumatism are amenable to its administration."
> "There is no recurrence of the trouble."
> "Consists of purely vegetable and perfectly harmless medicines taken internally." [Reminds one of Lydia Pinkham.]

On the stationery of the DeBarthe concern, in addition to the president's name, two other names appear—"John Alexander Ross, Physician in Charge," and "Dr. Jos. DeBarthe, Director Medical Dep't." What the DeBarthe treatment is, we do not know. A letter from a physician, regarding this concern, says, in part:

> "The agent representing the DeBarthe Co. gives the Chicago Hospital, Chicago, Ill., as their address. They seek to sell their treatment, consisting of medicine of secret formula, at $25 a treatment to physicians or institutions and require an initial payment of $1,000 on account."

So far as we can learn, DeBarthe is not a physician. Certainly he is not licensed in Illinois. In fact, the secretary of the Illinois State Board of Health states that he has authorized the state's attorney in Cook County to prosecute DeBarthe if at any time he is found to be practicing medicine in Illinois. We understand that DeBarthe used to live at Sheridan, Wyo., where he was a lawyer and a newspaper man. He left there some time ago and coming to Chicago he was connected with the Metropolitan Medical College, a notorious diploma mill, that was put out of business by the government. DeBarthe's name appeared in the list of the faculty of the "institution" with the letters "M.D., LL.D.," after it and the titles "Professor of Medical Jurisprudence" and "Lecturer on Electrology and Electrotherapeutics." Whether DeBarthe got his M.D. degree from the school in which he was a "professor," we do not know.

In this connection, the following sidelight on DeBarthe and his methods will be of interest. In November, 1910, The Journal received a letter from a Mr. L. of M., Ohio. Mr. L.'s story was briefly as follows: For twelve years his wife had been affected with rheumatism and was unable to walk more than a few steps. DeBarthe, who had been treating patients in X——, O., heard of the case and came over to Mr. L.'s house. He told L. that he could put Mrs. L. "on her feet in one year," but he required $250 in advance before he would take the case. Mr. L. sent DeBarthe the $250 and received some medicine, which, he claims, DeBarthe valued at $50. Treatment was commenced October 18, 1910, at which time Mrs. L. was in her usual state of health. She died eleven days later—October 29, 1910. When Mr. L. saw that his wife was becoming seriously ill under the treatment, he both telegraphed and telephoned DeBarthe to come immediately. This DeBarthe refused to do and told L. over the telephone, that he was unduly alarmed, that his wife would not die and that he did not think it necessary to call in a local physician. After his wife's death, Mr. L. sent the death certificate to Chicago where it was signed by DeBarthe and returned to him.



CHICAGO, ILLINOIS, U.S.A.

OMNIBUS HAS LITERAS PERLECTURIS

SALUTEM.

Daniel Wellington Mott

Medicinae Doctorem

In cujus rei testimonium ... UNIVERSITATIS SIGILLO

Datum EX ÆDIBUS UNIVERSITATIS

J. H. Randall, D.D.S., M.D.

J. F. Cook, M.D.

Photographic reproduction of one of the diplomas issued by the fraudulent Metropolitan Medical College. Notice DeBarthe's signature just under that of Armstrong, who was sentenced to one year in jail and a fine of $500 for conducting the fraud. Exposed in The Journal A. M. A., March 12, 1898, Oct. 14 and 21, 1899, and Nov. 3, 1900.

Such briefly is the story told by Mr. L. Investigation proved that DeBarthe was not licensed to practice in Illinois nor in Ohio. We have, therefore, the spectacle of a man living in Illinois, practicing in Ohio and signing death certificates although he has no legal right to practice in either state. In fact, so far as we know, DeBarthe has no legal right to practice in any state.

From what has been said, the medical profession will have little difficulty in assigning the DeBarthe Institute to its proper niche in the hall of fakes and humbugs.

Marriages

Charles Mallory Remsen, M.D., Atlanta, Ga., to Miss Elizabeth Olive Patterson of Denison, Ia., at New York City, November 29.

John Wesley Bovee, M.D., Washington, D. C., to Mrs. Caroline Copley Wemple of Chaumont, N. Y., at Auburn, N. Y., November 27.

Charles Bradford Rodes, M.D., Butte, Mont., to Miss Clarissa Spellman of Anaconda, Mont., at Helena, November 26.

Nelson D. Brayton, M.D., Phoenix, Ariz., to Miss Lillie May Terry of Williams, Ariz., at Cynthiana, Ky., November 30.

Robert L. Neff, M.D., Joplin, Mo., to Mrs. Carrie R. Dixon of West Townsend, Vt., at Carthage, Mo., November 28.

Charles F. Freytag, M.D., Rock Island, Ill., to Miss Martha M. Beatty of Avening, Ont., at Chicago, November 25.

Coleridge L. Beaven, M.D., Fairmont, W. Va., to Miss Hedwig Margaret Wanke, at Baltimore, November 21.

Emerson A. North, M.D., Lima, O., to Miss Edna J. Schwarm of Avondale, Cincinnati, November 20.

Leo George Scheurich, M.D., Tomah, Wis., to Miss Margaret M. Gasper of Adrian, Wis., November 22.

William Henry Spencer, M.D., to Miss Bertha Wenig, both of Cedar Rapids, Ia., at Chicago, November 15.

Robert Henry Fowler, M.D., to Miss Caroline Auchincloss, both of New York City, November 29.

Floyd M. Freeman, M.D., Goshen, Ind., to Miss Elisabeth Miller of Sturgis, Ind., November 30.

Samuel David Shull, M.D., to Miss Elva W. Hutton, both of Chambersburg, Pa., November 29.

Alfred H. Potter, M.D., to Miss Helen Foerster, both of Columbus, O., November 29.

Ernest Miller, M.D., Newman, Ill., to Miss Opal Spaugh of Hope, Ind., recently.

Deaths

Ezra Spencer McClellan (licentiate New York State Medical Society, 1874); died at the home of his daughter in Northampton, Mass., December 2, from cerebral hemorrhage, aged 87. Dr. McClellan was a pioneer in the field of sanitation and in great measure to his efforts was due the adoption of the first antispitting ordinance passed in the state, at Saranac Lake in 1896. He also, while health officer of Saranac Lake, put in force the compulsory disinfection of rooms vacated by tuberculosis patients together with other preventive ordinances. Through his efforts, an efficient sewer system for Saranac Lake was mapped out and an inexhaustible supply of pure water obtained for the city. For several years he had been working diligently in the endeavor to educate dairymen and the people to the realization and necessity of milk inspection, and last summer an ordinance was passed providing for the official inspection, by the board of health, of all dairy products sold in Saranac Lake. Dr. McClellan was a member of the American Medical Association and the American Public Health Association and was formerly president of the Northern New York Medical Association. From 1896 to 1907 he served as president of the Saranac Lake Board of Health and the brief which he compiled and submitted to the International Tuberculosis Congress at Washington showing the ways and means for the prevention of tuberculosis infection as enforced by the board, was awarded the silver medal by the congress.

David R. Silver, M.D. Jefferson Medical College, 1868; to whom probably more than to any other one man credit is due for the remarkable housecleaning that has taken place in the past four or five years in the advertising pages of religious journals; died in Christ Hospital, Cincinnati, December 6, after an operation for prostatectomy, aged 68. Dr. Silver was a member of the American Medical Association; and formerly president of the Ohio State Medical Association; had served several terms as a member of the board of education and board of health of Sidney, O., and was a member of the board of trustees Miami University, Oxford, and local surgeon of the Big Four System at Sidney. He was a prominent advocate of temperance and was instrumental in securing the passage of many bills through the legislature relating to the practice of medicine and the welfare of medical practitioners. He was president of the Ohio League for the Suppression of Fraudulent Advertising, an organization composed largely of physicians who worked steadily and conscientiously for the object expressed in the title of their organization.

Alonzo De Los Wilkinson, M.D. Missouri Medical College, St. Louis, 1882; one of the most prominent physicians in Lincoln, Neb.; a member of the American Medical Association, and for many years secretary of the Nebraska Medical Association; died in Lincoln, December 5, from pneumonia, aged 54. Dr. Wilkinson was born in West Lebanon, Pa., and after practicing in Creston, Ill., and Denison, Ia., settled in 1894 at Lincoln. He was at one time professor of diseases of children of the medical department of Wesleyan University. He was also local surgeon for the Missouri Pacific Railway and medical director of the Security Mutual Life Insurance Company of Lincoln.

George LeRoy Rice, M.D. George Washington University, Washington, D. C., 1863; a member of the Massachusetts Medical Society; assistant surgeon and on duty in hospitals of St. Louis, Memphis and Savannah during the Civil War; for one term postmaster, city physician and a member of the board of education of North Adams, Mass., and for twenty-three years a member of the staff of the North Adams Hospital; died at the home of his daughter in Salamanca, N. Y., November 23, aged 73.

Katherine Snyder Busse, M.D. University of Michigan, Ann Arbor, 1888; for twenty years a practitioner of Evansville, Ind.; a member of the staff of the Southern Indiana State Hospital, Woodmere, from 1892 to 1896, and later a member of the consulting staff of the Southeastern Indiana State Hospital, Madison, of which her husband was superintendent, died at Madison, November 26, from cerebral hemorrhage, aged 48.

Willard Newton Smart, M.D. Long Island College Hospital, Brooklyn, 1871; a member of the American Medical Association and formerly president of the Southern California and San Diego County medical societies; formerly acting assistant surgeon, U. S. M.-H. Service; a specialist on diseases of the eye, ear, nose and throat; died at his home in San Diego, October 23, aged 62.

Lieutenant Wilmont Elton Brown, M.D., Starling Medical College, Columbus, O., 1897; Lieutenant, M. R. C., U. S. Army; died at Fort Bayard, N. Mex., November 17, from tuberculosis, aged 38. Dr. Brown served in the Philippine Islands for nearly two years; while there he contracted tuberculosis and in 1906 was ordered to Fort Bayard.

Joseph Eugene Vidal, M.D. College of Physicians and Surgeons, New York City, 1883; of Stapleton, Long Island, N. Y.; formerly a member of the American Medical Association and for several years a member of the staff of the S. R. Smith Infirmary, Stapleton; died in the Presbyterian Hospital, New York City, November 19, aged 50.

Edward Meany, M.D. University of Buffalo, 1887; a member and former president of the Tompkins County (N. Y.) Medical Society; of the American Medical Association; first health officer of Ithaca, N. Y., and president of the Ithaca Realty Company; died at his home in Ithaca, November 21, from cerebral hemorrhage, aged 46.

Merritt Bates Campbell, M.D. Harvard Medical School, 1866; of Los Angeles, Cal.; formerly medical cadet, U. S. Army; for twelve years physician to the Illinois State Penitentiary, Joliet; superintendent of the Southern California State Hospital, Patton, for eleven years; died suddenly at Heber, Cal., December 2, aged 68.

William C. Parry, M.D. Jefferson Medical College, 1872; a member of the Medical Society of New Jersey; state senator from 1895 to 1898; president of the Burlington County Trolley Company; died at his home in Hainesport, November 28, from pneumonia, aged 62.

John McMahon, M.D. Jefferson Medical College, 1881; the founder of the Women's and Children's Hospital, San Jose, Cal., formerly known as the McMahon Hospital; died at his home in San Jose, November 18, from cerebral hemorrhage, aged 56.

Clarence Wilson Datesman, M.D. New York Homeopathic Medical College, 1903; formerly of Oradell, N. J.; died at his home in Pine, Colo., October 6, from pulmonary tuberculosis, aged 32.

Adolph Blitz, M.D. Cincinnati College of Medicine and Surgery, 1873; a veteran of the Civil War and a specialist in diseases of the eye, ear, nose and throat of Boise, Ida.; formerly a member of the American Medical Association; died at his home in Boise, November 19, from carcinoma of the stomach, aged 66.

Milton Robert Bailey, M.D. Western Reserve University, Cleveland, O., 1882; of East Peoria, Ill.; local surgeon of the Peoria and Pekin Union Railroad; for several years treasurer of the village and a member of the board of school inspectors; died in St. Francis Hospital, Peoria, November 22, from tuberculosis, aged 56.

Leroy M. Bingham, M.D. University of Vermont, Burlington, 1870; a member of the Vermont State Medical Society; for twenty years chief of the surgical staff of the Mary Fletcher Hospital, Burlington; chief surgeon of the Rutland Railroad; died at his home in Burlington, November 27, aged 66.

William Flowers Scales, M.D. University of Alabama, Mobile, 1887; formerly a member of the American Medical Association; for twenty years a practitioner of Macon, Miss., and local surgeon of the Mobile and Ohio Railroad; died in Providence Hospital, Mobile, September 23, aged 47.

David Corwin Bice, M.D. State University of Iowa, Iowa City, 1875; a member of the American Medical Association; formerly of De Soto and Des Moines, Ia.; died in St. Luke's Hospital, Denver, November 26, after an abdominal section, aged 59.

John Wagner, M.D. Cooper Medical College, 1873; of San Francisco; a member of the American Medical Association and a veteran of the Civil War; died from heart disease while cranking his automobile, November 22, aged 63.

Martin Schnabel, M.D. University of California, San Francisco, 1873; a member of the Medical Society of the State of California; formerly of Newcastle; died at his home in Sacramento, November 21, aged 65.

Will McCaw, M.D. College of Physicians and Surgeons, New York City, 1888; a member of the Medical Society of the State of New York; of Geneva; died in Albuquerque, N. Mex., November 16, aged 48.

Jacob L. Fuller, M.D. Memphis Hospital Medical College, 1907; died at his home in Humboldt, Tenn., November 23, from injuries received in a fall several months before, aged 52.

Cyrus Otway Weller, M.D. Jefferson Medical College, 1869; a member of the State Medical Association of Texas; died at his home in Austin, November 1, from influenza, aged 70.

Walter Newton Humphrey, M.D. Jefferson Medical College, 1893; a member of the Allegheny County Medical Society; died at his home in Sharpsburg, Pa., recently, aged 41.

H. C. Barkhousen (years of practice, Illinois, 1877); said to have been the oldest practitioner in Alexander County; died at his home in Unity, November 9, aged 94.

William H. Somerville, M.D. Hahnemann Medical College, Philadelphia, 1881; died at his home in Kensington, Philadelphia, November 6, from nephritis, aged 55.

James Ellison Venters, M.D. Hospital College of Medicine, Louisville, 1906; died at his home in Whitesburg, Ky., November 24, from typhoid fever, aged 36.

Charles E. Thomas, M.D. Jefferson Medical College, 1857; of Woodbury, N. J.; died suddenly in Philadelphia, November 13, from heart disease, aged 73.

Bennett Thomas Welch, University of Buffalo, N. Y., 1907; of Buffalo, N. Y.; died in Butte, Mont., October 29, from typhoid fever, aged 27.

Ollie C. Brake, M.D. Birmingham (Ala.) Medical College, 1908; of Raton, N. M.; died recently from hemorrhage of the bowels, aged 35.

Clifford Emmett Allen, M.D. University of California, San Francisco, 1896; died at his home in Stockton, Cal., November 5, aged 40.

Carrie F. Young, M.D. California Medical College (Eclectic), San Francisco, 1884; died at her home in Berkeley, November 3, aged 83.

Albert D. Alexander, M.D. University of Alabama, Mobile, 1888; of Merrouge, La.; died at Hot Springs, Ark., May 17, aged 45.

Jacob Sears Starr (license, Iowa, 1886; years of practice); died at his home in Lacona, November 4, aged 79.

Correspondence

Rebreathing in Anesthesia

To the Editor:—I desire to correct the report of my remarks (The Journal, Nov. 11, 1911, p. 1611) in the discussion of the paper by Dr. Gatch on anesthesia. The notes as printed are in part exactly opposed to my real views. I am strongly in favor of Dr. Gatch's method of administering nitrous oxid, instead of being opposed to it. In my remarks on Dr. Gatch's use of the principle of rebreathing, I aimed to emphasize the importance of the practice. I pointed out that Nature herself, by the very structure of the human body, causes us to breathe, through a tube, namely, the trachea, pharynx, nose and mouth, and that thus we normally rebreathe to the extent of about 30 per cent. Rebreathing from a bag, as practiced by Dr. Gatch, or through a tube, is a simple, entirely rational and effective method of combating the hyperpnea of pain and of the stage of excitement during anesthesia.

Yandell Henderson, New Haven, Conn.

Benzoate of Soda Again

To the Editor:—An editorial entitled "Benzoate of Soda Again," in The Journal, Nov. 4, 1911, contains certain features so manifestly unfair and misleading that anyone who respects truth must be impelled to utter a word of emphatic protest. The question as to the permissibility of the use of preservatives in general, or of any preservative in particular, may obviously involve more than the physiologic effects of the substance under discussion. Thus a preservative might be found to be physiologically harmless, and yet its use be contrary to public policy. It may fairly be debated whether the employment of a substance which will conceal inferiority or uncleanliness should be allowed in any event. In the case of saccharin, its exclusion has been suggested for the most part on other than purely physiologic grounds. In your editorial similar general or practical considerations in relation to sodium benzoate are discussed.

The physiologic action of a substance, on the other hand, is something which can be ascertained by experimental investigation. It is to this phase of the preservative question that the Referee Board appointed by President Roosevelt primarily directed its attention with an intelligent appreciation of what scientific research involves. In referring to this aspect of the matter in the editorial under discussion the following paragraph is introduced:

"And now comes from Berlin the 'Expert Opinion of the Royal Scientific Deputation for Medical Affairs Regarding the Use of Benzoic Acid and Its Salts for the Preservation of Food.' These experts were requested by the Minister of Education and Medical Affairs in Germany to give their opinion on this subject. In their report, they first describe the chemical and physiologic action of these drugs and then briefly summarize the findings of various scientists on the question at issue. Of the decision of the United States Referee Board, these German scientists say:

> "'The series of experiments in this connection made by the American scientists are of too short duration and the results coupled with certain limitations, so that they cannot be regarded as demonstrating the unconditional non-injurious nature.'"

This apparent impeachment of the conclusions of a most representative group of American scientists and of the results of a series of physiologic researches that will stand for some time as types of thorough investigation, must have awakened some confusion and not a little surprise in the minds of the thousands of readers who are not familiar with the results of science at first hand, but learn the merits of modern research from the columns of The Journal. One who has personally studied the report of the United States Referee Board will find it hard to believe that two German scientists like Professors Heffter and Abel (who comprised the "Royal Scientific Deputation" mentioned in the editorial) should, without further experimental evidence, find occasion to contradict the guarded conclusions in the United States Referee Board's Report. A reference to the German "expert opinion" (*Gut-*

achten) shows on the contrary that instead of impugning the conclusions of the United States Referee Board the German Commission has actually accepted them in every detail. Let me quote their opinion verbatim:

"Zusammenfassend darf man wohl sagen, dass die Benzoesäure und das benzoesaure Natrium erst in verhältnismässig hohen Gaben eine Giftwirkung auf den Organismus entfalten. Aus dem regelmässigen Vorkommen der Hippursäure, des Paarungsproduktes der Benzoesäure, im menschlichen Harn ist zu schliessen, dass kleine Mengen benzoesaurer Salze, die aus der pflanzlichen Nahrung stammen oder aus Bestandteilen dieser Nahrung durch Oxydation entstehen, im Blute kreisen. Man darf hieraus sowie aus den Versuchen der amerikanischen Kommission wohl den Schluss ziehen, dass Mengen bis zu etwa 0.5 g. Benzoesäure in kleinen Mengen tagsüber genossen, für den menschlichen. Körper als harmlos zu bezeichnen sind. Ob grössere Gaben (Mengen von mehreren Grammen) auf die Dauer von allen Menschen ebenso folgenlos ertragen werden, ist mit Sicherheit vorläufig nicht zu beantworten. Die in dieser Beziehung vorliegenden Versuchsreihen der amerikanischen Gelehrten sind von zu kurzer Ausdehnung und die Ergebnisse mit gewissen Einschrankungen versehen, so dass sie als beweisend für die unbedingte Unschädlichkeit nicht angesehen werden können."

"Die Wirkungslosigkeit kleiner Dosen Benzoesäure beruht offenbar darauf, dass sie durch die Verwandlung in Hippursäure entgiftet wird. Das Entgiftungsvermögen des menschlichen Organismus beruht auf seinem Glykokollvorrat, und er ist anscheinend imstande, wie aus den angeführten Beobachtungen hervorgeht, ziemlich erhebliche einmalig gereichte Benzoesäuremengen zu entgiften, d.h. zu paaren. Ob dieses Schutzvermögen auch bei der beständigen Zufuhr grösserer Benzoesäuremengen sich ausreichend erweisen würde und ob vor allen Dingen auch Personen mit beschwächten Körper oder bei geringer Eiweisszufuhr dazu imstande wären, ist nicht erwiesen." (From Vierteljahrsschrift für gerichtliche Medizin und öffentliches Sanitätswesen, Dritte Folge, XLI Band, 2 Heft; Jahrgang 1911, Heft 2 (April, 1911), pp. 330-336.)

Translation.—"In review it may be stated that benzoic acid and sodium benzoate exert a toxic action only in comparatively large doses. From the regular occurrence of hippuric acid, the product of conjugation with benzoic acid, in the human urine, one must conclude that small quantities of benzoate derived from vegetable foods or by oxidation of constituents of such foods circulate in the blood. *From this, as well as from the experiments of the American commission, the conclusion can be drawn that quantities of benzoic acid approximating 0.5 g. consumed in small portions throughout the day, are to be designated as harmless for the human body.* Whether *larger quantities* (portions of *several grams*) can likewise be tolerated without effect continuously by all persons cannot at present be answered with certainty. The series of experiments in this connection made by the American scientists are of too short duration and the results coupled with certain limitations, so that they cannot be regarded as demonstrating the unconditional non-injurious nature.

"The inertness of small doses of benzoic acid obviously depends on detoxication by conversion into hippuric acid. The capacity of the human organism to detoxicate depends on its glycocoll reserve, which apparently is capable, as demonstrated by the quoted experiments, of rendering non-toxic, i. e., conjugating with very considerable quantities of benzoic acid administered once. Whether this protective capacity would suffice when the larger quantities of benzoic acid continue to be introduced and whether above all individuals with weakened bodies or low protein intake would be capable thereof, has not been demonstrated." (The italics are mine.)

The sentence in the German report in reference to the fact that the harmlessness of benzoate cannot be regarded as conclusively demonstrated, owing to the short duration of the trials, etc., clearly refers to large doses (quantities of several grams) and is in no way in conflict with the published conclusions of the Referee Board. In The Journal's editorial, however, this sentence has been adroitly detached from its context and made to apply to "the decision of the United States Referee Board," without further specific restriction. The suppression of truth cannot readily be defended, though it does at times occur in the ardent defense of some worthy cause; but the distortion of facts always calls for condemnation from every-one who stands for honesty in science. In this respect it seems as if the editorial in question had employed the very methods of attack which The Journal has so often (and properly) condemned in the patent-medicine faker and the antivivisection propagandist.

The injustice done to the report of the Referee Board and the incompetence thereby indirectly charged to its authors by the promulgation of this perverted review of the German *Gutachten* extends beyond the subscription list of The Journal. The editorial has been copied in the columns of *Science* (Nov. 10, 1911, p. 638), without apparent verification, criticism, or correction; and owing to the enormous prestige of both of these journals the misleading statement will doubtless receive further widespread repetition by periodicals and individuals who rely on the two American journals which are assumed to represent the highest ideals of science. It is unfortunate that the enthusiasm for any propaganda should render its supporters unable to differentiate the value of the reform proposed and the validity of the evidence collected in relation thereto. A frank admission of truth ought not to injure any worthy cause.

LaFayette B. Mendel, New Haven, Conn.

[Comment.—The points raised in this letter were discussed editorially in The Journal, Nov. 25, 1911.—Editor.]

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

AN INCOMPATIBLE PRESCRIPTION

To the Editor:—The following is a prescription that I saw recently. I am curious to know what will be the result of this mixture.

The prescription is as follows:

℞.

Potas. Iodid	ʒi
Acid. Nitric. Dil.	ʒiii
Tr. Belladonnæ	ʒi
Ac. Salicylic.	ʒi
Aq. Camph. q. s.	℥iii

Sig.: Two teaspoonfuls three times a day in water.

H. W.

Answer.—Theoretically, the result of making a mixture according to the above prescription would be that the nitric acid would liberate some iodin from the potassium iodid and that this iodin would react with the alkaloids in the tincture of belladonna with the formation of an insoluble periodid. Further, the amount of salicylic acid is such that most of it would be insoluble in the liquid present.

A practical trial confirms this. When the potassium iodid is dissolved in water and the nitric acid added, some free iodin appears and, on the addition of the tincture of belladonna, the solution becomes turbid. In the finished prescription a large proportion of the salicylic acid remains undissolved.

THE LAST NOBEL PRIZE

To the Editor:—Recently a local newspaper stated that a Swedish scientist had received the Nobel prize for his researches in dietetics. Please inform me in regard to the nature of this work which merited such a prize. Otto V. Huffman, M.D., Cincinnati.

Answer.—As The Journal stated recently (November 25, p. 1774) the Nobel prize in medicine for this year has been awarded to Dr. Gullstrand, professor of ophthalmology at the University of Upsala, Sweden, for his research on dioptrics, that part of optics which treats of refraction. The proof-reader on "the local newspaper" was thinking evidently more of his Thanksgiving turkey than of his "copy" when he made "dioptrics" read "dietetics."

THE ACNE BACILLUS

To the Editor:—Please describe the acne bacillus and give me the method of growing it. G. A., Harrisburg, Pa.

Answer.—The *Bacillus acne* is a short, thick, slightly curved bacillus which often becomes longer and thicker in cultures, and in old cultures develops branching forms. The organism is slightly motile, non-capsulated and stains by Gram's method. It grows on practically all media; on agar as a pure white pultaceous mass, elevated, moist, smooth and glossy. It is pathogenic for mice and guinea-pigs, and is agglutinated by the patient's serum in dilutions up to 1:100.

REMOVAL OF TATTOOING

To the Editor:—Please describe the best method of removing a tattooed design on the skin of the hand. Kindly mention references. H. M. L.

Answer.—This query was answered in The Journal, July 22, 1911, p. 310. The various methods are described in the standard works on dermatology.

BRASS POISONING

To the Editor:—Is there such a disease as brass poisoning among brass polishers? What are its symptoms and in what part of the body does it show its effects? Is there any literature on the subject?

W. B. Clark, Butler, Pa.

Answer.—It is, of course, brass founders, not brass polishers, who usually suffer from brass poisoning, because the volatilized zinc is the substance responsible for the poisoning. The form of poisoning from which brass polishers suffer is apt to be lead poisoning, for all brass contains more or less lead. The only American literature we find on the subject is Dr. Hayhurst's chapter on brass poisoning in the report of the Committee on Occupational Diseases in Illinois, January, 1911. This can be had by applying to the chief factory inspector, Edgar Davies, Security Building, Chicago.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 9, 1911.

King, Edgar, captain, December 1, granted leave of absence for one month and fifteen days.

McAlister, John A., Jr., dental surgeon, December 1, relieved from duty at Fort Leavenworth, Kan., and ordered to Jefferson Barracks, Mo., for duty.

Voorhies, Hugh G., dental surgeon, December 1, relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Leavenworth, Kan.

Ashford, Mahlon, captain, December 1, leave of absence extended one month.

Enders, William J., M.R.C., December 1, relieved from duty in the Philippines division and on arrival at San Francisco to report to the adjutant general of the Army for further orders.

Maynard, E. B., M.R.C., December 4, orders directing him to proceed to the Philippine Islands on Jan. 5, 1912, is amended to read "April 5, 1912," instead.

Stephenson, William, lieut. col., December 4, will proceed to several points, eastern division, to make an inspection of the medical department and the sanitary condition of troops and stations.

By par. 4, S. O. 281, W. D., Dec. 1, 1911, each of the following named officers of the Medical Corps will report on March 4, 1912, to Lieut. Col. Charles M. Gandy, Medical Corps, president of the examining board at Manila, P. I., for examination to determine his fitness for promotion, and on completion of the examination will return to his proper station: First Lieuts. Henry C. Cobury, Jr., Charles E. Doerr, Daniel P. Card, Ralph H. Goldthwaite, James C. Magee, Corydon G. Snow, Norman L. McDiarmid, Leon C. Garcia, George D. Heath, Jr.

Stone, Frank P., dental surgeon, December 1, reported for temporary duty at Jackson Barracks, La.

Thomason, Henry D., captain, December 2, ordered to proceed to Pittsburgh to attend meeting of the Association of National Guard Officers of Pennsylvania, Dec. 8 and 9, 1911.

Murray, Wilson, M.R.C., December 8, orders to the Philippine Islands, July 5, 1912, revoked. Relieved from duty at Fort William H. Harrison, Mont., and will proceed to his home and will stand relieved from active service in the Medical Reserve Corps at expiration of two months' leave of absence granted him this date.

By par. 2, S. O. 286, W. D., Dec. 7, 1911, the following named officers of the Medical Corps are detailed to take the correspondence course in the Army Field Service and Correspondence School for Medical Officers, Fort Leavenworth, Kan.: Majors Charles Lynch, James M. Kennedy, Deane C. Howard, William H. Wilson, William F. Lewis, Thomas J. Kirkpatrick, Irving W. Rand, Powell C. Fauntleroy, James S. Wilson, Basil H. Dutcher, Leigh A. Fuller, George A. Skinner, Carl R. Darnall, Henry Page, Henry A. Webber, Jere B. Clayton, Edward R. Schreiner, Frederick M. Hartsock, Douglas F. Duval, Charles J. Manly, David Baker, James R. Church, Elmer A. Dean, Francis M. C. Usher, Willard F. Truby, Henry S. Greenleaf, Louis T. Hess, Christopher C. Collins, Benjamin J. Edger, Jr., George M. Ekwurzel.

Enders, William J., M.R.C., December 6, on arrival at San Francisco from the Philippine Islands to proceed to his home. Lieutenant Enders is relieved from active duty in the Medical Reserve Corps on expiration of the leave of absence granted him this date for one month and twelve days.

Schmitter, Ferdinand, captain, December 6, relieved from duty at Fort Slocum, N. Y., and at expiration of leave of absence granted him this date, for two months, will proceed to Fort Clark, Tex., for duty.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Kentucky: The Armory, Louisville, December 19-21. Sec., Dr. J. N. McCormack, Bowling Green.

Virginia: Lynchburg, December 19-22. Sec., Dr. R. S. Martin, Stuart.

An Efficient Public Official

An efficient public official is one who is always on the firing line and naturally receives the complaints, the annoyances and abuse of disappointed seekers after special privilege. In fact, the more efficient the work of the official the greater are the difficulties of his position. Too often, however, such an official is compelled to work under the additional handicap of being misunderstood by his friends and being criticized by the very ones whose interests he is striving to protect. These statements are particularly true regarding the position of a health officer or an efficient secretary of a state medical licensing board. Some of the difficulties of the latter position are given in the following extract from a statement issued by a special committee of the Colorado State Board of Medical Examiners, on the retirement of Dr. S. D. Van Meter who has ably served as its secretary for the last ten years:

> "To him [Dr. Van Meter] is largely due the credit of framing our present efficient medical statute, and practically to him alone the state is indebted for its thorough and impartial enforcement. . . . Work in the numerous legislatures, irksome and humiliating at times, nevertheless necessary so that the members might have a proper conception of adequate medical licensure, he has performed with a high sense of duty. Let no one think his way has been along paths of peace or his seat a downy pillow. Harassed on every hand, persecuted by the innumerable charlatans to whom he was a thorn in the flesh, made defendant along with the other members of the board in a suit for malicious prosecutions, attempts at bribery (mute evidence of which is found in our records to-day), in countless other ways he was made the target for conscienceless abuse. Curiously enough the same state society which should have taken special pride and delight in easing his way has been, if not actively hostile (as one of the constituent societies showed itself to be) at least unsympathetic and negligent at times when its help and encouragement would have counted for much."

The difficulties in the Colorado situation and elsewhere are further shown in Dr. Van Meter's reply to the committee's statement:

> "The absolute fairness of the present plan of medical licensure in this state, more than any other factor, has been responsible for the prevention of multiple boards and laws that have proven so demoralizing in many other states. This bulwark will not stand out unassisted forever against the well-engineered campaigns of the organized and combined forces that are using the foulest of means to destroy all statutory restrictions tending to protect the public health and elevate the medical profession. The venal press, the patent medicine interests, and that large conglomerate army of pseudophysicians constitute an opposition of great proportions; and when we have the unfortunate condemnatory public feeling engendered by the shortcomings and misdeeds of members within our ranks added, it behooves those interested in public health legislation to ponder and thoughtfully consider ways and means to thwart this army of mercenaries in their efforts to remove what little protection to the public health our existing statute affords.
>
> "It is disheartening to note the apathy of the majority of the medical profession in this work, but can we blame them? The insults meted out to the individual who attempts to aid in medical legislative work are more than enough to extinguish the ambition of the most enthusiastic. It is not strange, therefore, that in every community we find only a few members of the profession who are willing to make the sacrifices the work necessarily demands.
>
> "I am sometimes almost persuaded that it would be better to repeal every statute regulating the practice of medicine and prove to the people conclusively that those laws are of no pecuniary benefit to the medical profession. I believe that it would in a very short time result in the enactment of medical laws shorn of the compromise provisions common to medical statutes in general. Such a radical change of base, however, would be so revolutionary it might bring unexpected evils, and therefore it is better to be satisfied to accomplish little by little, trusting in time to make the legal right to practice medicine in this and every other state mean qualification, both educational and moral."

Clearly, what this country most needs at the present time is more *men* rather than more law. Far more important than a well-worded law is a thoroughly efficient officer to enforce it. Flaws in a practice act will usually be corrected by an able officer but without him the best possible law is of no effect. Give us a larger number of more efficient men on our boards of medical examiners.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

EDITORIAL VIEWS ON A NATIONAL DEPARTMENT OF HEALTH

One of the most striking results of the campaign for a national department of health is the increased amount of space given to the discussion of health topics by the leading newspapers. With few exceptions, the newspaper editors are not led astray by the sophistry and misrepresentation of the opponents of the measure. The views expressed by the newspapers are of interest and value, but space permits the quotation of only a few to indicate the general trend. The Milwaukee *Free Press* says:

"There is good reason to believe that the present congress will pass the Owen measure or one like it, since the opposition, well organized, financed and persistent as it is, has overreached itself in its extravagant alarums.

"The claim that a federal health department would and could establish state medicine and drive all save one class of practitioners from the country—which is the chief bogey of the opposition—has become a joke with every citizen who has taken time to look the question fairly in the face. . . . While the federal government is wholly within its jurisdiction when it lays down medical and sanitary regulations for the Canal Zone and other federal territory, it cannot do so for the individual states. There is no interstate commerce law with regard to disease, and not even the most extreme Rooseveltian "nationalist" would dare to think of forcing federal health laws or laws with regard to medical practice on the sovereign commonwealths. The activity of a national department of health would be very largely one of study, research and experiment, such as that of the government's scattered health agencies to-day. Only with all these agencies coordinated, brought under one head and properly financed, their work would be immeasurably more comprehensive and effective."

The Waterloo (Iowa) *Courier*, after discussing the action of the Trans-Mississippi Commercial Congress in indorsing the Owen bill, says:

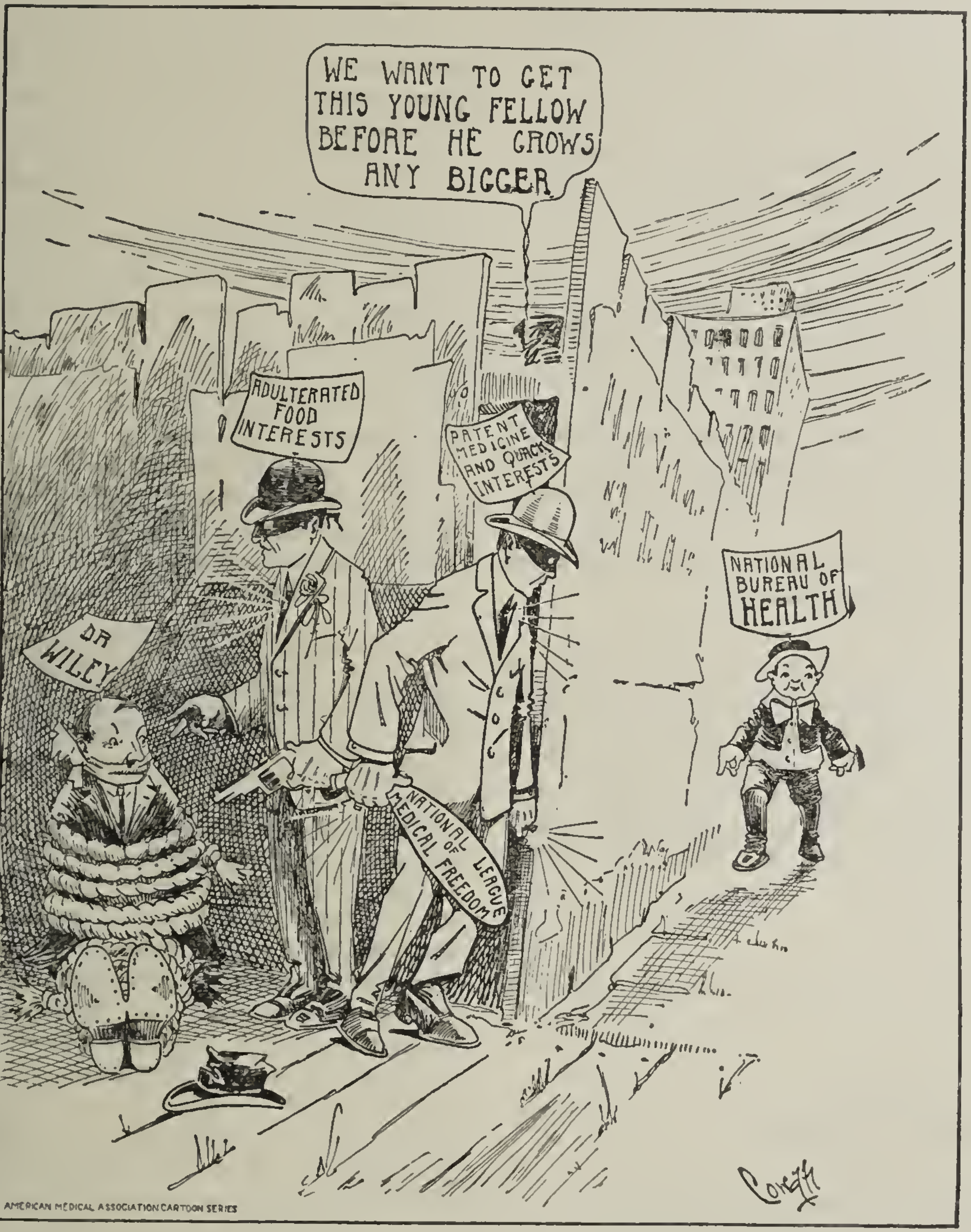
"There is a great deal of bitter opposition to the institution of a department of health, but thus far the opponents seem to have failed in presenting specific objections to the plan. Charges are made that a health department would turn the people of the United States over to a medical trust and that the rights guaranteed American citizens by the constitution would be taken away. The only assurance needed to calm such fears, it seems to us, is that there can be no abridgment of constitutional rights until the constitution is annulled or until it is amended so as to withdraw the personal liberties which the people now enjoy. As to the domination of a trust, the American people would be very weak and silly if they would stand for anything of that kind, health department or not. The ministrations of this department could not be made compulsory in individual cases and would be offered merely to take or leave. Only quarantines between states, such as are now employed to prevent the spread of animal diseases, could be enforced and it is perfectly proper, sane and humane that they should be."

The Cedar Rapids (Iowa) *Republic*, after enumerating the objections raised to a department of health, continues:

"One is inclined to believe that too much is made out of these ideas. The doctors who have favored the creation of a national department of health probably have no such ideas; they are, in all probabilities, as much interested in the welfare of their fellow men as are those who are crying against them. It is impossible to proceed on the supposition that they want to enslave their fellow men in this country, or propagate diseases through suggestions or through fears in order that they may be employed to cure them."

The Wilkes-Barre (Pa.) *Record*, after discussing the charge that the American Medical Association is attempting to form a "trust" says:

"There is every reason to believe that the Association's activity is based on nothing more or less than the desire to reduce the enormous misery and expense of needless disease and death. If the other schools of medicine and recognized curative agencies were to cooperate in the movement to create a federal bureau of health, instead of doing their utmost to defeat it, they would gain more in the way of recognition and prestige. To defeat a movement promising so much of benefit to the people on the vague theory that it would be engineered by a medical trust would be nothing short of a calamity."


WE WANT TO GET THIS YOUNG FELLOW BEFORE HE GROWS ANY BIGGER
ADULTERATED FOOD INTERESTS
PATENT MEDICINE AND QUACK INTERESTS
NATIONAL BUREAU OF HEALTH
DR WILEY
NATIONAL LEAGUE OF MEDICAL FREEDOM
AMERICAN MEDICAL ASSOCIATION CARTOON SERIES
Cory

IT'S THE SAME OLD GANG

One of the best of recent editorial discussions appeared in the Kansas City (Mo.) *Star*. Under the title of "Scarecrows of Democracy" the *Star* says:

"A democracy ought not to be afraid. Yet right now it is fear of the people by the people which prevents the establishment of a national bureau of health. Indifference and ignorance there are. Mysticism and self-satisfaction there are. And indisputably selfish interests, such as fought pure food legislation and tried to oust Dr. Wiley, fight behind a virtuous mask against sane and effective measures of sanitation and cure. Yet many persons who are sincerely in the forefront of the battle for a social square deal are obsessed by the fear that a national board of health or a national bureau of health will be an autocracy of doctors or some other kind of autocracy.

"Strangely enough, these who are thus frightened do not see ghosts when they consider the army of experts who save hogs from cholera and cattle from Texas fever. They do not fear an autocracy of veterinary surgeons; nor do they regard the tree doctors and the cereal physicians as an oligarchy of San Jose scale fighters or a despotism of chinch-bug eradicators. It is only when the proposition is that democracy shall be efficient in saving human life that really sincere people get cold sweats of apprehension.

"Even though an autocracy of doctors were contemplated—which it is not—even so, every man now puts his own life and that of his wife and children in the hands of a physician—an autocrat of life and death. But the *Star* may repeat in this connection what it has often said: The medical profession is really scientific and socially serviceable in its prevailing ideal of rooting out from men and the habitations of men the afflictions which now give the medical practitioners most of their living."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Fourth Month—Third Weekly Meeting

PNEUMONIA

CROUPOUS PNEUMONIA[1]

ETIOLOGY: Influence of age, occupation, habits, previous diseases, climate and season. Specific microorganisms[2] and causal relations. Found in what other regions of body? Morphology and methods of culture.

SYMPTOMS: Clinical course of typical lobar pneumonia, ending in recovery. Symptoms of (a) respiratory system, with physical signs, (b) circulatory system, (c) nervous system.

TREATMENT: Medicinal, serum treatment.[3] Symptomatic treatment. Venesection. Fresh-air treatment.[4]

CATARRHAL PNEUMONIA

PATHOLOGIC ANATOMY: Characteristic changes, gross and microscopic, in lung. Wherein do they differ from croupous pneumonia? Difference in distribution of consolidated areas. Organisms found in catarrhal pneumonia.

SYMPTOMS: After an infectious disease what would lead to diagnosis of catarrhal pneumonia? Usual physical signs. Difference in onset and symptoms between catarrhal and croupous pneumonia.

Differentiate physical signs.

PROPHYLAXIS

TREATMENT:[5] Indications: cough, pain, cardiac depression, cerebral symptoms.

Book Notices

THEORY AND PRACTICE OF THYROID THERAPY. A Book for General Practitioners. By Herbert Ewan Waller, M.R.C.S. England, L.R.C.P. London, Honorary Anesthetist Birmingham Dental Hospital. Cloth. Price, $2 net. Pp. 154. New York: William Wood & Co., 1911.

The author endeavors to collect and review the scattered literature on thyroid. He places the symptoms and results of thyroid insufficiency and connects the deficient secretion of the thyroid with a number of diseased conditions, the relation of which is certainly not well known to the medical profession in general. His first chapter deals with the relation of thyroid deficiency to rickets and dental caries. In the second chapter he investigates the causes for the increasing prevalence of these diseases depending on thyroid insufficiency. These he sums up in three categories: (1) spread of measles and other "minor" infections complaints through increased educational movements; (2) loss of calcium salts in food and water, operating partly *per se*, but chiefly by adverse influence on thyroid activity; (3) decrease of thyroid activity due to loss of function entailed by evasion of maternity or lactation, or both.

He regards the thyroid as a valuable ingredient of mother's milk, which is designed to assist in calcium metabolism and growth of the infant, whose own thyroid is still insufficiently developed. The artificial feeding of infants becomes, therefore, a source of rickets, even though the food contains a sufficiency of calcium, because the function of the thyroid being insufficiently developed, calcium is not assimilated. He also connects fat with the metabolism of calcium and regards a distinct craving for fat as evidence of thyroid insufficiency, whereas an aversion for this element of diet is probably an indication of excessive thyroid activity. The relations of calcium and of iodin to the thyroid are discussed, as well as the view that enlargement of the thymus and of the lymphatic glands and adenoids is an indication of an attempt to compensate for deficient thyroid activity by the increased action of these glands. Waller advocates the theory that the salicylates stimulate the activity of the thyroid in small doses but depress it in large doses.

The book affords many suggestions and hints as to the treatment of conditions which probably may be due to minor variations in thyroid activity, although not presenting the characteristic signs of any recognized disease. Undoubtedly many of the conclusions must be regarded as merely speculative and a decision in regard to them should await further investigation. Meanwhile, the views of the author as to practical thyroid therapy are worthy of consideration, and as in these somewhat obscure conditions he recommends the use of small doses, at least in the beginning, little harm can result from a cautious trial of this remedy in the conditions in which he believes it to be useful.

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By Robert Bing, Privat-Docent for Neurology in the University of Basel. Translated by F. S. Arnold, B.A., M.B., B.Ch. (Oxon). Revised by David I. Wolfstein. Cloth. Price, $2.50. Pp. 215, with 70 illustrations. New York: Rebman Company, 1911.

The aim of a neurologic diagnosis is not only to state the character of a certain lesion, but also to point out where it might be found—in other words, to make a focal diagnosis. This cannot be well done without a working knowledge of the anatomy and physiology of the nervous system. It is for this reason that physicians have always considered neurology abstruse and not worthy their attention. The fact is that neurologic diagnosis not only is not so difficult as that of other branches of medicine, but it also has better foundations, namely, anatomy and physiology. The author has endeavored to facilitate neurologic diagnosis by bringing together in one compact volume the important facts in the applied anatomy and physiology of the central nervous system having a bearing on localization—the most difficult part of the diagnosis. In our opinion he has not only succeeded in this task, but he has accomplished more—he has aroused his reader's curiosity to seek additional light on the subject in more voluminous works. This little book, though somewhat didactic in its tone, constitutes a valuable addition to neurologic literature. The student particularly, but also the physician, will find it a reliable guide. The translation is especially good.

THE PRACTITIONER'S VISITING-LIST, 1912. Thirty Patients Per Week. Leather. Price, $1.25. Pp. 192. Philadelphia: Lea & Febiger, 1911.

The text portion of this visiting-list for 1912 has been thoroughly revised and brought up to date. It contains the usual tables of measures and much other valuable information The record portion contains ruled blanks of various kinds adapted for noting all details of practice and professiona business. It is printed on a good quality of paper and is bound in leather.

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[1] Fulton: THE JOURNAL A. M. A., 1905, xliv, p. 102. Ashton and Landis: Am. Jour. Med. Sc., January, 1905.

[2] Rosenow: Trans. Chicago Path. Soc., 1903, 265. Rosenow: THE JOURNAL A. M. A., 1905, xliv, p. 871.

[3] Anders: THE JOURNAL A. M. A., Dec. 10, 1904.

[4] Norris: Am. Jour. Med. Sc., 1908, cxxxvi, 645. Thomoson: Am. Jour. Med. Sc., 1908, cxxxv, 13. Anders: Med. Rec., July 7, 1906.

[5] Kerley: Phila. Med. Jour., May 16, 1903.

What Shall I Eat? A Manual of Rational Feeding. By F. X. Gourand, Formerly Chief of the Laboratory of the Medical Faculty of Paris. With a Preface by Prof. Armand Gautier, of Paris. Only Authorized Translation into the English Language by Francis J. Rebman. With a Glossary Containing Definitions of the Principal Technical Terms, and an Index of Diseases Referred to in the Text. Cloth. Price, $1.50. Pp. 379. New York: Rebman Co., (1911).

The arrangement of the subject-matter of this book is convenient and rational. Taking up various articles of food the author describes briefly their respective actions on the organs of secretion, assimilation and elimination. He recommends the use or rejection of various foodstuffs and, when discussing debatable questions such as the use of alcohol, white bread, etc., gives the arguments pro and con and leaves the reader to draw his own conclusions. The general tone of the book is sane and conservative. Of the original, the translator says that "the style is facile, succinct and readable." If this is so, much has been lost in the translation, which is characterized by verbosity and obscurity. For example, in giving the author's conclusions regarding meat as a food, we read that " . . . the extravagant content of nitrogen forms the germination of microbes." Probably what the author really said was that the large nitrogen-content (of meat) favors bacterial growth.

Elsewhere the translator makes the author say: "Gastric stimulation, uplift of tension, increase in humoral acidity, are all of the utmost benefit in cases of weak tension and of hypo-acidity of delicate stomachs."! Exactly what this means, not even the most careful study of the context makes plain. Before a second edition of the book is issued, it should be gone over with a freer hand, a more liberal translation made and much that is now obscure and involved changed into good idiomatic English. On the whole, however, the book is a useful and valuable one.

Chemical and Microscopical Diagnosis. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Third Edition. Cloth. Price, $5 net. Pp. 791, with 194 illustrations. New York: D. Appleton & Co., 1911.

The third edition of this work differs from the second by such changes as seem necessary, only those procedures having some extended usage being introduced. The Wassermann reaction is more fully explained and sulphemoglobinemia is discussed for the first time. A full account of the use of alkaline hypochlorid solutions in sputum examination (the antiformin method) is given and a number of the recently devised methods for determining the functional activity of the gastro-intestinal tract are introduced. An especially commendable feature of the book is the chapter on parasites, which is unusually complete and will be welcomed by many who have had difficulty in finding desired information on this subject. The book is handsomely illustrated and well deserves a continuation of the favor with which it has been received.

The Parasitic Amebas of Man. By Charles F. Craig, M.D., Captain, Medical Corps United States Army. From the Bacteriologic Laboratory of the Army Medical School, Washington, D. C., and the Rockefeller Institute for Medical Research, New York. Published with the Authority of the Surgeon-General of the United States Army. Cloth. Price, $2.50. Pp. 253. Philadelphia: J. B. Lippincott Co., 1911.

This monograph is devoted to a description of the various species of amebas which have been described as parasitic to man, and will be of interest to those engaged in parasitology. The morphology, life-cycle, methods of differentiation and relations to disease of these parasites are taken up seriatim. Much space is given to the amebas of the intestinal tract, on which the author is regarded as an authority. The mechanical features of the book are excellent, and the illustrations add greatly to the verbal description.

The Medical Record Visiting List or Physicians' Diary for 1912. Leather. Price, $1.50. New York: William Wood & Co., 1911.

This revised edition, tastefully bound, and of convenient size will be welcomed by many physicians, who in other years have chosen this particular visiting list. It contains the usual dose list, tables of weights and measures and some well-chosen miscellaneous matter, useful in emergencies.

Medicolegal

Powers of Boards of Health as to Milk-Supplies—Communicability of Bovine Tuberculosis—Diagnosing of Diseases—Use of Tuberculin Test—Constitutionality of Health Measures

(Borden's Condensed Milk Co. vs. Board of Health of Town of Montclair (N. J.), 80 Atl. R., 30)

The Supreme Court of New Jersey holds that boards of health are empowered by the statutes of that state to prohibit the sale of milk from diseased cows. Whether cows from which a municipality is supplied with milk are diseased is a question that may in the first instance be determined by the local board of health. Since no other tribunal is provided, the natural inference is that this question should in the first instance be determined by the board, which is the body called on to act.

The court says that scientific men who have made a study of the subject are not agreed as to the probability of the communication of tuberculosis from cattle to man by means of milk and the seriousness of the danger. It seems to be established that there is very little chance of communication of bovine tuberculosis to human beings above the age of 16 years, but that there is very serious danger of communication through the medium of milk to human beings under 16 years of age, and especially to children under five years of age. It was conceded that there are such cases. The concession that bovine tuberculosis may be communicated to young children, and that, although it appears in them in the less common forms rather than in the forms of pulmonary tuberculosis, suffices to justify action to guard against the contagion. It is for the board of health to decide how many lives must be endangered, and whether the lives of a few infants or children are worth the effort and the financial loss. To suggest these considerations is to answer them. If the life of one child is endangered, extreme prudence may be proper.

In determining whether cows from which a muncipality is supplied with milk are diseased, the method of diagnosis adopted by the local board of health should be one that is well recognized, thoroughly approved, and as reliable as any. The existence of disease is necessarily to some extent a matter of opinion or inference from established facts. The most skilful veterinarian may err. The most reliable symptoms may be deceptive, and absolute accuracy in diagnosis cannot be looked for. To demand it is a counsel of perfection not adapted to the exigencies of everyday life. Perfection of that degree is not attained under the diagnosis of human diseases where the physician has the advantage of a patient able to state subjective symptoms and give a history of the complaint. All that can be fairly required in the determination of the fact of disease is that the method of diagnosis should be well recognized, thoroughly approved, and as reliable as any.

The court finds that the tuberculin test is the most reliable method of diagnosis of tuberculosis in cattle now known; that, while it is not perfect, the percentage of error is as small as in any method suggested; and that it is more accurate than the method by physical examination. The court rests this conclusion not merely on the testimony in the case, but on the fact that it has been approved by judicial decision in Minnesota, Louisiana, Wisconsin and Pennsylvania, and adopted by the most recent statute in Delaware, Indiana, Maryland, Michigan, Minnesota, New Mexico, North Dakota, Oregon, Pennsylvania, South Carolina, Tennessee, Washington and Wisconsin, and for some purposes by Maine, Massachusetts and Vermont. The "tuberculean test" referred to in the act of South Dakota is probably the same. A similar act was passed by the New Jersey legislature in 1899. These statutes are legislative testimony of cumulative force to the value of the tuberculin test as a diagnostic agent. The court thinks therefore that the board of health is justified in the position that cattle which react to the tuberculin test are diseased. That conclusion may occasionally be erroneous, but it is as nearly accurate as is possible

The court is not impressed by the suggestions that healthy cows may, and diseased cows may not, react to the tuberculin test; that many cows react that have had tuberculosis and recovered; that many that now have tuberculosis are likely to recover; and that it is possible for the producer of milk to destroy the value of the test by trick. These arguments would be of more importance if the board of health were undertaking to condemn to death all cattle that react. This they are not doing. If the cattle are likely to recover, the owner may keep them until they do, and may use their product for any proper purpose. His loss is similar in kind, although perhaps greater in degree, than the loss of milk at the time of parturition. The fact that the value of the test may be destroyed by the trick of the owner of the cow only shows that the method is not perfect; few methods could be beyond the reach of possible deception.

It is also beside the point to suggest that, if this test were applied to human beings, 80 per cent. of mankind must be condemned as diseased. In dealing with human beings a different rule is followed from that which is applied in dealing with cattle, because men make the rule. The test might be applicable to human beings if it were proposed to use the produce of their bodies as food for others. A wet-nurse might properly be subjected to a more stringent examination.

Wherefore, it is decided that a local board of health may prohibit the sale within the municipality of milk from cows that react to the "tuberculin test."

The action of a local board in adopting measures for the protection of public health will not be set aside by the court if the board has acted reasonably on evidence that might satisfy a reasonable man. Regulations for the protection of the public health are within the police power of the state, and are not an illegal interference with interstate commerce, if they have a real substantial relation to a public object which government can accomplish, and are not arbitrary and unreasonable and beyond the necessities of the case.

Society Proceedings

COMING MEETINGS

American Association of Anatomists, Princeton, N. J., Dec. 27-29.
American Physiological Society, Baltimore, Dec. 27-30.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting Held Nov. 1, 1911

The President, Dr. George E. deSchweinitz, in the Chair

Movable Cecum

Dr. Joseph Sailer: Movable cecum is a condition in which, from an anomaly in the attachment of the mesocolon and the absence of the attachment of the colon to the wall of the abdomen, the cecum becomes abnormally movable. As a result, various forms of obstruction occur which ultimately give rise to atony of the cecal wall and therefore the name typhlatonia. The symptoms are pain in the right lower quadrant, of a colicky character, and constipation occasionally alternating with diarrhea. The physical signs are a palpable cecum in which, as a rule, gurgling can be obtained, and tenderness usually localized over McBurney's point. The great majority of cases are diagnosed as chronic appendicitis, but if the appendix is removed, there is no improvement in the symptoms. Studies made by various clinicians and surgeons indicate that the condition is not uncommon, and that the cecum is probably abnormally movable in 10 per cent. of all these cases. Not all cases, however, give rise to clinical symptoms.

DISCUSSION

Dr. George E. Pfahler: The first examination of the patient by the Roentgen rays for this condition should be made in the erect posture; the second, in the Trendelenburg position. This throws the viscera into two different directions permitting free movement of the cecum. In looking for adhesions about the appendix I have made the examination in this way, and have recognized the condition described by Dr. Sailer, in several cases. I believe that the condition is more frequent than is supposed.

Dr. Alfred Stengel: One feature of the question of movable cecum that has impressed me a good deal is the difficulty of distinguishing between this condition and movable kidney. I have seen a number of cases in which the caput coli could easily be palpated by "gliding palpation," or by moving the palpating hand horizontally over the surface and gradually making more pressure. In this manner the whole caput coli may sometimes be displaced in the direction of a movable kidney. The only distinguishing feature that I know of is that in the case of a movable kidney it is possible to get the palpating hand above the upper pole of the kidney; whereas, in movable cecum this is impossible. In view of the fact that, anatomically speaking, the cecum is always movable, it is evident that a definition of movable cecum cannot be made absolutely. As with movable kidney, should we undertake surgical treatment in every case recognized in our clinical examinations, many patients would be treated unnecessarily for movable cecum.

Dr. Joseph Sailer: The clinical importance of this condition will, I think, be as an indication for further operative procedures in cases of chronic appendicitis, or at least, in cases of supposed chronic appendicitis in which the condition is due to defects in the cecum, not inflammatory, but merely structural.

The New Relation Between Anatomy and Chemistry

Dr. William S. Wadsworth: The new chemistry is rapidly invading all the medical sciences. The anatomic sciences must very soon readjust their point of view to harmonize with this general progress. Anatomic descriptions of organs, tissues and parts must be made with due regard to their chemical composition and relations. Anatomy must and will in the future incorporate with its accounts of the sizes, shapes and relations of the parts of the body an adequate account of the chemical substances composing these parts. Chemistry must study the nature of protoplasm, which is the laboratory in which organic compounds are elaborated. Both sciences will gain from a greater coordination. The great strides taken by anatomy under the philosophy of evolution along the lines of embryology, and under the philosophy of the cell doctrine, through histology, have prepared for another great step, that of chemical philosophy. Anatomic philosophy must progress if the science of anatomy is to retain a reputable position in the modern sciences. The anatomist of the future must early attain a chemical sense.

Dr. H. H. Donaldson: It is desirable to recognize that the body is composed of structures which are in a continual course of change so far as their chemical composition is concerned. We are often compelled to state merely that this chemical change has taken place without being precise as to the localities or organs in which the alteration has occurred. Dr. Edward Meigs finds it important to determine the chemical composition of striped as contrasted with smooth muscle in order to have a basis for selecting between the various explanations of their physiologic peculiarities. At this time, Dr. Koch is trying to determine the make-up of the brain at different ages in the terms of its chief chemical constituents, in order to find an explanation for the growth changes which occur in it. The description of the body in chemical terms will be an achievement of the same order as that of the older descriptions in physical terms, both useful, medically speaking, in so far as they help in some other way. The older anatomy has proved fundamental to surgery; the newer is destined to occupy much the same position toward physiology. It seems to me, therefore, not a question of desirability in accepting such a point of view, because in essence it is already accepted, but rather a question of emphasizing and giving a value to views which are already widely held, and also a question of haste in order to obtain as soon as possible the advantages of this newer knowledge.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

November 25, XCIV, No. 22, pp. 1057-1104

1 Surgery of Myopia. G. W. Vandergrift, New York.
2 Full Term Ectopic Pregnancy. E. McDonald, New York.
3 Defective Memory as Sole Residual Symptom in Brain Syphilis. C. W. Burr, Philadelphia.
4 *Palpation and New Method for Its Execution. M. I. Knapp, New York.
5 Influence of Milk Station Work on Reduction of Infant Mortality. G. R. Pisek, New York.
6 Principles of Reduction of Infant Mortality. S. J. Baker, New York.
7 Disease of Verumontanum; Report of Four Cases. E. W. Ruggles, Rochester, N. Y.
8 Simple Method of Viewing Roentgenograms in Three Dimensions. M. Girsdansky, New York.
9 By Result of Administration of Salvarsan. D. W. Montgomery and G. D. Culver, San Francisco.

December 2, XCIV, No. 23, pp. 1105-1129

10 Preventive Medicine. D. H. Bergey, Philadelphia.
11 Simple Serous Cyst of Kidney. R. S. Fowler, New York.
12 Case of Sexual Inversion, Probably with Complete Sexual Anesthesia. A. Flint, New York.
13 Joint Infections. C. Ogilvy, New York.
14 Facts and Fallacies in Treatment of Syphilis with Salvarsan. J. L. Boehm, St. Louis.
15 The Senile Climacteric. I. L. Nascher, New York.
16 *Carcinosis of Bone, Secondary to a Growth in Some Epithelial Organ. R. H. Boggs, Pittsburgh.
17 Treatment of Varicose Ulcers with Adhesive Straps. A. Gills, Richmond, Va.
18 Points of Personal Hygiene that Are Generally Neglected by the American People. I. W. Brewer, Fort Niagara, N. Y.

4. **Palpation.**—The novelty of Knapp's method lies in the position of the body of the patient. The patient is first raised sufficiently high and the examining chair is then tilted about 15 degrees, so that the patient lies slantingly, with the head down and the feet up. The examiner stands at the head of the patient and feels with his fingers easily flexed. The abdominal wall, relieved of the necessity of supporting the organs within its cavity, fully relaxes and the palpating fingers perceive any discrepancies with the greatest ease. Presumably, the abdominal organs fall toward the diaphragm, thus releasing the tension, otherwise present, of the abdominal wall. It is this latter method to which Knapp calls special attention.

16. Abstracted in The Journal, Oct. 7, 1911, p. 1230.

Medical Record, New York

November 18, LXXX, No. 21, pp. 1009-1058

19 One Year's Experience with Salvarsan; Report of 230 Injections with Special Reference to Eye and Ear Complications. B. C. Corbus, Chicago.
20 Principles and Application of Autogenous Bacterial Vaccines in Treatment of Diseases. H. A. Craig, New Brighton, Staten Island, N. Y.
21 Typhoid with Relapse and Multiple Complications. A. A. Eshner, Philadelphia.
22 Wassermann Reaction. J. B. Stein, New York.
23 Amebic Dysentery. A. F. R. Andresen, Brooklyn.
24 Anesthesia Dont's. J. E. Lumbard, New York.
25 Improved Submucous Knife. J. Coleman, New York.
26 Aphonia. E. H. Griffin, New York.

November 25, LXXX, No. 22, pp. 1059-1108

27 Traumatic Lesions of Ear. G. Bacon, New York.
28 *Pneumohypoderma (Emphysema Cutis). Scleredema Neonatorum. H. B. Sheffield, New York.
29 Means of Detecting Adverse Selection. A. B. Wood, Montreal.
30 Recovery from Prolonged Blindness. Result of Hemorrhage Into Vitreous. D. Webster, New York.
31 Three New Plastic Operations on Nose and Throat. J. E. Mackenty, New York.
32 *Use of Neoformans Vaccine in Treatment of Cancer. A. Potter, Brooklyn.
33 Drop Method of Administering Ether. H. A. Lucas, Albany, N. Y.

December 2, LXXX, No. 23, pp. 1109-1158

34 *Treatment of Tuberculosis and Other Diseases of Vegetable Parasitic Origin by Deep Muscular Injections of Mercuric Succinimide. B. L. Wright, U. S. Navy.
35 John Brown, M.D., and Brunonian System of Medicine. R. C. Newton, Montclair, N. J.
36 Use of Alcohol and Life Insurance Risk. T. F. McMahon, Toronto, Ontario.
37 *Treatment of Diarrheas in Bottle-Fed Infants. R. H. Dennett, New York.
38 Report on 414 Injections of Salvarsan. E. G. Ballenger and O. F. Elder, Atlanta, Ga.
39 *Mental Stress a Possible Etiologic Factor in Certain Cases of Pellagra. J. W. Preston, Roanoke, Va.
40 *Hammock Appendix. W. R. McKinley, Columbus, Miss.

28. **Pneumohypoderma.**—In the case reported by Sheffield rupture of pulmonary alveoli and escape of air into the subcutaneous tissues occurred in consequence of violent coughing during an attack of bronchopneumonia complicating measles. The little girl was 3½ years old and up to the present illness in good health. The child had a waxy, rotund face with bluish-black lips, which were rapidly but rhythmically flapping back and forth with inspiration and expiration. The child's features were entirely effaced, and its Kalmuck-shaped, congested eyes were deeply sunken between the highly puffed lids. On palpation a distinct purring (crepitation) was transmitted to the fingers, and on gentle compression of the almost bursting skin it imparted a sensation very much akin to that experienced when touching a tense toy balloon. The patient coughed violently and was in great distress gasping for air. The respirations ranged between 80 and 90 per minute; the pulse was weak and rapid (about 150 per minute) and the heart impulse was effaced. The temperature was 102.5 F. The total freedom of the lower extremities and the absence of pitting readily excluded renal or cardiac dropsy; and the acute onset and the distinct purring on palpation eliminated the possibility of edema following compression of large intrathoracic blood-vessels by a growth or by large tuberculous bronchial glands.

32. **Neoformans Vaccine in Cancer.**—Potter's observations are based on the use of the vaccines in the 12 following cases: Carcinoma of the jaw, 1; carcinoma of the esophagus, 1; carcinoma of the prostate, 1; carcinoma of the uterus, 2; carcinoma of the stomach, 1; carcinoma of the breast, 2; rodent ulcer, 3; sarcoma of the leg, 1; total, 12. All were inoperable cases and some of them in advanced stages of the disease. No opsonic index was taken in any of the cases. In three of the patients treated no appreciable effect was noticed either locally or in the relief of any of the symptoms and the patients grew steadily worse and finally died. These cases were the carcinoma of the jaw, carcinoma of the esophagus, and the sarcoma of the leg. All were advanced and hopeless cases. In the other nine cases some improvement was soon noticed, in several of the cases even after the first or second injection. The method of administration employed was to give one or two injections weekly or every three days, depending on the length of time the positive phase lasted. The initial dose varied from 25 to 100 million micro-organisms and was gradually increased to 200 million when necessary. No other therapeutic measures were used during the course of injections, and the narcotics which all the patients had been receiving in some form or other for some time prior to the injections were stopped abruptly. The most consistent effect of the treatment was the relief of pain. This effect was noticed in a greater or less degree in every case. In one case of cancer of the uterus, pain was relieved after one injection and did not return in spite of the fact that all morphin was discontinued. The general state of health in most of the patients was also much improved. They gained weight, lost their characteristic cachexia and regained their appetite and strength. When the vaccines were discontinued, patients became restless, pain returned or increased, they did not sleep and lost appetite and strength. If the intervals between the administration of the vaccines were prolonged, some of the patients claimed that they could feel the effect of the medicine wear off. In none of the cases of cancer of the internal organs could any diminution in size or change in the consistency of the cancer mass be noticed, but in the three cases of rodent ulcer the ulcerated area became clean, the tendency to bleeding became less, healthy granulations formed about the border of the wound and the disease seemed to be checked. In cancer of the uterus the decrease in the malodorous discharge and the bleeding was marked and lasting.

In this series of cases treated by the neoformans vaccine, at least two of the most distressing symptoms of cancer were greatly relieved in the majority of cases, namely, pain and the cachexia.

34. **Treatment of Tuberculosis.**—The good results obtained in three cases of tuberculosis strengthen Wright's confidence in the supreme value of mercury in the treatment of this disease, and he believes it to be the chemical affinity of the tubercle bacillus. Whether or not it is also the chemical

affinity of all the vegetable parasites remains to be proved or disproved. He says that it would seem highly improbable that during the short period of nine months of professional work on one ship he should have an abortive case of miliary tuberculosis (none reported), of chronic pulmonary tuberculosis (none reported), of bronchopneumonia (rare), of typhoid, cystitis, otitis, cellulitis, chancroid and furunculosis, and it would indeed be a marvelous coincidence, even more improbable, that each of these abortions should take place immediately following the administration of a chemical given with the definite idea of curing each of these diseases, unless that chemical possessed the curative properties his theory suggests.

Mercury in large initial doses (0.091 gm.) continued every fourth day in decreasing doses, is less liable to produce mercurialism than when the initial dose is small and slowly increased during succeeding doses. Wright has given over 30,000 deep muscular injections of mercury without abscess formation or necrosis. The only contra-indications to this treatment that he knows of are organic lesions of the kidneys of non-bacterial origin and asthma. He says that the solution of mercuric succinimide should be made so that 0.260 c.c. (4 minims) of sterile distilled water equals 0.013 gram (1/5 grain) of mercuric succinimide.

37. **Diarrheas in Bottle-Fed Infants.**—From a theoretical standpoint Dennett does not feel sure that the mere absence of artificial sugar in the food is the cause of the beneficial effect on the diarrhea. Boiling the milk changes it in many ways but he believes it makes the food more digestible. During the summer he did not see a single hard curd in any of the stools of babies who were fed on boiled milk. Boiling the milk has little or no effect on the diarrhea when artificial sugar is added to the food.

From a practical standpoint, he came to the following conclusions: (1) Underfed, poorly nourished babies with diarrhea, do best on the milk and water mixture, boiled, without sugar. (2) Bad diarrheas, or those that do not improve on these mixtures are benefited by albumin milk. (3) Babies that have had repeated or prolonged attacks of diarrhea do best on albumin milk. (4) Older, well-nourished babies with a diarrhea do best on a barley gruel diet for a few days. (5) Infectious diarrheas, if seen early, should have a cathartic and starvation for forty-eight hours and no longer. The milk and water mixtures, boiled, or albumin milk, should then be given. (6) Cathartics should be given to babies with diarrhea with great discretion.

39. **Mental Stress in Pellagra.**—It is to the well-fed, of good habits, who consume little or no corn, and who to appearances would seem to offer good resisting power that attention is directed by Preston, with especial reference to the possible effect of mental stress producing in the nervous system a fertile soil suitable to the development of the disease. Three cases are cited.

40. **Hammock Appendix.**—In seven atypical cases under McKinley's observation the appendix was attached by adhesions to the right ovary, hanging, as it were, between the cecum and the ovary like an ordinary hammock between these two points. In these cases the appendix symptoms predominated, yet some of them were manifestly referable to the ovaries themselves.

Boston Medical and Surgical Journal

November 30, CLXV, No. 22, pp. 819-858

41 Bacillus Coli Infections; Double Pneumonia and Purulent Bronchitis, with Recovery. R. C. Kemp.
42 *Experiences of Beginner in Use of Lane's Plates in Fractures. F. B. Lund, Boston.
43 *Relationship of Fibroids to Sterility. E. B. Young and J. T. Williams, Boston.
44 *Operation for Extensive Prolapse of Uterus. S. Rushmore, Boston.

42. **Lane's Plates for Fractures.**—While Lund does not advocate operation in all simple fractures, as very many of them, such as Colles' fracture and many fractures about the ankle-joint, are easily reduced and tend to stay so after once reduction has been effected, he believes that in bad oblique fractures of the shafts of the bone in which reduction is not satisfactory, operation will do much good.

The special instruments devised by Lane, he says, are very good, but the handles are so long that, though made with the admirable object of keeping the hands of the surgeon away from the wound, they are difficult at first for those not used to them to handle. Lund has found the iodin preparation of the skin most satisfactory. The skin is sterilized at night by the usual methods, and a dry antiseptic dressing applied. On the operating table the dressing is removed and the skin of the entire limb painted with tincture of iodin.

43. **Fibroids and Sterility.**—Of 238 married patients with myomata admitted to the Boston City Hospital, seventy-five, or 31.5 per cent. had never borne children. For purposes of comparison, the obstetric histories of 238 married women, admitted to medical services at the hospital for various conditions having nothing to do with the pelvic organs, were examined by the authors. The average age of the women in each series was practically the same: 38.46 years in those with myomata of the uterus, and 38.40 in those with supposedly normal uteri. It was found that not only the proportion of primary sterility is greater in the women with fibroids, but that such patients bear fewer children than the average. The average age at the last pregnancy in the 163 women with fibroids who had borne children was 28.37 years, as compared with 34.07 which was found to be the average among 100 patients with no uterine disease who had passed the menopause. While the argument may be raised that fibroid patients had not, as a rule, passed the menopause and might have still borne children, it is only necessary to call attention to the average age of these patients—over ten years greater than that at the last pregnancy in the series with normal uteri. On the other hand, the fact that over two-thirds of the patients with myomata had borne children demands investigation as to whether their pregnancies occurred before or after the development of the tumor.

Of these women, thirty-two had been pregnant within one year, and twenty-six within from one to five years. The last pregnancy in twenty-four occurred between five and ten years before seeking treatment for the fibroid; and sixty-nine had not been pregnant for more than ten years. In twelve the duration of time elapsed since the last pregnancy was not stated. The authors believe that it is fair to assume that pregnancy and the tumor coexisted in the fifty-eight cases pregnant within five years; therefore it is evident that, while the percentage of sterility may be high in women with fibroids, the presence of such a growth does not necessarily doom them to childlessness. Although sterility is more common in women who have myomata, these tumors do not always prevent conception or even repeated pregnancies. The exact manner in which fibroids produce sterility remains undetermined. Miscarriage occurs in 44.7 per cent. of the cases in which conception does take place.

44. **Operation for Extensive Prolapse of Uterus.**—The operation reported by Rushmore contains no new features except the combination of procedures. It consists of three steps: 1. Interposition of the uterus. 2. Perineorrhaphy. 3. Ventrofixation of the uterine cervix.

Lancet-Clinic, Cincinnati

November 18, CVI, No. 21, pp. 524-529

45 How Shall We Discover and Deal with Typhoid Carriers? J. H. Landis, Cincinnati.
46 Superstitions in Medicine. E. R. Beard, Liberty, Ind.
47 A Few Medical Observations, 1860-1911. D. H. Van Nuys, Anderson, Ind.
48 Morbid and Vicious Dispositions and Habits. G. M. Gould, Ithaca, N. Y.

November 25, CVI, No. 22, pp. 550-562

49 *Treatment of General Peritonitis. D. N. Eisendrath, Chicago.
50 Clinical Experiences with Hot-Air Treatment. M. Scholtz, Cincinnati.
51 Ancient Cincinnati House Doctors. T. C. Minor, Cincinnati.

December 2, CVI, No. 23, pp. 576-582

52 Why Physicians Who Are Good Business Men Are in Demand by Insurance Companies as Examiners. C. T. Cutting, Seattle, Wash.
53 Ataxic Type of Infantile Paralysis. J. T. Batte, Cincinnati.
54 Gleosuria and Acapnia. B. Holmes, Chicago.

49. Abstracted in The Journal, Nov. 11, 1911, p. 1637.

Archives of Pediatrics, New York

November, XXVIII, No. 11, pp. 881-960

55 Functions of a State Pediatric Society. H. L. Coit, Newark, N. J.
56 *Parathyroid Glands, with Special Reference to Infantile Tetany. R. W. Bliss, Belmont, Mass.
57 Case of Diabetes Mellitus in Child Under One Year of Age. P. J. Eaton and E. B. Woods, Pittsburgh.
58 *Search for Causative Factor of Scarlet Fever. M. Nicoll, New York.
59 Noma. Report of Case Treated with Salvarsan. M. Nicoll, New York.
60 Effect of Salvarsan on Congenital Lues. L. R. DeBuys, New Orleans.
61 Prophylaxis During Childhood. W. B. Hoag, New York.

56. **Parathyroid Glands.**—In this series of cases the parathyroid glandules were removed in thirty-five children ranging in age from birth to 9 years. Of these, twenty-two, including two cases of infantile tetany, were prepared and examined microscopically. The glands were placed in 4 per cent. formalin, or in Miller's solution and were mounted by the chloroform-paraffin or xylol-paraffin methods. They were then cut in sections 6 microns in thickness and were stained with hematoxylon and eosin and with Van Gieson's stain. Some were stained with Weigert's fibrin stain and some with aloncarmin for pigment. Of these cases seventeen children were under 1 year of age and three over 1 year. Three showed very distinct pathologic changes in the shape of blood-cysts in the tissue. These blood-corpuscles were not encapsulated by a thin line of connective tissue, as has been described by some writers, and they were not especially situated at the periphery of the glands. In these three cases acute tetany could certainly be excluded. None of the infants had had convulsions during life. They all had bronchopneumonia, in one case complicated by pertussis and associated with rickets and syphilis in the other. Two of these were of the non-lobulated types of glandule and the other infant, 7½ months old, had both the lobulated and non-lobulated glands and in all the other cases the lobulated glands were always normal. Two other patients showed an abnormally thickened and increased amount of combined vascular and connective tissue, dilated and filled in many places with red blood-corpuscles. Both of these children had pertussis complicated by bronchopneumonia and one case also had convulsions a short time before death. The non-lobulated types of glands were found in these two cases. In the case of a new-born baby the structure of the glands was of the lobulated type. With the exception of this case, those 3 months old or under were composed of glandules of the non-lobular type. Those over 1 year were of the lobulated type. In the others both lobulated and non-lobulated glands were found in the same child and in some both types were observed in one gland.

For the most part the non-lobulated type was composed entirely of the light-staining cells and the lobulated type of the pink cells. No oxyphilic cells were seen. The nuclei of both types were round and about 1 micron in diameter; the diameter of the cells of the light-staining type averaged 3 microns in diameter, a little smaller at the periphery; while the diameter of the pink cells averaged from 1½ to 2 microns. In two cases of definite infantile tetany four glandules were present in one and three in the other. No parathyroid tissue was found in the thyroid or thymus tissue in either case. In one case all glands were of the non-lobulated type while in the other all were of lobulated structure. In the first case the gland showed a definite increase in the size and amount of the connective and vascular tissue. In not one of the seven glands of both cases were hemorrhages found. Bliss failed to find a close connection between hemorrhagic lesions of the parathyroid glands and infantile tetany.

58. **Causative Factor of Scarlet Fever.**—In July, 1911, Nicoll aspirated into a syringe, which had been thoroughly boiled, some of the contents of an enlarged cervical node in two cases of scarlet fever, inoculated various media and produced no growth. Owing to lack of material, the study was not resumed until October, when another fresh case gave opportunity for the same procedure. On all the inoculated tubes a pure culture of a spore-bearing bacilus was obtained. On the following day another node in the same case gave an identical result. Five cases successively produced the same bacillus from inguinal nodes. An exhaustive study of the cultural characteristics and morphology of this organism was made. Guinea-pigs, rabbits and one monkey were inoculated with twenty-four broth cultures and in all were produced fever, marked diarrhea, loss of flesh and moderate enlargement of the neighboring lymphatics, from which also the bacillus could be recovered after a week. No rash was observed in any of the cases; neither was there desquamation. The organism was extremely resistant to heat, surviving boiling under pressure for at least twenty minutes. The syringes were then autoclaved on two successive days and the experiment repeated on eleven other patients, on some more than once, with the result that no organism of any kind was found. The piston of the syringes which Nicoll had used in the work and which had subsequently been boiled was stirred into broth and plates inoculated. From all the bacillus was obtained. Furthermore, six stock syringes, which had never been used, gave the same result. Asbestos, with which these pistons were packed, comes from the oldest prehistoric rock. Perhaps, Nicoll suggests, the scarlet fever bacillus had the same origin.

This work teaches the necessity of absolutely indisputable sterilization in all such experiments, and it has demonstrated what seems to Nicoll a most important fact, namely, that in eighteen cases of scarlet fever, in which the patients were ill from two to twenty-four days, enlarged, but not suppurating, lymph-nodes, in four cases in the cervical region and in nineteen in the inguinal region, together with an inguinal node removed post mortem from a septic case of the disease, in no instance showed the presence of streptococcus or other organism. Direct smears from all but the first two cases showed, by the presence of lymph-cells, that the node had been tapped. Here, then, is a disease which involves the lymphatic system from the neck to the groin in forty-eight hours or less and does so apparently without the aid of pyogenic organisms.

Virginia Medical Semi-Monthly, Richmond

November 10, XVI, No. 15, pp. 365-392

62 Sources of Infection of Typhoid. E. G. Williams, Richmond.
63 Symptoms of Typhoid. J. J. McCormick, Norfolk.
64 Treatment of Typhoid. G. K. Vanderslice, Phoebus.
65 Neglected Drunkards: What Virginia Should Do for Them. S. Harnsberger, Catlett.
66 Diagnosis of Pelvic Inflammation. W. W. Pennell, Mt. Vernon, Ohio.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

November, XIII, No. 5, pp. 269-326

67 *Diagnostic Aids in Surgery of Renal Pelvis and Ureter with Special Reference to Pyelography. W. F. Braasch, Rochester, Minn.
68 *Abscess of Uterus Following Labor. C. R. Robins, Richmond, Va.
69 Importance of Positive Diagnosis in Surgery by Means of Frozen Sections. B. C. Willis, Abingdon, Va.
70 Histology and Medical Treatment of Acute and Subacute Inflammation of Nasal Accessory Sinuses. C. M. Miller, Richmond, Va.

67. Abstracted in The Journal, Nov. 4, 1911, p. 1556.

68. **Abscess of Uterus.**—In Robins' case there was a slight tear, both of the cervix and perineum, the latter of which was repaired by the attending physician with an excellent result. The puerperium was uneventful and without fever and the woman left her bed in two weeks. After being up for another week she began to suffer with a pain in the lower abdomen just to the right of the center radiating toward the right side. The pain came on gradually and was later followed by fever. The pain was variable and would be bad one day and the next not so severe. When Robins saw her she had been confined to her bed for a week. She suffered with cramps during her periods before her marriage accompanied by a dull aching and soreness in the right iliac region, but never had cramps except when unwell. On examination of the abdomen a tender tumor was felt in the lower abdomen slightly to the right side, the tenderness most marked in the right iliac region. On bimanual examination the uterus was found enlarged and the tender mass felt in the abdomen found to correspond to the right horn of the uterus. No enlargement of the tubes could be made out. Temperature 102 F. A diag-

nosis of intramural abscess of the left cornu of the uterus was made and it was advised that the patient be treated by elevation of the upper portion of the body and salt solution enemata to determine if it were possible to carry the patient into an afebrile stage so that operation could be undertaken with greater safety. Four days later there had been no improvement in temperature, the pains were more severe and in addition there was so much nausea that very little food could be retained. Operation was advised and performed the next day.

A median incision was made and the uterus found quite densely adherent to the right wall of the pelvis. The ovary and the appendix were adherent to the uterus but neither tube was involved. In manipulation of the uterus the ovary was separated and there immediately welled up about 2 ounces of thick creamy pus. A supravaginal hysterectomy was performed and the appendix removed. The pelvis was drained with a glass tube through the lower end of the wound. The patient made a somewhat tedious convalescence but finally recovered and is now in excellent health. Examination of the specimen showed the abscess cavity in posterior part of the right horn of the uterus with no communication with the tube or cavity of the uterus. The endometrium was normal.

American Journal of Obstetrics and Diseases of Women and Children, New York

November, LXIV, No. 5, pp. 729-924

71 Progress in Obstetrics and Gynecology. H. E. Hayd, Buffalo.
72 *Further Protest Against Routine Use of Purgatives. E. Walker, Evansville, Ind.
73 *Treatment of Sliding Hernia. W. C. G. Kirchner, St. Louis.
74 *Angioma of Uterus, Bladder and Broad Ligament. Report of Operation and Cure. H. O. Pantzer, Indianapolis, Ind.
75 *Congenital Mucoid Multicystic Tumor of Small Intestine. H. W. Longyear, Detroit.
76 *Diseases of Thyroid in Female. M. F. Porter, Fort Wayne, Ind.
77 *Cervical Fibroids. L. F. Smead, Toledo, Ohio.
78 *Early Diagnosis of Ectopic Pregnancy. R. R. Huggins, Pittsburgh.
79 *Interstitial Pregnancy. N. S. Scott, Cleveland.
80 Multiple Cesarean Section, Both High and Low Operations. W. H. Humiston, Cleveland.

72, 73 and 74. Abstracted in The Journal, Nov. 7, 1911, pp. 1226 and 1227.

75, 76, 77, 78 and 79. Abstracted in The Journal, Oct. 14, 1911, p. 1311.

Journal of American Public Health Association, Columbus, O.

November, I, No. 11, pp. 771-868

81 *Experiments in Book Disinfection. L. B. Nice, Boston.
82 Practical Municipal Milk Examinations. D. M. Lewis, New Haven, Conn.
83 Purification of Water by Anhydrous Chlorin. C. R. Darnall, Washington, D. C.
84 Practical Methods for Supervising Milk-Supply of Cities. J. B. Thomas, Baltimore.
85 Anti-Rabic Institute of Board of Health of Guadalajara. F. Bauda, Guadalajara, Mexico.
86 Methods of Collection, Transmission and Record in Routine Examination of Spinal Fluids. A. J. Chesley.
87 Resumé of Diphtheria Examinations Made in Boston Board of Health Bacteriologic Laboratory in 1909. F. H. Slack, Boston.
88 Quantitative Determination of B. Coli in Heavily Polluted Waters: Study of Presumptive Tests. G. F. Ruediger and F. A. Slyfield, Grand Forks, N. D.
89 Value of Esculin Test. F. E. Hale and T. W. Melia, Brooklyn.

81. **Book Disinfection.**—In order to determine whether saturated carbo-gasoline will kill bacteria when it is in direct contact with them Nice filled three test tube cultures each of *B. coli communis*, *Staphylococcus pyogenes aureus*, and *B. diphtheriæ*. This was drawn off after one hour and ten minutes and ninety-six hours later cultures were made. Growth occurred in two of the *B. coli* test tubes, in two of the tubes of *S. pyogenes aureus* and in one of the diphtheria tubes. He says that the lack of growth in Beebe's experiments was probably due to his bouillon cultures being washed off by the gasoline, since two of his books were dried only one hour and the third not at all. In Nice's experiments, although the books were dried for forty-eight hours, growth occurred in 80 per cent. of the agar and 25 per cent. of the bouillon cultures. After repeated trials it was found to be impossible to make a stronger solution of carbolic acid in gasoline than about 2 per cent., so there seems to be no way of modifying the carbogasoline method to make it effective. Nice recommended moist hot air as an entirely satisfactory disinfectant for books.

Washington Medical Annals, Washington, D. C.

November, X, No. 5, pp. 299-307

90 Review in Surgery. W. P. Carr, Washington, D. C.
91 Differential Diagnosis Between Ocular and Accessory Sinus Headache. C. Henning, Washington, D. C.
92 Psychopathic Work at Washington Asylum Hospital for Year Ending June 30, 1911. D. P. Hickling, Washington, D. C.
93 Tumors of Male Breast. D. S. Lamb, Washington, D. C.
94 Pellagra. S. R. Karpeles, Washington, D. C.
95 Prophylaxis in Military Service; Typhoid and Venereal. L. H. Reichelderfer, Washington, D. C.
96 *Benzidin Test for Occult Blood in Stool. J. R. Verbrycke, Washington, D. C.
97 Foreign Body in Esophagus. W. A. Wells, Washington, D. C.

96. **Benzidine Test for Occult Blood in Stool.**—Verbrycke's paper is based on 331 tests made on 242 patients. The author uses a technic nearly like that of Schlesinger and Holst, but employs a more dilute mixture of the feces and water and a larger proportion of the reagents. The test is first made with the patient on his regular diet, containing meat, and if this is positive and there is a suspicion that the reaction may result from the presence of the hemoglobin in the meat eaten, the patient should then be put on a lactovegetarian diet for several days and the test repeated. This in the large majority of cases was not found necessary in using this technic as most of the 219 negative reactions out of the 331 tests made were obtained with the patient eating as usual. One hundred and twelve positive reactions were obtained in eighty-eight patients and for the most part were what would be expected from the clinical consideration of the cases. Those cases, not of ulcer or cancer, which caused occult bleeding, with the resultant positive benzidine test, as colitis, hemorrhagic gastritis, severe anemia, etc., could easily be differentiated. Eighteen miscellaneous cases gave positive reactions when blood was not present from the digestive tract and these resulted from the hemoglobin in the animal food eaten. Negative results were later secured in all those who took a lactovegetarian diet for two days. While the author's results differ somewhat from those of other observers, he feels that the considerable number of tests made, and the findings being so consistent with what was to be expected clinically, warrant him in continuing with the same technic.

Archives of Diagnosis, New York

October, IV, No. 4, pp. 323-415

98 Dementia Præcox. W. A. White, Wasington, D. C.
99 Diagnosis in Heart Cases. J. J. Walsh, New York.
100 Differential Diagnosis of Cases with Affections Apt to Be Mistaken for Cerebral Tumor. T. A. Williams, Washington, D. C.
101 Acute Focalizing Paralysis. Epidemic and Pandemic. Differential Diagnosis. J. V. Manning, Brooklyn.
102 Dyspepsia. R. T. Morris, New York.
103 Radiography of the Genito-Urinary Tract. G. M. MacKee, New York.
104 Anaphylaxis. J. H. Barach, Pittsburgh.
105 Recent Progress in the Diagnosis of Gastric Diseases. H. G. Watson, New York.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

November, III, No. 2, pp. 101-203

106 Pharmacologic Action of Oxidizing Substances. A. S. Loevenhart and W. E. Grove, Madison.
107 Action of Hydrocyanic Acid on Respiration and Antagonistic Action of Sodium Iodosobenzoate. W. E. Grove and A. S. Loevenhart, Madison.
108 Antiseptic and Bactericidal Action of Sodium Salts of Iodbenzoic, Iodosobenzoic and Iodoxybenzoic Acids. A. Arkin, Madison.
109 *New Water Soluble Action Constituent of Squills. A. J. Ewins, Herne Hill, London, S. E.
110 Physiologic Action of Phenolphthalein Oxime. M. Dresbach, Ithaca, N. Y.
111 Convulsant Action of Acid Fuchsin on Frogs Deprived of Their Cardiac Circulation. D. R. Joseph and S. J. Meltzer, New York.

109. **Active Constituent of Squill.**—Ewins believes that the toxicity of squills is in all probability due to the presence of at least two active principles. 1. A glucosidal substance very easily soluble in water, and resembling in many respects the water soluble strophanthin. This substance has been isolated in an approximately pure form but so far has not been crystallized. The minimum lethal dose of the product

is 0.03 mg for a frog of about 25 gm. in weight, death being produced by the stopping of the heart in systole. 2. A resinous product very slightly soluble in water, readily soluble in alcohol and not precipitated by ether from its alcoholic solution. The minimum lethal dose of this product is 0.06 to 0.07 mg. per frog. From the alcoholic extract of the squill bulb a small quantity of caffein was isolated. The base is present only in very small quantity (0.01 per cent. of the dry bulb).

Kentucky Medical Journal, Bowling Green

October, IX, No. 19, pp. 719-772

112 School Sanitation. D. O. Hancock, Henderson.
113 County Society as Unit for Things Medical. W. A. Poole, Henderson.
114 Treatment of Tuberculosis. W. V. Neel, Henderson.
115 Hygiene in Home and School. E. Hopkins, Henderson.
116 Medico-Public Questions. D. O. Hancock, Henderson.
117 Ectopic Pregnancy. I. Abell, Louisville.
118 Normal Labor in Home. H. S. Zernow, Corydon.
119 Expert Testimony. M. Yeaman, Henderson.
120 Postpartum Hemorrhage. W. S. Forward, Henderson.
121 Importance of Medical Inspection of Schools and Its Present Status. J. W. Welch, Henderson.
122 Pellagra. A. C. Foster, Paducah.
123 Uterine Cancer. H. C. Clarke, Falmouth.
124 Postpartum Hemorrhage. H. D. Rodman, Bardstown.
125 Hernia. G. P. Grigsby, Louisville.
126 Acute Miliary Tuberculosis. P. N. Blackerby, Falmouth.
127 Mechanism of Labor in First and Second Position. S. M. Hopkins, Demossville.
128 Digitalis. R. T. Hoeker, Arlington.
129 Educational Influence in Treatment of Tuberculosis. M. Bell, Monterey.

St. Paul Medical Journal

December, XIII, No. 12, pp. 522-560

130 *Transverse Incision of Abdomen. C. F. Denny, St. Paul.
131 Millions of Wrecked Lives from Eyestrain. G. M. Gould, Ithaca, N. Y.
132 *Carcinoma of Uterus. M. M. Ghent, St. Paul.

130. **Transverse Incision of Abdomen.**—Denny is an advocator of the transverse abdominal incision. He says it gives better access to the operative field; a small or large space is easily obtained; if drainage is needed, a better scar results; there is less liability to lose the packing and less is needed.

132. **Cancer of Uterus.**—Ghent's patient gave a rather definite history of a fibroid, appearing about the time of the menopause and continuing to cause trouble for nine years. The excessive flowing being complicated with pain and a disagreeable discharge caused her to seek relief. Of the three symptoms, pain, hemorrhage and discharge, the latter was the most troublesome and probably the most definite indication of a malignant change. Physical examination showed the patient to be a weak, cachectic individual with a rapid intermittent pulse. Bimanual examination found the uterus in about the normal position with the cervix soft and dilated. Within the cavity of the uterus could be felt an uneven mass, half the size of a man's fist. The uterus was painful to pressure. A complete hysterectomy at this time was out of the question because the patient's condition would not warrant such a procedure. A simple curettage was done. The tumor proved by microscopic examination to be a fibroid which had undergone malignant changes. In three or four days the patient developed a thrombophlebitis of the left leg. This unfortunate complication was almost too much for her but in about two weeks she began to recover slowly. Recovery was slow and tedious, mostly on account of the leg, but in six or eight months she began to show some improvement. After the curetment the discharge and hemorrhage were gone entirely. In one year she was doing light housekeeping but she was still weak and had that bad color. It was at the end of the first year after the operation that Ghent noticed the cervix began to disappear into the vagina. Instead of being able to palpate the cervix, only the invagination of the vagina could be felt. This would change from time to time; sometimes the cervix would be down in the vagina, more like the normal. The gradual improvement kept up till at the end of four years the patient noticed a few blood spots on the clothing and a little discharge. Her condition was so much improved that Ghent felt she could stand a complete operation which was done, October, 1910. Recovery was uneventful and the patient left the hospital two weeks after the operation in good condition. It is now over a year since the last operation and there is no evidence of a recurrence

Yale Medical Journal, New Haven, Conn.

October, XVIII, No. 2, pp. 53-177

133 Defects of Coordination of Ocular Muscles, with Treatment. J. A. Meek, New York.
134 Syphilitic Skin Lesions Frequently Overlooked. J. D. Gold, Bridgeport, Conn.
135 Regularities and Irregularities Among Physicians. C. E. Brayton, Stonington, Conn.
136 Anaphylaxis. H. G. Jarvis, Hartford.
137 *Case of Thrombosis of Abdominal Aorta in Patient with Thrombo-Angiitis Obliterans. G. Blumer, Providence, R. I.

137. **Thrombosis of Abdominal Aorta.**—There is little that is unusual about Blumer's case except the rarity of the condition and its association wtih thrombo-angiitis obliterans. There were no signs of any previous obliterative change involving the aorta. The symptoms and the physical signs were quite characteristic. The extreme suddenness of onset, which might lead to a suspicion of embolism rather than thrombosis, is something that has been noted previously in connection with the subject under discussion. In this particular case there was no evidence either in the heart or in the upper portions of the aorta of a preexisting thrombus which might have become detached. On the other hand, the anatomic appearances of the lesions were distinctly those of thrombosis. There was no difficulty in diagnosing the condition on account of the absence of pulsation in the femoral vessels and the characteristic circulatory and sensory changes.

Journal of Arkansas Medical Society, Little Rock

October, VIII, No. 5, pp. 127-154

138 Etiology and Pathology of Malaria. W. Krauss, Memphis, Tenn.
139 Cerebrospinal Meningitis. A. L. Carmichael, Little Rock.
140 Use of Flexenr Serum in Cerebrospinal Meningitis. A. E. Cox, Helena.
141 Anterior Poliomyelitis. D. C. Walt, Little Rock.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

November 18, Vol. CLXXXI, No. 4603, pp. 1385-1456

1 Recent Developments in Recognition, Treatment and Prophylaxis of Syphilis. H. C. French.
2 *Colotomy and Some Misconceptions of Its Results. P. Daniel.
3 Differential Diagnosis of Syphilis and Parasyphilis of Nervous System. F. W. Mott.
4 *Sphygmographic Method for Estimation of Systolic and Diastolic Blood-Pressure. J. D. Windle.
5 *Treatment of Vaccination Site with Picric Acid Solutions. J. F. Schamberg and J. A. Kolmer.
6 *Cerebrospinal Fluid in Acute Poliomyelitis. J. G. Forbes.
7 Rupture of Popliteal Artery and Vein; Diffuse Hematoma. D. Drew.
8 *Two Rare Abnormalities in Course of Operations. J. D. Malcolm.

2. **Colotomy.**—Daniel emphasizes strongly the proposition that the comfort of a patient with a colotomy is directly proportionate to the presence or absence of oral or nasal accessory sinus sepsis. He says that before doing a colotomy, therefore, all sources of pus likely to be swallowed must be thoroughly dealt with. This will prove the most important of the accessory steps to the operation of colotomy and should be carried out as soon as it is decided a colotomy is to be done and must not be left until the time the colotomy is done, unless of course the latter is performed urgently, when, if possible, the mouth or nose should also be attended to; i. e., at the same time.

4. **Estimation of Systolic and Diastolic Blood-Pressure.**—For estimating systolic and diastolic pressures Windle uses the Mackenzie ink polygraph and an ordinary Riva-Rocci blood-pressure apparatus. The armlet is first fixed up in the usual way and connected to the manometer. The radial tambour is then applied and the pressure of the spring button carefully adjusted so that the maximal pulsation of the artery is obtained. While a tracing is being taken air is gently pumped into the bag, so that the pulse becomes progressively smaller until it ceases to be recorded; at this moment the systolic pressure is read off. Air is then released very slowly from the armlet, when the pulse wave gradually grows more ample until full pulsation is again reached. The escape of air is then stopped and the diastolic pressure read

off. Windle says that this method is very convenient in the routine use of the polygraph and sufficiently accurate for general purposes. It is a far more reliable index of actual pressure than that obtained by timing the obliteration, or moment of reappearance of the pulse by the finger. It will be found that the systolic reading is usually from 10 to 15 mm. higher than with the ordinary method, due to the fact that escape imperceptible to the finger may take place near the obliteration point. Windle has checked the diastolic readings by the auscultatory method devised by Korotkoff, taking the diastolic pressure by this method at the moment when the sound ceases to be heard on releasing air from the bag. The maximal oscillation of the pulse curve with the sphygmographic method is true, as a rule, within 5 mm. of the auscultatory reading.

5. **Treatment of Vaccination.**—The authors found that the use of a 4 per cent. alcoholic solution of picric acid on the vaccinated area 48 hours after the insertion of the lymph does not interfere with the success of the vaccination. They believe that this treatment lessens the degree of the local inflammatory reaction and that the patients are not so apt to exhibit constitutional disturbance. The epithelial covering of the vaccine lesion is hardened and there is a decreased liability of extraneous bacterial infection. This is doubtless due in part to the antiseptic properties of the solution applied. They have determined by laboratory investigation that picric acid is about four times as efficient as phenol as a local antiseptic. The common organisms on the skin are lessened in number by the application of solutions of picric acid.

6. **Cerebrospinal Fluid in Acute Poliomyelitis.**—Forbes is convinced of the value of lumbar puncture as an aid to diagnosis between cases of acute cerebrospinal meningitis and acute poliomyelitis of the meningeal type. In the former the fluid shows unmistakable characters, marked turbidity, frequently coarse, purulent clot formation, a great excess of albumin, absence of dextrose, a recognition of the meningococcus both in the film preparations and cultures on serum, characters which Forbes has verified in some 200 examinations.

8. **Anatomic Abnormalities of Intestine.**—In one of the cases cited by Malcolm the cecum was found on the left side of the body, as low in the abdomen as usual, and so mobile that it could be brought well into view. The small intestine entered it from its right side and the appendix sprang from just below the ileo-cecal valve. The sigmoid flexure was found to the left of the cecum. Thus all the small intestine was to the right of all the colon. In the second case a diagnosis was made of secondary malignant growth involving and obstructing some portion or portions of the upper part of the alimentary canal. The ascending, transverse and descending colon appeared normal, but when the omentum was turned up there were no small intestines visible anywhere. In their place there was a soft elongated oval mass lying more or less parallel with the long axis of the body. When its lower end, which dipped into the pelvis, was brought through the incision this mass assumed a rounded shape. It consisted of a thin membrane of peritoneum covering the whole of the small intestines and bulged by them into all parts of the peritoneal sac which they usually occupy. The membrane was attached to the posterior abdominal wall transversely above the sacral promontory, and close to this attachment there was a gap in it through which the small bowel passed just before it joined the colon. This opening had a diameter of about an inch and its edge was thickened. The abnormal membrane was incised and afterwards cut away and then the small intestines were exposed and appeared to be in all respects normal. The membrane which had been incised extended up to the transverse colon, to the back of which it was attached. Above the colon another or the same membrane was continued to the stomach across a space of quite 2 inches. From the stomach a membrane passed to the posterior abdominal wall in the usual position of the lower limiting boundary of the lesser sac of the peritoneum. The abnormal membrane was attached at the sides to the posterior wall of the abdomen inside the attachments of the ascending and descending colon, which was rather more loosely fixed than usual.

British Medical Journal, London

November 18, No. 2655, pp. 1337-1392

9 Differential Diagnosis of Syphilis and Parasyphilis of Nervous System. F. W. Mott.
10 Cholera at Palermo. L. Rogers.
11 *Physiologic Action of Amorphous Digitoxin (Digalen). W. L. Symes.
12 Protein Requirement; or, "Do We Eat Too Much"? W. Tibbles.
13 Rheumatoid Arthritis. F. H. Parker.
14 Eight Cases of Catarrhal Jaundice in Epidemic Form. W. J. H. Pinniger.
15 *Vomiting in Exophthalmic Goiter, and Its Treatment. J. A. Nixon.

11. **Physiologic Action of Digalen.**—As far as can be judged from Symes' observations, digalen is an active preparation of digitalis producing characteristic digitalis effects on circulatory system and secretion of urine. Intravenous, subcutaneous and intramuscular injections produced no local trouble.

15. **Vomiting in Exophthalmic Goiter.**—The treatment advocated by Nixon consists in absolute rest in bed with the administration of a substantial diet by mouth; milk, bread and butter, eggs, fish, chicken, broth. At first the patients vomited at rare intervals, but within two days tolerance was established and the food retained. The patients soon discovered for themselves that the vomiting was produced by exertion or movement, rather than by a true inability to digest solid food; and having found this out they took their food with increasing confidence and improved rapidly.

Journal of Tropical Medicine and Hygiene, London

November, XIV, No. 21, pp. 318-332

16 *Method for Preventing Development of Pernicious Malaria. W. M. James.

16. **Pernicious Malaria.**—James has employed the subcutaneous administration of quinin as a preventive measure in intense infections, beginning with somewhat smaller dilutions than 1 to 150 and working up to that strength, in twelve cases, giving 30 to 45 gr. as the initial dose and repeating the doses in equal amounts or less at intervals of four to eight hours, according to the severity of the infection. In four of these cases at the time of admission of the patient a very great number of young parasites, with segmenting forms and multiple infected erythrocytes, was found in the peripheral blood. In six cases there were heavy infections with young plasmodia and quite a number of doubly and trebly infected red blood-cells. In two cases moderate infections with tertian parasites were found, but in one the patient was delirious and in the other comatose. In one case of a very heavy infection with young forms and segmenting and presegmenting parasites, one dose of 30 gr. of quinin in 10 oz. of salt solution was exhibited, followed by the oral administration of 15 gr. three times a day. In all instances when quinin was given by the mouth an acid solution of the sulphate, 5 gr. to the dram, was used. In five cases very heavy estivo-autumnal infections were present, but segmenting forms were not seen. At least 2 to 5 per cent. of the erythrocytes were infected. One preventive dose of 30 gr. of quinin in 10 oz. salt solution, was given on admission, followed by 15 gr. three times a day by mouth. In each case the subsequent paroxysm was mild. A comparison with control cases, in which the infection appeared to be equally intense and in which quinin was administered by mouth in one dose of 20 gr. on admission, followed by 15 gr. three times a day, shows a shorter duration of subsequent fever and much milder clinical symptoms when 30 gr. was administered subcutaneously on admission. There were two cases of tertian infection, which showed cerebral symptoms and ended fatally. In each of these cases the patient was admitted delirious and became comatose; and in each there was a moderate tertian infection. No abatement of the symptoms followed the use of quinin, although the drug was exhibited intravenously in one case on the second day and subcutaneously in the usual dose in each of the cases the rest of the time. Each patient died on the third day after admission. At each autopsy a few tertian parasites were found; intercurrent disease or organic trouble other than mild nephritis was demonstrated. James thinks the method of giving quinin early in severe infections, subcutaneously or intravenously in large doses, in dilutions of 1 to 150, or greater, is logical and practical.

Medical Press and Circular, London

October 25, XCII, No. 3781, pp. 435-462

17 Treatment of Ulcerative Colitis. D. Power.
18 Pediatrics in 1910. E. Terrien.
19 Epidemic Anterior Poliomyelitis: Its Symptoms and Treatment. N. P. Marsh.

November 1, XCII, No. 3782, pp. 463-486

20 General Paralysis of Insane. T. B. Hyslop.
21 Apoplexy. S. T. Pruen.
22 Extraction of Foreign Bodies from Eye with Corneal Curette. J. M. Wheeler.
23 Treatment of Cardiac Arrhythmia. J. Hay.

November 8, XCII, No. 3783, pp. 487-512

24 Treatment of Scoliosis in Childhood. A. H. Tubby.
25 Hernia. A. Keith.
26 Tuberculous Disease of Bladder. D. Newman.
27 Treatment of Tuberculosis with Koch's Albumose-Free Tuberculin. G. Jochmann and B. Moellers.
28 Ebers' Medical Papyrus. D. McKenzie.

Practitioner, London

November, LXXXVII, No. 5, pp. 597-740

29 Appendicitis in Its Relation to Diseases of Female Pelvic Organs. C. B. Lockwood.
30 Therapeutic Promise of Internal Secretions. L. Williams.
31 Spitting Blood. A. J. Jex-Blake.
32 Recent Attempts to Judge Pancreatic Activity by Clinical Tests. E. B. Leech.
33 Hour-Glass Stomach. H. J. Paterson.
34 Relation of Vermiform Appendix to External Hernia; Report of Cases. D. Ewart.
35 Recent Work on Paroxysmal Tachycardia. C. E. Lea.
36 Surgical Treatment of Pulmonary Tuberculosis. A. S. MacNalty.
37 Value of Tuberculin in Diagnosis and Treatment of Pulmonary Tuberculosis. H. Vallow.
38 Collunarium or Nasal Lotion. W. Glegg.
39 Thiocol: A Clinical Study. H. G. Cole.
40 Case of Chronic Ulcerative Endocarditis Following Subacute Rheumatism. A. G. Bisset.
41 Treatment of Acne Vulgaris and Pruritus Hiemalis. A. R. Gunn.

British Journal of Children's Diseases, London

November, VIII, No. 95, pp. 481-528

42 Classification of Deaf Children. M. Yearsley.
43 Disease in Homogeneous Twins. E. A. Cockayne.
44 *Case of Infantile Scurvy Due to Sterilized Milk. W. R. Jordan.

44. **Infantile Scurvy Due to Sterilized Milk.**—An 11-months-old baby was brought to Jordan with the complaint that it had never been well since birth, was wasting and was always crying. It took but little food and never went a whole day without vomiting. Its motions were at times relaxed, at others costive. On examination there were found to be no abnormal signs in the chest or abdomen, the spleen, however, being just palpable. There were slight signs of rickets. There was a very marked *glossitis migrans*. The only teeth cut were the lower central incisors and the gum was bluish and spongy about the left of these. In the upper jaw no teeth were erupted, but over the position of the central incisors were to be seen two large, bluish, spongy masses. Further inquiry elicited that there had been bleeding from the mouth and that two weeks earlier orbital ecchymosis had been observed. The child had been fed from its birth on sterilized milk exclusively, except that for the last four months barley-water had been added. Great care had been taken to get and to keep to the sterilized milk. Put on fresh cow's milk, with citrate of soda, orange-juice and raw beef-juice, the infant began to improve at once, and in two weeks the gums had become absolutely healthy, while there had been no vomiting for four days. Jordan says it is particularly important to bear in mind scurvy as a cause of anemia, crying when picked up and general malnutrition in infants at a time when the conclusions of the Tuberculosis Commission are likely to lead to a greater resort than ever by the public and the profession to the use of sterilized milk and sterilized foods in infant feeding.

Dublin Journal of Medical Science

November, CXXXII, No. 479, pp. 329-405

45 Some Symptoms in Childhood. J. B. Barrett.
46 *Chorea and Its Treatment. S. F. A. Charles.

46. **Chorea.**—The indications for treatment of chorea, Charles says, are very obvious. In the first place, treat the diseased neuron by rest, restrain your patient in bed, and if thought necessary to exclude all superfluous sensory stimuli. Isolate the individual. Second, control the movements with the free use of trional, thereby producing both mental and physical rest. Third, improve the general health with tonics and a good nutritious diet, from which tea and coffee are excluded.

Annales des Maladies des Org. Génito-urinaires, Paris

September 15, XXIX, No. 18, pp. 1633-1728

47 *Gangrene of the Bladder from Injection of a Caustic Fluid. (Gangrène massive de la vessie par injection de caustique.) J. Mock.
48 *Aspiration and Lavage in Treatment of Urethritis. (Nouvelle méthode de traitement mécanique des adénites urétrales.) A. Cariani.

October 1, No. 19, pp. 1733-1824

49 The Modern Cystoscope. O. Ringlet.
50. Accidents Possible During Cystoscopy: Means to Prevent and Remedy Them. (Des accidents que peuvent survenir au cystoscope; moyens de les éviter, moyens d'y parer.) Marion.
51 *Immediate and Remote Results After Fifty-Seven Nephrectomies for Tuberculosis of the Kidney. A. Bœckel.

47. **Necrosis of the Bladder with Exfoliation.**—Mock reports two cases of gangrene of the bladder following injection of diluted ammonia or a solution of salt and vinegar, done in both cases for the purpose of inducing abortion. In the first case the entire inner lining of the bladder sloughed off after which the bladder healed under medical measures in the course of three months. The supposed pregnancy did not exist. In the second case also the inner coat of the bladder sloughed off, but the young woman was left with cystitis and incontinence and there have been signs of pyonephrosis on three occasions. Mock has found on record one similar case of gangrene of the bladder done for abortive purposes, but there are seventy-one on record of gangrene of the bladder occurring during a pregnancy, and he is inclined to believe that some of them, at least, were the results of attempts to induce abortion. The sloughed-off lining was cast off from the third to the seventh week after the caustic injection in his cases. He introduced a very large retention catheter so as to keep the bladder completely at rest, and later injected a weak disinfectant into the kidney pelvis. In the fatal cases of gangrene of the bladder the sloughed-off bladder lining had not been cast off, and the main point is to see that this is removed; cystoscopy is necessary to determine whether the cast of the bladder is still adherent at any point.

48. **Aspiration and Lavage in Treatment of Urethritis.**—Cariani reports excellent results in his two years' experience with his method of treatment of urethritis based on mechanical principles. He uses a sound studded with fine perforations its entire length, lubricated with glycerin, and induces negative pressure with a connected air pump. After a vacuum has thus been induced in the urethra by ten minutes of aspiration, he maintains the vacuum for some time as a powerful means of influencing the inflamed tissues, and then sends a stream of a solution of potassium permanganate through the sound. By this method the glands around the urethra are sucked out clean; the ten cases reported in detail apparently demonstrate that the therapeutic action of the flushing fluid is immeasurably enhanced by its application in a vacuum.

51. **Nephrectomy for Tuberculosis.**—Bœckel reports forty-one improved or cured and four temporarily improved of the fifty-six patients with tuberculosis of the kidneys treated by André with nephrectomy, since 1902. Two of the patients succumbed to the operation and nine have died since. Fifteen patients had signs of pulmonary tuberculosis at the time, but in seven the pulmonary lesions seemed to retrogress after the nephrectomy. In a number of cases slight tuberculous lesions of the prostate and epididymis also retrogressed. The patients have passed through the ordinary every-day infections and intoxications since without harm, and two of the women passed unharmed through a pregnancy about two years after the nephrectomy.

Archives des Maladies de l'App. Digestif, Paris

October, V, No. 10, pp. 529-588

52 *Lack of Mastication as Factor in Stomach Disease. (L'habitude d'avaler les aliménts sans mastication produit-elle des affections de l'estomac?) E. Hallas.
53 Digestion of Milk in the Adult Stomach. (Etude de la digestion du lait naturel et du lait fermenté acide dans l'estomac des adultes.) A. Riva and F. Samarani. Concluded.

52. **Pathologic Effect of Insufficient Mastication.**—Hallas tested systematically the stomach functioning in thirty-two feeble-minded adults who ate without much chewing but

seemed to have normal digestion. Careful testing revealed, however, abnormal conditions in the stomach in twenty-two, generally some organic trouble.

Archives de Médecine des Enfants, Paris

November, XIV, No. 11, pp. 801-880

54 *Epidemic Cerebrospinal Meningitis in Children at Athens. and Serotherapy. A. Papapanagiotu.
55 *Nasal Diphtheria. (Etude de la diphtérie nasale chez l'enfant.) M. de Biehler and B. K.-Dazkiewlcz.
56 The Butyric Acid Test for Epidemic Poliomyelitis. (La butyro-réaction de Noguchi-Moore dans la poliomyélite antérieure aigue.) M. Leitao.

54. **Epidemic Cerebrospinal Meningitis in Children at Athens; Serotherapy.**—Papapanagiotu had twenty cases of cerebrospinal meningitis in his charge at Athens during the recent epidemic and he reports the special details of fourteen cases, all in children from 8 months to 10 years old. There was no other case in the fourteen different families, although there was no attempt at isolation during the first few days of the disease or at any time during some of the cases. Under serotherapy all the children recovered with one exception, the mortality thus being only 7.14 per cent. The serotherapy warded off also complications on the part of the lungs, cardiovascular and urinary systema, joints, etc., but seemed less efficient against complications on the part of the nervous system.

55. **Nasal Diphtheria.**—In nine cases of apparently simple coryza in infants. with or without slight fever, bacteriologic examination revealed a primary diphtheria, localized exclusively in the nose. Antitoxin rapidly cured the little patients. There is no doubt, de Biehler says, that primary diphtheria is comparatively common among babies, and bacteriologic examination is necessary in every case of persisting catarrh and it is indispensable before performing any operation on the nasal passages.

Bulletins de la Société de Pédiatrie, Paris

October, XIII, No. 7, pp. 333-375

57 Sound of Heart-Beat Propagated to Cavity in Lung. (Bruit de clapotis synchrone aux battements du cœur dans une caverne pulmonalre chez un enfant.) Variot and P. Petit.
58 *Congenital Amyotonia. (Maladie d'Oppenheim.) L. Guinon and Gaudncheau.
59 Intestinal Invagination in Infant. (Invagination intestinale à marche subaigue chez un enfant de 5 mois ½.) Guinon and Fauquez.
60 Decompressive Trephining for Cerebrospinal Meningitis. (Méningite cérébro-spinale prolongée à forme cachectisante. Syndrome d'hypertension intra-cranienne. Pronostic fatal. Guérison par une craniectomie décompressive. Double névrite optique par stase.) R. Debré.
61 *Epidemic Poliomyelitis in Brazil. (La poliomyélite à Sao-Paulo.) C. Ferreira.

58. **Congenital Amyotonia.**—In the extreme case reported the head was thrown backward as in severe opisthotonus, the mouth constantly wide open, but there was no paralysis. At times there was transient contracture of certain groups of muscles. This alternation of extreme relaxation with a tendency to transient contracture differs from the typical Oppenheim's disease, and still more from the type that has been described as the tetaniform type of Little's disease.

61. **Epidemic Poliomyelitis in Brazil.**—Ferreira states that there can be no doubt that this disease made its appearance in Brazil toward the close of 1909. Thirteen cases in infants have been observed during the summers since at Sao Paulo and a number at Rio.

Grèce Médicale, Syra, Greece

XIII, Nos. 13-14, pp. 25-28

62 *Youthful Criminals. (La criminalité de la jeunese.) G. Sykiotis.
63 *Eye Complications with Epidemic Meningitis. (Complications oculaires à la suite de méningite cérébro-spinale épidémique. Sérothérapie.) E. Anargyros. Commenced in No. 12.

Nos. 17-18, pp. 29-36

64 When Death Comes to the Physician. (Le médecin devant la mort.) G. D. Sykiotis.

Nos. 19-20, pp. 37-40

65 *Eradication of Malaria at Athens. (L'assainissement de la ville d'Athènes.) J. P. Cardamatis.

62. **Youthful Criminals.**—Sykiotis comments on the youth of the hold-up men and bandits in Greece and on their increasing number, saying that this is a phenomenon that is attracting attention in most civilized countries even under a paternal government like Germany. Everywhere there is the same constant increase in the number of such criminals and everywhere the ranks are being recruited from the young. The majority of criminals are young fellows, and they must die off young, he says, as it is scarcely to be supposed that the reason why so few criminals are 40 or over is because they have all reformed by this age. It is much more probable, he thinks, that they succumb young to the peculiar vicissitudes of a life of crime.

63. **Ocular Complications of Meningitis.**—Anargyros reports several cases of disturbances on the part of the eye following an attack of epidemic cerebrospinal meningitis. In two cases a right iridochorioiditis in children of 2 and 7 followed a few days after recovery from the meningitis. In the first child it entailed atrophy of the eye-ball although the meningitis had been quite mild. In the other case the eye-ball was found much congested. the anterior chamber almost obliterated, the iris discolored and the lens was grey, thick and opaque at the back. There was no perception of light in this eye but the left eye was normal. Instillation of antimeningococcus serum had a favorable action on the external parts of the eye but none at all on the deeper parts. Conjunctivitis and corneal ulcers in other cases healed up rapidly under the local instillation of serum and disappeared in a few days. Cantonnet reported a similar experience two years ago, the corneal ulcer rapidly subsiding when intraspinal injection of the serum was supplemented by local instillation. (See Abstract 54 above.)

65. **Sanitation of Athens.**—From antiquity Athens has had extensive marshes in its vicinity around the small river Ilissos and its affluents which meander slowly through the marshes, disappearing at times and reappearing below, and there are numerous references in the classic writers to these features of the tableland on which Athens is situated. Malaria has long been endemic and prevalent, and when a commission was appointed, headed by Prof. Cardamatis, to study means for eradicating malaria, it was decided to dig a deeper and straight channel for the Ilissos, hoping thus to drain the marshes and do away with stagnant pools. In the summer it dwindles to a small stream, and this was deepened and straightened. Every eight or ten days the present narrow, straight bed is cleaned with brooms to keep it clean of water-weeds and of mosquito eggs. The results obtained by these simple measures alone have surpassed all anticipations during the five years since. Cardamatis examines the children in the primary schools twice a year for signs of malaria, examining the blood with the microscope and measuring the spleen. He thinks that these findings in the children in the first grades may be regarded as a reliable index of the prevalence of malarial infection. Between 1901 and 1905, from 180 to 280 children were thus examined each year and in from 49.09 per cent. to 92.85 per cent. the findings were positive. During the last five years from 270 to 345 children have been examined each year, and the proportion of positive findings has been, respectively, 58.8; 21.15; 2.66; 0.66 and 0 per cent. He has also eradicated malaria at Anchialos and Marathon, but there he was able to institute general quinin prophylaxis and other measures; at Athens the draining of the marshes was the only general measure.

Journal de Chirurgie, Paris

October, VII, No. 4, pp. 369-508

66 *Treatment of Acute Peritonitis. (Remarques sur le traitement des péritonites aigues.) P. Lecène.

66. **Treatment of Acute Peritonitis.**—Lecène declares that the fate of the patient rests in the hands of the physician first summoned to him. The peritonitis is simply a defensive reaction, and is relatively of secondary importance. The main point is to get the surgeon at once to discover and remove the cause setting up the peritonitis, whether the primary source is in the appendix or gall-bladder or in the perforated stomach or intestine. The Americans have led the way, he says, in treatment of acute peritonitis, and England and Germany are following in their footsteps, but French physicians have not yet entered on this route of early and pathogenic intervention.

Presse Médicale, Paris

November 8, XIX, No. 89, pp. 905-912

67 Importance of Sciences Dealing with Shape and Structure. (L'avenir des sciences morphologiques.) J. Jolly.

November 11, No. 90, pp. 913-928

68 Importance of Comparative Pathology. H. Roger.
69 *Should Potassium Iodid Be Prescribed with Abnormally High Arterial Tension? (Faut-il prescrire l'iodure de potassium aux hypertendus?) A. Martinet.

69. **Dangers of Potassium Iodid with Arterial Hypertension.**—Martinet reports some typical cases to show the danger in prescribing potassium iodid for certain patients with arteriosclerosis. Study of these cases shows that the potassium iodid causes trouble only when the hypertension is accompanied by abnormally low viscosity of the blood or when the heart or kidney have little or no reserve force, when the kidneys are unquestionably insufficient and, above all, when a hemorrhagic tendency is manifest. Such patients are constantly menaced by uremia and cerebral hemorrhage. But outside of these conditions potassium iodid is liable to render valuable service. He gives diagrams to illustrate the special findings in four cases, emphasizing the inversion of the normal proportion between the arterial tension and the viscosity of the blood as an indication of blocking of the kidneys, and the aggravation of the condition under potassium iodid.

Revue de Gynécologie, Paris

October, XVII, No. 4, pp. 289-400

70 *Modified Suprapubic Transverse Incision in Gynecology. (L'Incision transversale sus-pubienne en gynécologie. Quelques modifications de la technique opératoire. Etude des indications et statistique.) P. Coryllos.
71 Surgical Treatment of Chronic Colitis. P. Segond.

70. **Curving Transverse Abdominal Section.**—This article is profusely illustrated and describes the technic for and experiences with the curving transverse incision and lifted flap which has recently been described in these columns, page 1874, abstract 66. Coryllos has done with this technic hysterectomy in eight cases, hysteropexy in eight and removed ovarian cysts in two other cases—all with ease and excellent outcome.

Semaine Médicale, Paris

November 15, XXXI, No. 46, pp. 541-552

72 Adonis Vernalis Not a Tonic for the Heart. (De l'inefficacité de la teinture d'Adonis vernalis comme tonicardiaque.) M. Roch.

Archiv für Gynäkologie, Berlin

XCV, No. 1, pp. 1-348. Last indexed November 4, p. 1572

73 Involvement of Internal Genitals in Chloromatous and Granulomatous Processes. (Pathologische-anatomische Kasuistik.) F. Schlagenhaufer.
74 *Rupture of Uterine Cicatrix After Classic Cesarean Section. (Ueber die Ruptur der Uterusnarbe nach klassischem Kaiserschnitt.) Vogt.
75 Puerperal Mortality in Holland. (Kindbett-Sterblichkeit in den Niederländen.) C. van Tussenbroek.
76 Hemolytic Streptococci in Vaginal Secretions During Pregnancy and the Puerperium. (Ueber die Hämolyse der Streptokokken im Scheidensekret Schwangerer und Wöchnerinnen.) A. J. M. Lamers.
77 Gaseous Interchanges in the Uterus Musculature. (Experimentelle Untersuchungen über den Gaswechsel der Uterusmuskulatur.) Rübsamen and R. Perlstein.
78 Puerperal Mortality in Mecklenburg-Schwerin. (Die Sterblichkeit im Kindbett im Grossherzogtum Mecklenburg-Schwerin in den Jahren 1886-1909.) F. Unterberger.
79 *Venesection as Routine Treatment in Eclampsia. (Zur Klinik, Therapie und Aetiologie der Eklampsie, nach einer neuen Statistik bearbeitet auf Grund von 409 Fällen.) Lichtenstein.
80 Study of Uterine Myomas. (Beiträge zur Lehre vom Uterusmyom mit bes. Berücksichtigung der Blutungen und Gestationsstörungen.) O. Frankl.

74. **Rupture of the Cicatrix After Cesarean Section.**—Vogt ays that the records show that the prognosis of rupture of he cicatrix after the classic Cesarean section is relatively ood. Prophylaxis lies in ensuring healing of the incision vithout reaction. A woman who has been delivered by Cesaran section should be warned to seek constant medical overight toward the close of a following pregnancy. Rupture is comparatively rare occurrence. He tabulates for comparison ighteen cases from the literature in which all details are corded and the rupture remedied by an operation at once.

79. **Eclampsia.**—Lichtenstein reviews 409 cases of eclampsia, ncluding seventy from the Leipzig gynecologic clinic in charge f Zweifel, discussing and tabulating this material from various standpoints. He calls attention to the fact that the later compilations show that the convulsions cease after delivery in only a third of all the cases, not in 50 or 90 per cent. as the older records teach. The mortality with puerperal eclampsia is unusually high, and the mortality is no better with premature delivery than with rapid artificial delivery. The amount of blood lost seems to be an important factor in the outcome. The women whose convulsions ceased after delivery had lost half again as much blood as those women whose convulsions kept up, and four times as much as those whose convulsions came on during the puerperium. This importance of the blood as a factor in persistence of convulsions is further demonstrated by the fact that venesection was able to arrest the convulsions continuing after delivery. The conclusion seems imperative therefore that causal treatment of eclampsia is not by emptying the uterus but by withdrawing a certain amount of blood. This better than anything else relieves the mother's organism of the toxins causing the trouble. After delivery venesection should be the routine procedure or curetting the recently delivered uterus which is equivalent to the same thing although naturally more dangerous. He advises venesection preliminary to delivery, as this may render it unnecessary to force the delivery. His tables teach further that spontaneous recovery is liable, and remissions in the eclampsia, the pregnancy persisting unmodified to term without further convulsions. The later statistics, he states, testify against rather than for an ovarian or placental origin for eclampsia.

Berliner klinische Wochenschrift

November 13, XLVIII, No. 46, pp. 2053-2096

81 *Advantages of Lime-Poor Food in Certain Cases of Chronic Arthritis. (Behandlung mit kalkarmer Nahrung und ihre Indikation.) M. Hirschberg.
82 *Physiologic Lack of Lime in Breast-Fed Infants. (Die physiologische Bedeutung des Kalkhungers bei Brustkindern im ersten Lebensjahre.) W. Dibbelt.
83 Elimination of Iodin in Milk After Administration of Potassium Iodid. (Ueber die Ausscheidung des Jods in der Milch nach Verabreichung von Jodkalium und Lipojodin.) M. Löns.
84 Simplified Technic for Wassermann Reaction. (Ueber den Einfluss des Cholesterins auf die Verwendbarkeit der Organextrakte zur Wassermann'sche Syphilisreaktion.) H. Sachs.
85 Reflex Epilepsy. (Ein ungewöhnlicher Fall von Reflexepilepsie.) W. Alexander.
86 Structure of Goiter. (Der Bau der Kröpfe und seine Bedeutung für Funktion und Krankheit.) C. Davidsohn.
87 Present Status of Tabetic Bone and Joint Disease. (Tabische Knochen- und Gelenkerkrankungen.) H. Zoepffel. Commenced in No. 45.

81. **Lime-Poor Food in Treatment of Chronic Arthritis.**—Hirschberg remarks that notwithstanding the amount of research that has been done on the mineral metabolism, very little practical application has been made of the knowledge thus obtained. The importance of lime for the sound and diseased organisms has been proved and also that there is an abnormal amount of lime salts in the articular cartilages in cases of deforming arthritis. Schüller has reported favorable influence in such cases from limitation of the lime in the diet, and Hirschberg's experience has confirmed the efficacy of this measure in this and certain other forms of arthritis. He records the proportions of lime eliminated in the urine on test diets and reports that the joint affection notably improved when the intake of lime was kept low. The metabolic and clinical findings showed a remarkably parallel course. His practice is to have the patients stay in bed for three days on a daily test ration of rice, chopped beef, bread and meat extract bouillon, 1 liter milk, etc., only distilled water being used in cooking. The ration represents about 200 gm. of dry substances and contains about 1.86 gm. lime, CaO. If no more than 10 per cent. of this amount of the lime is eliminated in the urine, there must be retention of lime, and he orders a lime-poor diet for six or eight weeks, using distilled water and strictly avoiding milk, butter, yolk of eggs, potatoes and spinach and eating very sparingly of other vegetables. The cases in which marked benefit is liable are those of chronic ankylosis of the spine, deforming arthritis and the pains in the joint liable to be left after an acute polyarthritis.

82. **Lime Starvation in Infants.**—Dibbelt's research indicates that the supply of lime which the breast-fed infant gets is below his needs, especially about the end of the sixth month

In the months that follow, the skeleton is at its lowest level of resisting power, while analysis of the milk of women with rachitic infants shows an unusually small lime content. Suckling puppies developed a condition resembling human rachitis when the mothers were fed on a lime-poor diet. The assumption seems plausible that rachitis in some cases is due to a deficiency of lime in the mother's milk; this could easily be determined by testing the milk for lime. By the end of the sixth month the long bones are changing from the nearly solid shaft at birth to a more hollow shaft, to allow room for the bone marrow. This change is possible only by the dissolving of the bone tissue and its reabsorption, preliminary to the forming of the new structure. These changes are promoted by the deficiency of lime at this age, which is thus a physiologic condition. Any morbid influences, however, in mother or child are liable to exaggerate the condition into a pathologic state, which the skeleton at this period is least fitted to cope with.

Deutsche medizinische Wochenschrift, Berlin

November 9, XXXVII, No. 45, pp. 2065-2112

88 *Diagnosis of Sudden Occlusion of the Coronary Arteries of the Heart. (Zur Diagnose des plötzlichen Verschlusses der Kranzarterien des Herzens.) H. Hochhaus.
89 Modern Modifications in the Technic for Cesarean Section. (Wandlungen in der Kaiserschnittsfrage.) H. Freund.
90 Physiologic and Pathologic Action of Rarefied Atmosphere in Balloon Trips and Means to Control It. (Physiologische und pathologische Wirkungen des Höhenklimas bei Hochfahrten im Freiballon.) F. J. Flemming. Concluded in No. 46.
91 Sensitiveness of the Skin of the Tuberculous. (Die Toxinempfindlichkeit der Haut des tuberkulös infizierten Menschen). K. Zieler.
92 *Chronic Mixed Infection in Pulmonary Tuberculosis. (Ueber die Frage der chronischen Mischinfektion bei Lungentuberkulose.) H. Kögel.
93 *Endobronchial Spray for Chronic Bronchitis. (Grundlagen und Ergebnisse der lokalen Behandlung chronisch-entzündlicher Bronchial-Erkrankungen.) A. Ephraim.
94 Fibrous Degeneration of the Heart. (Zur Klinik und Pathologie der Myofibrosis cordis.) S. Einhorn.
95 *Conglutination Reaction in Diagnosis of Syphilis. (Ueber die Brauchbarkeit der Syphilisreaktion nach Karvonen.) C. Siebert and Mironescu.
96 Infant Morbidity and Mortality in Summer of 1911. (Die Morbidität und die Mortalität der Säuglinge im Sommer 1911.) L. F. Meyer.
97 *Cancer Mortality in Amsterdam. (Die Krebssterblichkeit in Amsterdam.) A. Grünspan.

88. **Diagnosis of Sudden Obstruction of the Coronary Arteries.**—Hochhaus reports four cases; in two the correct diagnosis was made during life. The most characteristic symptom is the persistence of the attack of apparent angina pectoris for days or weeks, with extreme weakness of the heart, enlargement of the area of dulness, the heart sounds becoming almost inaudible, the pulse much accelerated, with other symptoms of defective heart action, cyanosis, congestion in the liver, tympany and albuminuria. If the heart itself is comparatively sound, it may compensate the disturbances and the above clinical picture may not be presented; only when the myocardium is degenerated is the syndrome as described. In these cases as also in three recently reported by Obrastzow, the syndrome was accompanied by nausea, retching, vomiting and tympany.

92. **Secondary Infection in Chronic Pulmonary Tuberculosis.**—Kögel has examined the sputum of seventeen patients for mixed infection and was surprised to find hemolytic staphylococci in five cases and the long hemolytic streptococcus in only one. All the other patients were free from hemolytic bacteria, and the blood contained only tubercle bacilli. In five cases with cavities, putrid anaerobic streptococci were found but no anaerobes in any other cases. He declares that his findings much restrict the rôle of chronic mixed infection in pulmonary phthisis.

93. **Endobronchial Medication.**—Ephraim has applied medication directly to the bronchi in 161 cases, and thinks that this method has a promising future especially in treatment of asthma. He introduces the nozzle of the spray under control of the bronchoscope or, after anesthetizing the glottis and trachea, introduces the flexible spray tube with the aid of a cannula. The spray has to be under considerable pressure; no general sedatives are required. He has used various drugs and mentions particularly the benefit in chronic bronchitis of addition of a little iodin or weak solution of silver nitrate. He declares that the method is entirely harmless and of decided efficacy in many cases not amenable to any other measures. In his experiments on animals, the endobronchial spray penetrated into the alveoles, but he remarks that the air passages were normal in the animals. The great absorbent power of the bronchial mucosa suggests the possibility of a powerful action by diffusion into the adjoining parts of the lung.

95. **Conglutination Fixation of Complement Test in Syphilis.**—Siebert has been giving Karvonen's reaction a thorough test and has found it more sensitive even than the Wassermann method. It certainly deserves to rank as a valuable supplementary test but whether it can take the place of the Wassermann test is not yet decided. The principle is the same, only that the conglutination of the blood corpuscles, and not their dissolving, is the specific reaction. The corpuscles form clumps, but the conglutinins causing the clumping are entirely different from agglutinins. The conglutination occurs only when the corpuscles have been sensitized by the proper amboceptor and the complement has not been bound. In tests of serum from 100 patients both reactions were negative in the fifteen non-syphilitic cases, and fifty-eight of the syphilitic serums reacted negatively to the Wassermann test but only forty-eight negatively to the Karvonen technic.

97. **Cancer Mortality in Amsterdam.**—The statistics from 1862 to 1902 in regard to cancer mortality at Amsterdam show that cancer was much less prevalent in the newer parts of the town than in the long settled districts. In the decade before 1902, the Jews were responsible for 8.8 per cent. of the total mortality but only for 3.3 per cent. of the cancer mortality. The statistics show further that the proportion of cases of uterine and mammary cancer remains about stationary while the general increase in the cancer mortality is due to cancer of the digestive organs. The number of cases of cancer has increased in the forty years by 80 per cent. for men and 58 per cent. for women, but Grünspan adds that it is a question whether this increase may not be due merely to a more exact diagnosis.

Jahrbuch für Kinderheilkunde, Berlin

November, LXXIV, No. 5, pp. 489-625

98 Teaching of Pediatrics at the University of Stockholm. (Die Pädiatrie als Unterrichts- und Prüfungsfach an dem Karolinischen medico-chirurgischen Institut zur Stockholm.) O. Medin.
99 Infant Morbidity and Measures for Infant Welfare in Chili. (Ueber Säuglingskrankheiten in Chile.) A. Commentz.
100 Lime Content of Breast Milk and Lack of Lime as Cause of Rachitis. (Der Kalkgehalt der Frauenmilch. Zur Frage der ungenügenden Kalkzufuhr als Ursache der Rachitis.) J. A. Schabad.
101 Iron in Infant Feeding. (Das Eisen bei der natürlichen und künstlichen Ernährung des Säuglings.) L. Langstein.

Medizinische Klinik, Berlin

November 12, VII, No. 46, pp. 1759-1800

102 *Present Status of Pathology and Treatment of Syphilis. (Ueber die neuesten Errungenschaften in der Pathologie und Therapie der Syphilis.) E. Finger.
103 Occupational Deformities. (Ueber Berufsdeformitäten.) S. Peltesohn.
104 *Treatment of Obstetric Indentation of the Skull. (Meine Behandlung der Schädelimpression des Neugeborenen.) A. Hoffmann.
105 Toxicity of Blood Escaping Into Open Abdominal Cavity. (Giftigkeit des in die freie Bauchhöhle ergossenen Bluts.) Löwenstein.
106 *Tetany of the Viscera. (Tetania viscerum.) W. Falta and F. Kahn.

102. **Present Status of Syphilis.**—Finger remarks that syphilis assumes three forms according as it affects man apes or the lower monkeys. It also affects the organs in three ways, some organs being extremely vulnerable, others comparatively invulnerable and suffering no apparent harm for years even when the spirochetes are ensconced in them Among the organs of this type are the spleen, bone marrow testicles and relics of the primary sore and secondary eruptions. In still other organs the spirochetes die off rapidly The fluctuations in the susceptibility of the various organs are what imprints its special features on syphilis. A positive Wassermann reaction indicates an active focus somewhere in the body, but it does not necessarily indicate that a visible or palpable lesion is of a syphilitic origin. An old syphilitic

may give the Wassermann reaction on account of some inaccessible focus somewhere, but the suspicious liver tumor, on account of which the test was applied, may be a cancer. Modern research has demonstrated, he adds, that the virus of syphilis is always of about the same degree of virulence—the differences in the course are due to differences in the soil. This seems to render vain all hopes of preventive vaccination like cowpox vaccination. The old assumption as to the importance of vigorous local mercurial treatment has been reenforced, not only for the primary sore but for all external manifestations at any stage, by the recent discoveries in regard to syphilis, as also the impression that treatment has to be long kept up, until the Wassermann reaction becomes negative at each course of treatment and finally becomes permanently negative. He says of salvarsan that it has only symptomatic efficacy while its by-effects may be disagreeable. It differs from mercury especially in the fact that the reaction which mercury induces occurs only in syphilitic tissue, so far as we know, while salvarsan is liable to induce a similar reaction in non-syphilitic lesions, such as those of lichen ruber, psoriasis and lupus. It is possible, he adds, that this is due to the tissue-destroying property of the arsenic. In regard to neurorecurrences, he says that owing to his having been able to keep in view over 75 per cent. of the 500 patients he has treated with salvarsan, he found that forty-four or 9 per cent. presented neurorecurrences. In other clinics the patients have probably been lost track of before the neurorecurrences had had time to develop—this he is convinced is the explanation why Wechselmann and others have had only from 0.2 to 1 per cent. of neurorecurrences in their practice. The frequency and the early development of these nervous troubles render them something entirely new in syphilis. During the same period he encountered only five cases of neurorecurrence among about 2,000 patients treated with mercury and iodid alone. He adds that when Benario points to the 122 cases of neurorecurrences under mercury alone he has found in the literature, and contrasts them with the 194 under salvarsan, he forgets to mention in how many thousands and thousands of mercury cases this proportion developed. The percentage is the vital point, and this Benario disregards. Finger has had as many cases of neurorecurrences among his 500 salvarsan patients as Mauriac encountered among 10,000 syphilitics in the course of thirty years. All the clinical phenomena of the neurorecurrences seem to be manifestations of syphilis of the brain on the basis of a syphilitic arteritis; that is, a primary vascular affection with secondary involvement of the cranial nerves. All the manifestations of chronic arsenic poisoning are the result of a primary toxic action on the capillaries. The primary injury responsible for the neurorecurrence is that from the arsenic on the capillaries; the localization of the virus at the points of lesser resistance is the secondary process. Finger recalls that two of his patients, apparently entirely healthy except for recent syphilis, died with brain symptoms not very long after an injection of salvarsan, and necropsy revealed recent tuberculous meningitis, traceable to a softened bronchial lymph-node. The evidence suggests that the salvarsan set up a destructive process n the tuberculous lymph-node, and this entailed the tuberculous meningitis. This danger was illustrated in a further case in which a child with chronic otitis media also succumbed to fresh suppurative meningitis, soon after salvarsan treatment. The tendency to recurrence of lues cerebri is well known, and he has witnessed in several cases recurrence later of a neurorecurrence. Mercury given in conjunction with the salvarsan does not seem to be able to ward off danger, he remarks, witness the three cases of fatal hemorrhagic encephalitis that have been published. In conclusion he says that is neurorecurrences were observed in 4 per cent. of his patients with primary and with tertiary syphilis and in 12 per cent. n the secondary stage, he repudiates salvarsan treatment of syphilis, especially in the early secondary stage.

104. **The Treatment of Obstetric Indentation of the Skull.**—Hoffmann squeezes the side of the skull below and has thus been able by his manipulations to make the depressed portion spring up into place without leaving a trace of the indentation.

106. **Tetany of the Viscera.**—Falta and Kahn report experiences which show that excessive excitability or excessive stimulation of certain internal organs is the cause of many symptoms whose source has hitherto been a mystery. In tetany, besides the ordinary familiar symptoms, others may be going on inside the body, the autonomous nervous system participating in the syndrome and inducing acceleration of the heart action, angiospastic or gastro-intestinal phenomena, dyspepsia, vomiting, colic, diarrhea, indicanuria, hyperchlorhydria or hypersecretion and premature evacuation of the stomach. They have studied these phenomena with roentgenoscopy and watched them come on, reach their acme and subside parallel with the attack of tetany, and they have further studied them after exploratory injection of epinephrin or pilocarpin. In the acute phase of tetany it is remarkable to observe the intense exaggeration of the action of pilocarpin and the abnormally low level at which its toxic by-effects become manifest. In two cases they saw with the Roentgen rays how the stomach became constricted into an hour-glass shape during the attack of tetany; in one case the stomach returned to normal almost at once, but in the other case the constriction was more intense, the stomach shrinking to half its normal size and weeks passing before it finally regained its normal outline. In recurring tetany there is frequently a tendency to cachexia, probably on account of disturbances in metabolism from changes in the autonomous nervous system interfering with assimilation. In the acute stage or soon after they frequently had occasion to observe signs of hyperfunctioning on the part of the thyroid, confirming the interrelations between the various glands with internal secretion. Their theoretical explanation of tetany is that the ganglion cells of the spinal cord are regulated in their functioning by a hormone from the parathyroid bodies, and that with parathyroid insufficiency this delicate inhibiting action is suspended and the ganglion cells accumulate abnormal amounts of energy. The discharge of this energy occurs under varying conditions, differing with the constitution, the momentary predisposition and external factors in each individual case, the resulting syndromes being widely diverse. The influence of the parathyroid hormone on the lime metabolism (MacCallum and Vögtlin) suggests a loss of calcium in the ganglion cells as further responsible for their abnormal excitability.

Monatsschrift für Geburtshilfe und Gynäkologie, Berlin

November, XXXIV, No. 5, pp. 513-620

107 Relations Between Tuberculosis and Pregnancy. (Experimentelle und klinische Beiträge zur Frage nach den Beziehungen zwischen Tuberkulose und Schwangerschaft.) R. Cristofoletti and H. Thaler.
108 Puerperal Anaerobic Streptococcus Infection. O. Bondy.
109 *Postoperative Thrombosis and Embolism. (Weitere klinische Beiträge zur Aetiologie und Prophylaxe postoperativer Thrombose und Embolie.) H. V. Klein.
110 Torsion of Movable Cecum. (Darmverschluss der Flexura hepatica coli, zugleich ein Beitrag zur Torsion des Coecum mobile.) E. Puppel.

109. **Prophylaxis of Postoperative Thrombosis.**—The experiences related show that this complication occurred in 0.9 per cent. after 5,524 operations at Wertheim's clinic at Vienna in the last three years, while at seven other clinics the percentage ranged from 1.1 to 3.5 per cent. Wertheim had eleven cases of fatal embolism, a proportion of 0.23 per cent. Klein emphasizes in prophylaxis the necessity for watching over the heart and toning it up before the operation and avoiding too long waiting. Food and fluids should be given the patients after the operation more abundantly than is generally the rule, and the functioning of heart and lungs should be kept in good condition by drugs and exercises.

Münchener medizinische Wochenschrift

November 7, LVIII, No. 45, pp. 2369-2424

111 *Decompressive Puncture of Corpus Callosum. (Weitere Mitteilungen über Gehirndruckentlastung mittelst Balkenstiches.) G. Anton and F. G. v. Bramann.
112 Specific Cutaneous Reaction in Syphilis. (Hautallergie bei Syphilis; ihre diagnostische und prognostische Bedeutung.) H. Noguchi.
113 Salvarsan in Frambesia and "Bush Yaws." (Bericht über die Behandlung von 700 Fällen von Framboesia tropica und 4 Fällen von Plan Bois mit Salvarsan.) P. C. Flu.

114 *Roentgen Rays in Diagnosis of Intestinal Stenosis. (Die Röntgenuntersuchung bei Verengungen des Dickdarms. Röntgenologische Frühdiagnose des Dickdarmkarzinoms.) G. F. Haenisch.
115 Advantages of Exploratory Exposure of Both Kidneys After Failure of Other Diagnostic Measures in Tuberculosis. (Zur Frage der explorativen Blosslegung beider Nieren bei Tuberkulose.) R. Paschkis.
116 Importance of Salts in Breast Milk. (Massgebende Rolle der Salze der Frauenmilch bei der Ernährung im Säuglings- und ersten Kindesalter.) H. Friedenthal.
117 Injurious Influence of Constipation on Urinary Organs. (Habituelle Stuhlverstopfung und Harnorgane.) P. Asch.
118 Bacillus-Carriers Responsible for Epidemics of Typhoid in New Sanatorium. (Der Typhus in der Heil- und Pflegeanstalt Eglfing.) F. Ast.
119 Medical Inspection of Bavarian Prisons. (Aerztliche Untersuchungen an Kaisheimer Gefangenen.) T. Vienstein. Commenced in No. 44.
120 Responsibility of Physician for Malpractice of His Subordinates. (Ueber die Mitschuld des Arztes bei Verstössen von Hilfspersonen.) O. Küstner.

111. **Puncture of the Corpus Callosum.**—Anton and von Bramann have now a record of fifty cases in which they punctured the corpus callosum to relieve the brain from pressure or disturbances in circulation and absorption. In an instructive table they summarize the nine different indications for which the measure was applied, and list under fifteen headings the effects and outcome in the cases. They suggest that therapeutic infusion might be done by this means, which their experience has shown is harmless. The cortex and the convex wall of the cerebrum are not injured while the puncture restores the communication between the cavity of the ventricle and the subdural space, and this communication can be kept open for several months. This provides a broad surface for absorption of the cerebral fluid. On suspicion of a neoplasm or cyst in the fourth ventricle, puncture of the corpus callosum may relieve the choked disk and thus postpone loss of vision; it may be possible to act on the optic nerve through the orbit in case the choked disk persists. This technic has been proved feasible in a case of tumor with atrophy of the optic nerve. They discuss other means that have been applied to relieve pressure on the brain, their conclusions from the records on the subject to date being that decompressive trephining often fails to relieve, while slitting the dura is liable to inflict too much injury on the part of the brain involved, and trephining in itself does not answer the purpose of removing the cause. This is accomplished, however, by puncturing the corpus callosum, thus opening a permanent communication between the ventricle and the subdural space in the roof of the lateral ventricle. The needle is readily introduced down through the intercerebral fissure between the hemispheres, after a hole has been drilled close to the median line, just back of the frontoparietal suture, down to the dura. A minute incision in the dura is then made at a point where no large veins are visible, and through this the curved cannula is inserted until it hits against the falx cerebri and, gliding along this, reaches the corpus callosum through which it is pushed with some force, and fluid then escapes.

114. **Roentgen-Ray Examination of Stenosis in the Large Intestine.**—Haenisch gives the Roentgen ray findings in nineteen typical cases of stenosis in the large intestine, all confirming the instructive information to be obtained from roentgenoscopy during and after rectal injection of a suspension of bismuth with bolus alba. For this he mixes 300 gm. of bolus alba with ½ liter of warm water and stirs in 75 gm. of bismuth carbonate, then dilutes with another ½ liter of warm water. The patient is thoroughly purged and cleansed beforehand. The patient lies on his back and the rectal injection is made under direct inspection with the Roentgen rays of the upward passage of the mixture. Any tendency to stenosis is readily recognized by the arrest and accumulation of the mixture below. This method permitted the diagnosis of cancer in its incipiency in some cases and localized the stenosis or explained the cause of obstinate constipation. After the examination the mixture should be carefully siphoned out again. In dubious cases he repeats the procedure and takes radiograms at instructive moments. The progress of the bismuth mixture can be traced up to the cecum in most cases; this does not require more than a few minutes. In siphoning out the mixture, the part of the intestine below the stenosis is rapidly emptied while the mixture from above this region comes more slowly, and roentgenoscopy locates the dividing line and the various features of the stenosis.

Therapeutische Monatshefte, Berlin

November, XXV, No. 11, pp. 645-700

121 Results to Date of Experimental Chemotherapie. (Die Ergebnisse der experimentellen Chemotherapie.) M. Jacoby.
122 Research on Catgut. (Beitrag zur Kenntnis des Catguts.) J. Voigt.

Wiener klinische Wochenschrift, Vienna

November 9, XXIV, No. 45, pp. 1551-1586

123 *Action of Anilin Dyes on the Skin. (Klinische und experimentelle Untersuchungen über die Einwirkung von Anilinfarbstoffen auf die menschliche und tierische Haut.) O. Sachs.
124 *Thrombosis of Mesenteric Arteries and Veins. (Ueber Verschluss der Mesenterialgefässe nebst Mitteilung eines operativ geheilten Falles.) J. Gobiet.
125 Radium in Treatment of Bladder Tumors. (Radiumbehandlung von Blasengeschwülsten.) R. Paschkis.
126 Vaccine Diagnosis and Treatment in Gonorrhea. (Vakzinediagnostik und -therapie bei gonorrhoischen Affektionen.) R. Köhler.

123. **Action of Anilin Dyes on the Skin.**—Sachs noticed a remarkable production of warts or warty eczema on the hands of four persons working in anilin dyes. Tests of the various dyes rubbed into the inner surface of the rabbit ear confirmed the property of these dyes to induce granulation and epithelioma-like excrescences. Control tests with white of lead cinnobar, sienna and other mineral dyes were negative. These experiences thus show that this property of promoting the growth of epithelium is not restricted to scarlet red but belongs also to a number of the other anilin dyes, and they can be utilized for therapeutic purposes.

124. **Thrombosis of the Mesenteric Vessels.**—Gobiet has found sixty-seven cases on record in which thrombosis of the mesenteric arteries or veins was given operative treatment and eleven of the patients recovered. He adds a twelfth case of recovery to the list, and reviews the history, diagnosis and outlook. In few of the cases was the syndrome typical. The most constant symptom is the sudden, intense pain, the severe collapse and the violent peritoneal symptoms which yet have no characteristic features. When severe abdominal symptoms become evident the diagnosis is facilitated, as was the case with his patient. Further aid in the diagnosis is afforded by embolism in other regions or coming on as a complication The main point is to think of the possibility of infarction of the intestine. The syndrome closely resembles that with acute pancreatitis. In Brunner's compilation of sixty cases forty-seven of the patients died or were operated on in from one to nine days, but in the other cases the affection laste from two weeks to three months. A spontaneous cure i possible if the obstruction occurs so slowly that a collatera circulation can develop; this is more liable with the inferio than with the superior mesenteric artery. Even when thi occurs, stenosis may follow from cicatricial constriction. I his case the trouble developed with intense pain and repeate vomiting. Six hours later the collapse was very severe, pulsmall and fluttering, heart sounds indistinct, face covered wit cold sweat, breathing difficult, cyanosis extreme, with edem in the feet and scrotum and 2 per 1,000 albuminuria. Th abdomen was distended and tender and a resistance was fe above the left Poupart's ligament, reaching to the umbilic and movable. There was some resistance also in the righ side of the abdomen, and no stool or flatus followed a hig injection. Thrombosis of the mesenteric vessels was th presumptive diagnosis; after waiting fourteen hours, hopin the patient might revive, the abdomen was opened unde spinal anesthesia and 320 cm. of the small intestine wa resected, the hemorrhagic infarction extending for 300 c and including all the layers of the intestinal walls and th mesentery, the mesenteric veins being plugged with fres thrombi, the arteries intact. No bacteria could be found the resected specimen. The patient rapidly recovered a returned to his work in the mines. Sachs is not very favo ably inclined to spinal anesthesia as he lost a patient fro paralysis of the respiration center after an operation and

two other cases had paraplegia persisting for months, yet in these cases of extreme collapse with serious peritoneal mischief he advocates the spinal technic.

Zeitschrift für klinische Medizin, Berlin

LXIII, Nos. 5-6, pp. 389-558. Last indexed November 4, p. 1576

127 Carbon Dioxid Tension of the Blood in Disease. (Ueber die Kohlensäurespannung des Blutes in pathologischen Zuständen.) O. Porges, A. Leimdorfer and E. Markovici.
128 Acids in the Urine. (Zur Kenntnis der Säuren im Harn.) E. Magnus-Alsleben.
129 *Treatment of Syphilitic Cardiovascular Disease. (Behandlung der syphilitischen Herz- und Gefasskrankheiten.) A. Øigaard.
130 *Pleurisy and Tuberculosis. (Pleuritis und Tuberkulose.) H. Köster.
131 Multiple Xanthelomas and Jaundice. (Xanthelasma und Ikterus.) F. Chvostek.

129. See Abstract 218 in THE JOURNAL, Oct. 14, 1911, p. 1333.

130. See Abstract 115 in THE JOURNAL, Dec. 9, 1911.

Zeitschrift für Urologie, Berlin

November, V, No. 11, pp. 881-960

132 Improvement in Cystoscope. (Ueber Verbesserungen an den optischen Systemen der Cystoskope.) M. van Rohr.
133 Case of Bilateral Double Ureter and Kidney Pelvis. (Fall von beiderseitiger Verdoppelung der Nierenbecken und Ureteren.) A. Seelig.

Zentralblatt für Gynäkologie, Leipsic

November 11, XXXV, No. 45, pp. 1553-1584

134 *Gynecology in Insane Asylums. (Gynäkologie und Irrenhaus.) B. S. Schultze.
135 *Ligation of Afferent Vessels in Severe Postpartum Hemorrhage (Die Unterbindung zuführender Gefässe am Orte der Wahl bei schweren postpartalen Blutungen.) B. Krönig.
136 Posterior Cervical Cesarean Section. (Zur Sectio caesarea cervicalis posterior nach Polano.) Peters.

134. **Gynecologic Lesions and Insanity.**—Schultze called attention in 1880 to the possible importance of displacement of the uterus, inflammation of the ovaries and uterus and old perineal tears as factors in nervous and mental disturbances. He related cases to show the prompt and permanent benefit derived from appropriate treatment of the gynecologic lesions, correction of the dislocation or provision for drainage of stagnating catarrhal secretion. He insisted on the advantage of having a trained gynecologist on the staff of every insane asylum and provision for an operating room. Bossi's recent statements in the same line were recently summarized in these columns, September 30, page 1173, and Hobbs in 1902 reported similar practical experiences during a five-year period at the London, Ontario, asylum. He found 253 women requiring operative treatment for some gynecologic affection among 1,000 examined. Five of the 253 operated on died and 100 were cured of their mental trouble and fifty-nine improved, as he published at that time. In the ten years preceding only 37.5 per cent. of the inmates had been discharged as cured, while during the five years of Hobbs' incumbency 52.7 per cent. were discharged as cured and improved. Schultze informed the authorities in Germany of Hobbs' success as a practical illustration of his ideals, but he does not know of any attention having been paid to his suggestions. Bossi advocates that a gynecologist should be called in at once in every case of a tendency to mental derangement, especially with ideas of suicide. He urges the practitioner and the public to insist on gynecologic examination, even before calling in the psychiatrist.

135. **Ligation of Arteries for Severe Post-Partum Hemorrhage.**—Krönig has had no death among the thirty-five women with placenta prævia delivered by Cesarean section, yet when the bleeding is from the vessels in the isthmus he prefers to ligate on both sides the hypogastric and ovarian arteries. This is unusually easy with the puerperal uterus, and is readily done in ten or fifteen minutes while it is a much less serious operation than supravaginal amputation, which some are advocating under these conditions. Krönig applies Gauss' method of compressing the aorta, after failure of the usual methods, and prepares the woman for a laparotomy. An incision is then made in the median line and the uterus is pushed to the left and the peritoneum is slit over the right hypogastric artery, the ureter pushed aside, and the hypogastric artery is then easily located as it leaves the iliac artery. The ovarian artery is ligated in the broad ligament and, if desired, a ligature can be thrown around the round ligament to block the artery in it. This conservative method of arresting post-partum hemorrhage has many advantages over mutilating measures, as he relates in detail.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 9, XXXII, No. 135, pp. 1427-1434

137 Tuberculosis of Hernial Sac. (Contributo allo studio della tubercolosi del sacco erniario.) A. Arcangeli.

Policlinico, Rome

November 12, XVIII, No. 46, pp. 1449-1480

138 Leishmaniasis in Calabria. F. Mottola.
139 Disturbances in the Autonomous Nervous System. (Linee direttive fondamentali della moderna patologia del simpatico.) N. Pende.

Riforma Medica, Naples

November 6, XXVII, No. 45, pp. 1233-1260

140 Action of Cancer Serum on Saccharomyces. (Il potere fagocitario del siero dei carcinomatosi pel saccharomices neoformans di Sanfelice.) O. Uffreduzzi.
141 Iodin Sterilization of the Skin. (Sulla sterilizzazione del campo operatorio colla sola tinctura di iodo.) G. Monzardo.
142 Premature Senilism: Progeria. (Sopra un caso di geroderma genito-distrofico.) D. De Chiara.

Hospitalstidende, Copenhagen

October 25, LIV, No. 43, pp. 1209-1240

143 *Extensive Resection and Extirpation of the Bladder. (Udstrakt Resektion og Totalexstirpation af Urinblæren.) T. Rovsing. Commenced in No. 42.
144 Roentgenoscopy of Stomach. (Röntgengennemlysning af den normale Ventrikels Leje.) P. K. Faber. (Gastroptose og Gastropexi.) L. Kraft.

November 1, No. 44, pp. 1241-1264

145 Fibrositis. P. Lorentzen.

November 8, No. 45, pp. 1265-1296

146 The Two-Route Method of Treating Lupus: Potassium Iodid Internally and Ozone Locally. (Behandling af Slimhindelupus ad mod. Pfannenstill.) O. Strandberg.

November 15, No. 46, pp. 1297-1328

147 *Pathology of Tendon and Environing Tissues. (Peritendinitis, Cellulitis peritendinosa, Tendinitis traumatica. Bidrag til Senevævenes Patologi.) C. Wessel. Commenced in No. 45.

143. **Extensive Resection or Removal of Entire Bladder.**—Rovsing opened with this address the discussion on this subject at the second international urologic congress which met at London, July 24, 1911. He tabulates the details of sixteen unpublished cases of extensive resection of the bladder, adding these to the ninety-six compiled by Rafin in 1905. He further tabulates the details of fifty-eight cases of removal of the entire bladder including several previously unpublished. He calls attention to the frequently observed fact that villous papillomas which show no signs of malignancy even on microscopic examination yet recur as a diffuse infiltrating carcinoma; Rovsing has encountered a number of cases of this kind. One was in a man of 24 who had the growths removed again and again, finally presenting what Rovsing calls a total villosis. He then removed through a suprapubic incision nearly the entire mucous lining of the bladder, and with repeated cystoscopic examination removed on five later occasions minute recurring growths until the mucosa was entirely clean. It grew again smooth, and the bladder functioning is now normal and there has been no sign of trouble during the year and a half since. If the mischief in this case had been of an actual malignant character, there would have been cancerous degeneration long since. Cancer of the bladder seems to display less tendency to metastasis than cancer elsewhere as a rule; this encourages radical operations. To date, the entire bladder has been removed only in the most serious cases, but the ultimate outcome, especially when the danger of cancerous degeneration later is taken into account, is actually better than with partial resection. The mortality in Rovsing's cases with his method of implanting the ureters in the skin in the lumbar region was only 21.4 per cent., exactly the same percentage as in the 112 cases of partial resection. This is the more remarkable as the patients were all extremely debilitated. The operative mortality in the total fifty-eight cases of removal of the entire bladder was 50 per cent. The crucial point is the care of the ureter mouths afterward, where to implant them, and the ultimate outcome in the

various groups of cases reported in which the ureters were implanted in the intestine, vagina, bladder stump or skin, testifies to the advantages of the latter technic. It has been applied to date in nine cases, and the results encourage its application as destined to supersede partial resection without waiting until it is the last resort, but as a routine procedure for bladder tumors. The postoperative mortality of cystectomy is generally due to complications from implanting the ureters. When urine stagnates at their mouths or infectious matter brushes them, there is almost certain to be trouble sooner or later, but all this is avoided by bringing the ureter mouths out through the skin in the lumbar region and having the patient wear a portable urinal. His technic and the simple, convenient urinal he has devised were described in The Journal, Aug. 31, 1907, page 809.

147. **Pathology of the Tendons.**—Wessel discusses the various forms of inflammation in and around tendons and their sheaths, reviewing the extensive experience in this line at the Copenhagen general hospital, and comparing the data with those published elsewhere. The importance of trauma, from minute ruptures of the finest fibers in the course of unaccustomed muscular exertion to severe traumatic injury, is being accorded a more and more prominent place in the pathology of tendons and their environment. The acute crepitating affections are generally located outside of the tendon sheaths, and the tendon tissue itself may be the seat of traumatic injury entailing cicatricial changes which generally are diagnosed as a rheumatic affection but which are amenable to surgical removal of the cause. He cites illustrations of different types and illustrates puzzling points in the pathologic anatomy.

Ugeskrift for Læger, Copenhagen

November 9, LXXIII, No. 45, pp. 1651-1690

148 Present Status of Acute Dilatation of the Stomach. (Den akute Ventrikeldilatation.) O. Wissing.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

The Inheritance of Acquired Characters. A Hypothesis of Heredity, Development and Assimilation. By Eugenio Rignano. Authorized English Translation by Basil C. H. Harvey, Assistant Professor of Anatomy, University of Chicago. With an Appendix on the Mnemonic Origin and Nature of the Affective or Natural Tendencies. Cloth. Price, $3 net. Pp. 413. Chicago: The Open Court Publishing Co., 1911.

Report of Infantile Paralysis in the State of Washington During 1910. By Eugene R. Kelley, M.D., Assistant State Health Commissioner, Walter Gellhorn, M.D., and John B. Manning, M.D. With an Appendix, Infantile Paralysis in the City of Seattle. By Willis H. Hall, M.D., First Assistant Medical Inspector, Seattle Health Department. Paper. Pp. 69.

The Origin and Prevalence of Typhoid Fever in the District of Columbia (1909-1910), Report 4. By L. L. Lumsden and John F. Anderson (including articles contributed by Thomas B. McClintic and Wade H. Frost). Bull. 78, Hygienic Laboratory, U. S. P. H. and M.-H. S. Paper. Pp. 196. Washington: Government Printing Office, 1911.

The Treatment of Fractures by Mobilization and Massage. By James B. Mennell, M.D., B.C., Late Resident Medical Officer of St. Thomas' Home. With an introduction by Dr. J. Lucas-Championnière, Chirurgien Honoraire de l'Hotel Dieu. Cloth. Price, $4 net. Pp. 458, with 66 illustrations. New York: Macmillan Co., 1911.

Twenty-Second Report of the State Board of Health of Wisconsin. For the Two Years Ending Sept. 30, 1908. With Report of the State Bureau of Vital Statistics Relating to the Registration of Births, Deaths, Marriages, Accidents and Divorces. C. A. Harper, M.D., Secretary and Executive Officer, Madison, Wis.

The Principles of Sanitary Tactics. A Handbook on the Use of Medical Department Detachments and Organizations in Campaign. By Edward Lyman Munson, A.M., M.D., Major, Medical Corps, United States Army. Cloth. Price, $2. Pp. 306. U. S. Cavalry Association, Fort Leavenworth, Kan.

Enological Studies. The Chemical Composition of American Grapes Grown in Ohio, New York and Virginia. By William B. Alwood, Enological Chemist. Bull. 145, Bureau of Chemistry, U. S. Department of Agriculture. Paper. Pp. 35. Washington: Government Printing Office, 1911.

Manual of the International List of Causes of Death. Based on the Second Decennial Revision by the International Commission, Paris, July 1 to 3, 1909. Department of Commerce and Labor, Bureau of the Census. Cloth. Pp. 297. Washington: Government Printing Office, 1911.

A Study in Troop Leading and Management of the Sanitary Service in War. By Major John F. Morrison, General Staff, U. S. Army, and Major Edward L. Munson, Medical Corps, U. S. Army. Cloth. Price, $1.25. Pp. 245. U. S. Cavalry Association, Fort Leavenworth, Kan., 1910.

Syphilis from the Modern Standpoint. By James McIntosh, M.D., Grocers' Research Scholar, and Paul Fildes, M.B., B.C., Assistant Bacteriologist to the London Hospital. Cloth. Price, $3 net. Pp. 227, with illustrations. New York: Longmans, Green & Co., 1911.

La Pratique de l'Opothérapie. Principes, Indications, Posologie. Par M. L. Hallion, Directeur adjoint du Laboratoire de Physiologie pathologique des Hautes Etudes. Paper. Price, 2 francs. Pp. 148. Paris: Masson et Cie, 120 Boulevard Saint-Germain, 1911.

Urologischer Jahresbericht. Einschliesslich der Erkrankungen des Männlichen Genitalapparates. Redigiert von Prof. Dr. A. Kollmann in Leipzig und Dr. S. Jacoby in Berlin. Literatur 1910. Paper. Price, 20 marks. Pp. 485. Leipsic: Dr. Werner-Klinkhardt.

Analyses of Sugar Beets, 1905 to 1910, Together with Methods of Sugar Determination. By A. Hugh Bryan, Chief, Sugar Laboratory. Bull. 146, Bureau of Chemistry, U. S. Department of Agriculture. Paper. Pp. 48, with illustrations.

A Escola Medico-Ciurgica de Lisboa em 1909-1910. Annuario Coordenado Sob a Direcçao de P. A. Bettencourt Raposo, Lente cathedratico e Secretario da mesma Escola. Paper. Pp. 160. Lisboa: Imprensa Nacional, 1911.

Treatment of Neurasthenia by Teaching of Brain Control. By Dr. Roger Vittoz. Translated by H. B. Brooke. Cloth. Price, 85 cents or 3 shillings 6 pence net. Pp. 117. New York: Longmans, Green & Co., 1911.

Lehrbuch der Kystoskopie und stereokystophotographischer Atlas. Von Dr. S. Jacoby. Cloth. Price, 25 marks. Pp. 248. With 48 stereoscopic views and 121 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

Twentieth and Twenty-First Annual Reports of the Evangelical Deaconess Motherhouse and the Evangelical Deaconess Hospital, St. Louis. For 1908 and 1909.

Proceedings of the Twenty-Seventh Annual Meeting (1908) of the Indiana Pharmaceutical Association. Maurice P. Schwartz, Secretary, Indianapolis.

Ninety-Seventh Annual Report, Massachusetts General Hospital, Boston, McLean Hospital and Convalescent Hospital in Waverley, 1910.

Biological Aspects of Human Problems. By Christian A. Herter. Cloth. Price, $1.50 net. Pp. 344. New York: The Macmillan Co., 1911.

Eighteenth Biennial Report (1909-1910) of the Board of Managers of State Hospital Number 2, St. Joseph, Mo.

Eleventh Annual Report, New Jersey Home for Disabled Soldiers, Sailors, Marines and Their Wives, Vineland.

Thirty-Ninth Annual Report, Association to Provide and Maintain a Home for the Friendless, Newark, N. J.

A Brief Outline of the Origin, Growth, Work and Prospects of the Carthage (Mo.) Hospital Association, 1911.

Sixtieth Annual Report of the Baltimore Humane Impartial Society and Aged Women's and Men's Home, 1910.

Annual Report of the Maryland General Hospital and the Maryland Lying-In Hospital of Baltimore, 1910.

One Hundred and Twelfth Annual Report of the Board of Managers of the Baltimore Orphan Asylum.

Eleventh Biennial Report (to Nov. 30, 1911) of the Nebraska Industrial Home at Milford.

Report on Sewage Disposal. The Sanitary District of Chicago. By George M. Wisner. Paper. Pp. 83.

Twenty-Second Annual Report, St. Francis' Hospital for Incurables, Cincinnati. For 1910.

Forty-Fifth Annual Report, Springfield (Mass.) Home for Friendless Women and Children.

Twenty-Ninth Annual Report, Northern Pacific Beneficial Association, St. Paul, Minn.

Twenty-Fourth Annual Report of the Children's Free Hospital Association, Detroit.

Sixty-Third Annual Report, Protestant Foster Home Society, Newark, N. J. 1911.

Fortieth Annual Report of the Paterson (N. J.) General Hospital Association.

Nineteenth Annual Report of the Malden (Mass.) Home for Aged Persons.

Twentieth Annual Report, Baptist Home Society of New Jersey, Newark.

Third Annual Report, Northwestern General Hospital, Philadelphia.

Thirty-Third Annual Report of the Worcester (Mass.) State Asylum, 1910.

Report of the Milford (Mass.) Hospital. For Year Ending May 31, 1911.

Nineteenth Annual Report, Home for Crippled Children Newark, N. J.

Annual Report, St. James' Hospital, Newark, N. J. For 1910

Annual Report of St. Joseph's German Hospital, Baltimore

Report of the Children's Fresh Air Camp, Cleveland.

Annual Report of St. Agnes' Hospital, Baltimore, 1910.

Twenty-Fourth Report, Boston Home for Incurables.

Circular of the Biggs Sanitarium, Asheville, N. C.

Prospectus of the Glenville Hospital, Cleveland.

Souvenir of the Mayfield Sanitarium, St. Louis.

Report of Randolph (Vt.) Sanatorium.

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SOME RELATIONS OF THE NERVOUS MECHANISM OF THE HEART TO DRUG EFFECTS, AS INDICATED BY EXPERIMENTS ON THE TERRAPIN *

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Clinical observation of a sudden death following the intravenous use of strophanthin, as well as the very prompt therapeutic effects noted in favorable cases from minute doses of it and of camphor, seem to me to indicate that the primary effect of these drugs on the heart must be on some highly sensitive governing mechanism of a nervous character rather than on the cardiac muscle itself. The carefully balanced chemical and mechanical relations between the blood and the blood-vessel wall hold for the endocardium as well, and they must depend on and affect, to some extent at least, the nervous supply to that portion of the lining coming in most direct contact with the blood. Consequently, it is possible for chemical substances in the blood to exert a direct effect on nerve-endings of the endocardium, and there is some reason to suppose that this might be, because of the amount of surface exposed, the susceptibility of sensory nerve endings, and the fact that in intravenous infusions a considerable concentration of the injected solution is temporarily possible, the first effect to be obtained. It is interesting to note in this connection that Zunz[1] has found that terrapin hearts protected by their own blood resisted poisons, particularly those supposed to affect muscle, better than when Locke's or other solutions were perfused. Obviously, in the human body the diffusion of an administered drug may be so prompt that it is impossible to know whether its cardiac effects come primarily or secondarily from the central nervous system, the cardiac nervous mechanism, or are directly from the muscle itself. The very rich nerve-end supply of the endocardium and the pericardium has intimate connections with the intricate network of nerve fibers and ganglion cells now known to exist practically throughout the heart. This is particularly significant, since the work of Tawara, Aschoff, Wilson, Engel and others on the presence of nervous elements in the bundle of His. The frequent cardiac irregularities noted in pathologic conditions of the pericardium and the endocardium may be due to inflammatory processes along the conducting bundles, as has been described by Gerhardt,[2] but in some cases at least there is ground for the assumption that the irregularities are due to abnormal reflexes arising from the diseased serous membranes. Anyone who has carefully watched the clinical course of an adherent or obliterative pericarditis, without evident lesion of the valves or muscle discoverable at autopsy, must have been impressed by the fact that the mechanical element alone imperfectly explains the disturbances of cardiac action noted. It is impossible with our present knowledge of muscle physiology and pathology, particularly of the so-called "primitive muscle" of the bundle of His, to know how much of a part muscle and nerve respectively play in all of the phenomena associated with the heart-beat. As Gibson[3] has indicated, the clinical features of cardiac disease are better explained on the neurogenic theory of the origin and conduction of the rhythmic contractions of heart than on the myogenic. Particularly is this true in the transient irregularities noted in neurasthenia and certain diseases of the kidney and in explaining the effects of certain drugs.

The series of experiments on which this paper is based were begun with the idea of ascertaining whether the endocardium and pericardium could play a considerable part in drug action on the heart and whether by the use of drugs any more light could be thrown on the relative importance of the nervous and muscular elements in conduction within the heart. It was thought that drugs with certain well-known properties might by action, antagonistic or direct, better serve to distinguish muscular from nervous effects than anatomic severance, where the muscle and ever-accompanying nervous tissue are alike interfered with. The possible importance of the serous membranes of the heart as seats of primary drug action has been shoved into the background, largely because of the difficulty of directly proving the part played by them and because of more evident effects elsewhere. But when one considers the local effects on sensory nerve-endings of dilute solutions of some of the drugs used in cardiac therapeusis, particularly strophanthin and camphor, and remembers that these endings in the endocardium and pericardium are intimately connected with the whole intracardiac and extracardiac nervous mechanism, one sees the possibility of some of the striking and prompt results following their use being due to direct stimulation of them. Hatcher[4] states that strophanthin G acts almost instantly intravenously on the cat's heart, that it is one hundred times as toxic administered by the vein as by the mouth, and that it is among the most irritating substances used therapeutically, not even excepting veratrin. Fraser and Mackenzie,[5] in their study of an African arrow poison containing strophanthus, found that it increased at first the sensitiveness of a frog's foot to acid with subsequent anesthesia and that it caused fibrillary twitchings of non-curarized skeletal muscles. The irritating effects of it when applied to the conjunctival sac with the subsequent paralysis of sensory nerve-endings is well known. The uncertainty expressed by many authors, as to whether the endocardium and pericardium possessed sensory nerve-endings, has interfered in the study of cardiac therapeusis, with a due proportion of consideration for these membranes. The improvement in method of preparation has demonstrated clearly the wide and intricate distribution of nervous elements throughout the heart.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From Laboratory of Medicine, Medical Department, Stanford University.

* Owing to lack of space, portions of the article are omitted from The Journal. The complete article, however, appears in the Transactions of the Section and in the author's reprints. A copy of the latter will be sent by the author or by The Journal on receipt of a stamped, directed envelope.

[1] Zunz, E.: De l'empoisonnement du cœur protégé et non protégé, Ann. de la Soc. roy d. sc. méd. et nat. de Brux., quoted in Schmidt's Jahrb., 1911, cccix, 113.

[2] Gerhardt, D.: Ueber Rückbildung des Adams-Stokeschen Symptom-Complex, Arch. f. klin. Med., 1908, xciii, Nos. 5-6.

[3] Gibson, G.: Cause of the Heart-Beat, Edinburgh Med. Jour., 1907, Sec. ii-xxii, 7.

[4] Hatcher, A.: Clinical Use of Strophanthus, The Journal A. M. A., Nov. 12, 1910, p. 1697; Absorption, Excretion and Destruction of Strophanthin, Am. Jour. Physiol., 1908-09, xxiii, 303.

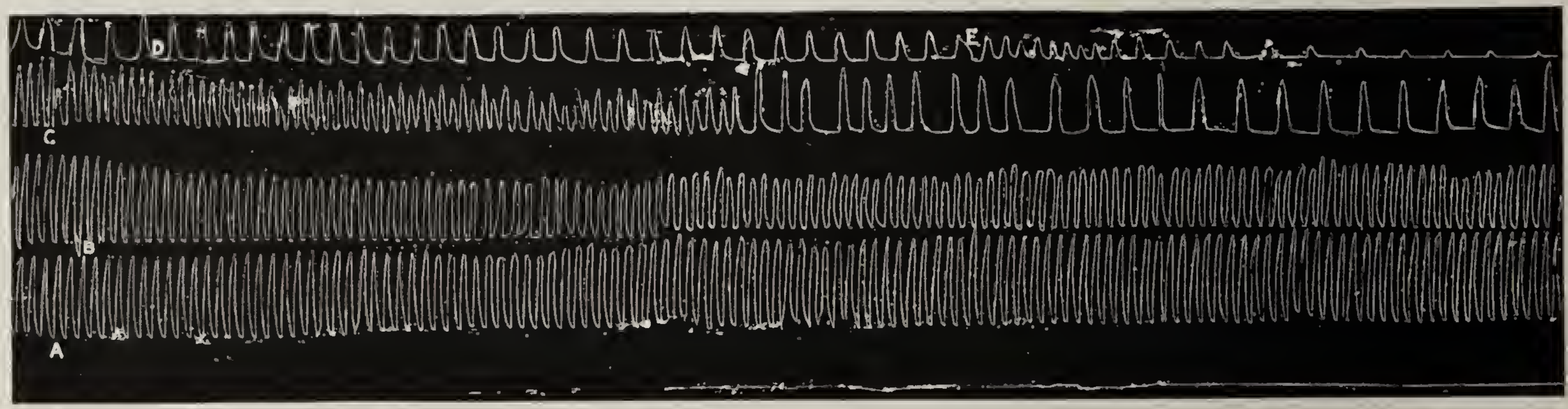

Fig. 1.—Experiment VII. Application of tincture of iodin to suspended terrapin heart. Tracing reads from right to left and below upward. A, tincture of iodin applied to the inner surface of the pericardial sac; B, tincture of iodin applied to the apex, C, applied to sinus and auricle; D, applied to whole surface; E, second application of tincture of iodin to whole surface.

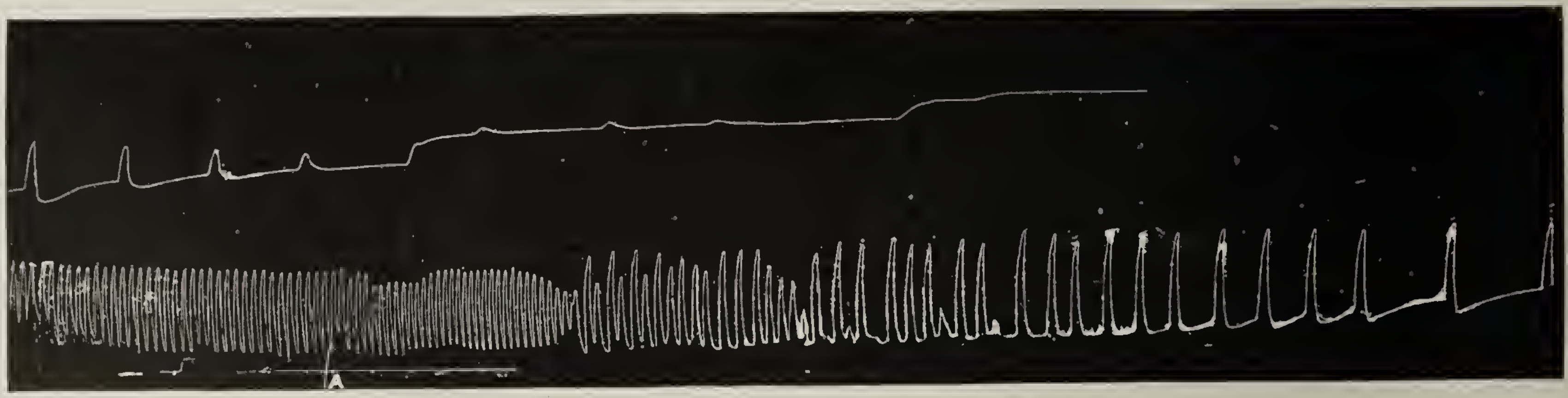

Fig. 2.—Experiment XXIV. Toxic effect of strophanthin (amor.) on suspended heart. Lowest line, time in quarter minutes. A, 15 minims of 0.1 per cent. strophanthin (amor.) injected intravenously.

EXPERIMENTS

With these observations in mind, a series of experiments on the frog and western terrapin (*Clemmys marmorata*) was performed by applying to various parts of the internal and external surface of the heart *in situ* and isolated, as a whole, and in sections, tincture of iodin, silver nitrate (crystals and solutions), cantharides, strophanthin (amorphous and crystalline) pure and in solution, and various preparations of digitalis. Records were usually taken by the ordinary suspension methods. The results were variable and depended largely on the condition of the animals, the strength of the solutions and the amount and location of the surface involved. In general, except in one experiment in which a cantharides plaster caused an increase in the rate and force of the beat, irritating applications to the inner surface of the pericardial sac, except near openings of the vessels, had no marked effects. Applications of tincture of iodin to the epicardium often permitted tracings to be obtained closely resembling those following strongly toxic doses of digitalis bodies. From the tip of the apex to the sinus venosus increasing susceptibility to irritants was noted. At first it was thought that the vagus fibers were being stimulated, but comparable results were obtained after the use of atropin. The local use of cocain and beta-eucain delayed and modified the effects produced, inhibiting particularly the frequent primary stimulation of the heart, but did not prevent the slowing and weakening of the heart-beat which was probably largely due to the toxic effect on the muscle, although hearts quiescent after such irritation often responded vigorously to mechanical stimulation. The most characteristic result is illustrated in Experiment VII (Fig. 1), in which, after the application of tincture of iodin to the sinus venosus of a suspended terrapin heart, an alternating rhythm was obtained, followed by infrequent and strong ventricular systoles which gradually grew weaker and slower. A second application produced a prompt but brief increase in ventricular rate in spite of the gradual decrease in the force of the contractions. It is interesting to compare this tracing with one showing the rapidly toxic effect of large doses of strophanthin given intravenously. Here we see (Exp. XXIV, Fig. 2) the same primary stimulation followed by a brief period of alternating strong and weak systoles, then irregularity followed by increased force of contractions at a slower rate, then lessened force with the heart stopping in strong systole. If weaker solutions are used, similar effects with cessation of the beats in the diastolic phase are the result. Apparently the same mechanism within the heart is affected by these two strongly toxic substances even when applied differently. Evidently, a sinus or auricle block is often obtained, and at times with external applications of irritants near the auriculoventricular junction the ventricle rate is increased and that of the auricles lowered. When the whole heart is covered with an irritant, the ventricle beats continue longest, probably because its thick walls offer greater resistance to the penetration of the poison. Isolated ventricle strips contracted when painted either on the pericardial or endocardial side with tincture of iodin, but speedily ceased to contract spontaneously after such application. Strophanthus tincture and strophanthin solutions of various strengths, injected into the pericardial sac, were found to have the usual effects obtained from digitalis bodies so applied. Strophanthin G crystals, applied to the endocardial or pericardial surface of suspended ventricular strips, caused the usual temporary increase in rate and force of beat followed by decreased force and rhythm with gradual death of the strip. It is particularly significant to find that external applications of irritants, particularly about the sinus, modify heart action in about the way that digitalis does, probably in part because they act directly on the muscular (and nervous) tissue shown by Gaskell[19] as necessarily present to connect the different portions of the tortoise heart.

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[5] Fraser and MacKenzie: Strophan. sarmentosum, Tr. Roy. Soc., Edinburgh, 1909-10, xlvii, 341.

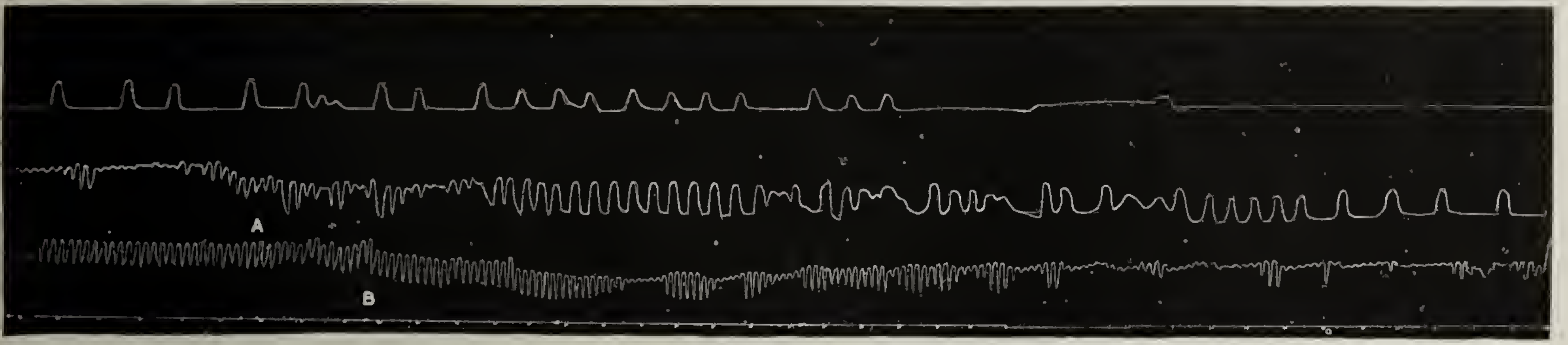

Fig. 3.—Experiment XXIII. Strophanthin (amor.) followed by strychnin, resulting in disappearance of sustained tonus of "cardiac tetanus." A, strophanthin injected intravenously; B, strychnin injected intravenously.

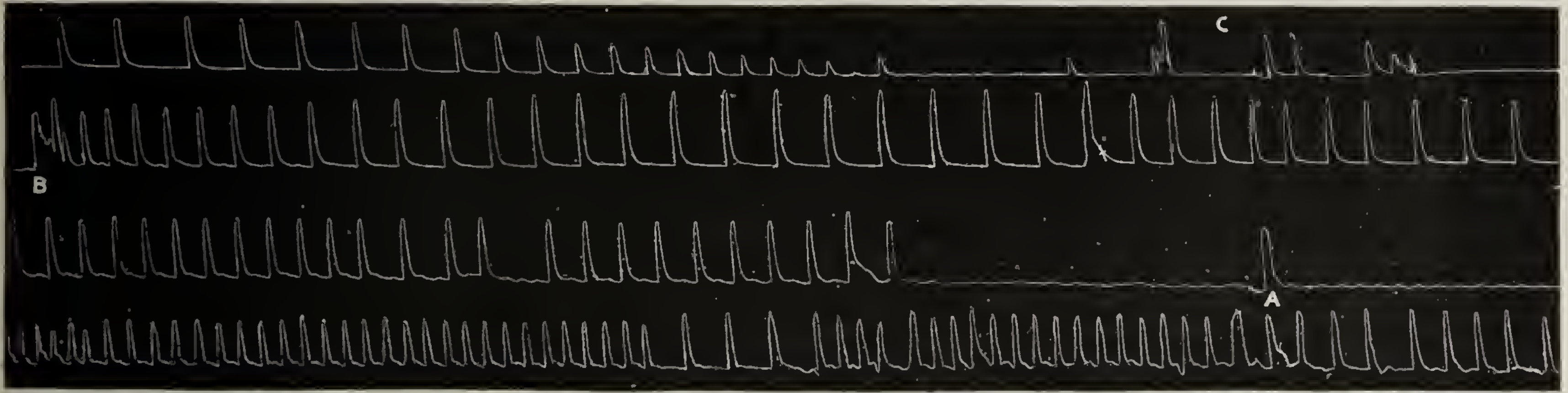

Fig. 4.—Experiment XXXI. Suspended terrapin ventricle; strychnin injections after atropin, beta-eucain and strophanthin; A, strychnin injected into auricle; B, strychnin injected into ventricle; C, mechanical stimulation.

Assuming from the literature and these experiments that it was possible that some of the effects of such drugs as strophanthin on the heart could be ascribed to irritation of the nerve-endings of the endocardium, and that there was also a direct and possibly an indirect influence on the conducting tissue between the different portions of the heart, it seemed more likely that nervous tissue rather than muscular was the essential element involved, so a series of experiments was undertaken to test the effect of strophanthin on the various portions of the terrapin heart, isolated and intact. After finding what doses would readily produce the typical effect of alternating beats, auriculoventricular block, increased force of systole, slowing of the rhythm, etc., attempts were made to modify these effects by the use of such drugs as atropin, cocain, beta-eucain and strychnin to see if it could be ascertained whether nervous or muscular tissues were primarily affected by strophanthin, and also whether the normal conduction of the cardiac rhythm was through nervous or muscular elements. Records were made after the intravenous and direct application of crystals and solutions of strophanthin G to the terrapin and the frog heart, in animals with and without an intact central nervous system and before and after the use of the drugs mentioned. Various isolated preparations of the heart, ventricle strips, portions of ventricle and auricle, ventricle and bulbus arteriosus, auricle and sinus venosus, sinus venosus and the larger veins were also tested.

Space permits only the details of a few typical experiments to be given, but they will illustrate the general results obtained.

EXPERIMENT XXIII.—Sluggish terrapin in poor condition. Ventricle suspended by frenum and 0.5 c.c. of a 0.1 per cent. solution of amorphous strophanthin injected intravenously. In two minutes the ventricle went into short periods of the so-called "cardiac tetanus" or "state of sustained tonus," which continued until 0.35 c.c. of a saturated strychnin solution in normal saline were given. After a short stage of irregularity the heart began to beat regularly at about one-half of the usual rhythm with a few periods of imperfectly sustained tonus (see Fig. 3).

EXPERIMENT XXXI.—Suspended ventricle of active terrapin. Preliminary intravenous injections of atropin and beta-eucain followed by a 0.7 c.c. of 0.1 per cent. strophanthin (amor.) solution. After a period of auriculoventricular block with from two to four auricular beats to one of the ventricle, a complete block for auricular beats occurred. 0.075 c.c. of saturated strychnin solution in normal chlorid solution was followed by a ventricular systole when injected into the right auricle. After 16 auricular beats, a second injection into the ventricle brought about a slow powerful rhythm of it with a gradual decrease in force until it ceased. A subsequent injection of strychnin produced no effect except that due to the mechanical stimulation of the needle, but the ventricle still responded to the stroke of a pin with a fairly powerful systole (Fig. 4). This experiment with others would seem to indicate that after the probable removal of the vagus inhibitory fibers by atropin and the sensory fibers by beta-eucain, strophanthin produced auriculoventricular block which could be eliminated by the injection of strychnin into the ventricle. The toxic effect of the two drugs was great enough to keep the heart quiet, although its muscle still responded readily to mechanical stimulation. Whether the strychnin so applied caused the ventricle to set up an individual rhythm, or removed the existing block by increasing the strength of the impulses along the connecting paths or lowering the level of resistance to them, I am unable to state.

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[19] Gaskell, W. H.: On the Innervation of the Heart, with Especial Reference to the Heart of the Tortoise, Jour. Physiol., 1883, iv, 43.

Experiment xxxiii.—Ventricle strip of terrapin heart cut out in the usual way. When rhythmic contractions had begun in normal saline solution, strophanthin (amor.) 0.1 per cent. solution substituted, and after the usual preliminary period of increased rate and force, there were alternating large and small systoles followed by decreased rate with fairly regular force until the strip came to a standstill. After four minutes the strip was immersed in the strychnin solution and instantly began to beat regularly and powerfully for eight systoles. It was then quiet for a short time but gradually resumed regular contractions when washed with sodium chlorid solution and Ringer's solution; thus showing that the muscle had not been permanently damaged by the poisons (Fig. 5).

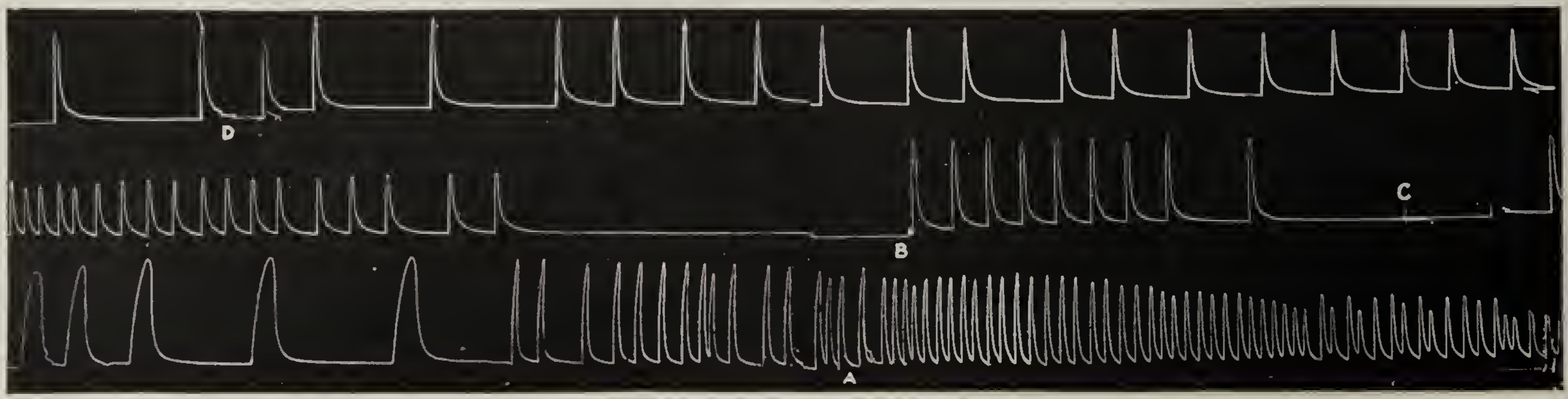

Fig. 5.—Experiment XXXIII. Isolated strip of terrapin ventricle. Effect of strychnin following strophanthin. A, immersion in 0.1 per cent. strophanthin (amor.) solution; B, strophanthin removed and strychnin (sat. sol.) in sodium chlorid substituted; C, washed with sodium chlorid solution; D, washed with Ringer's solution.

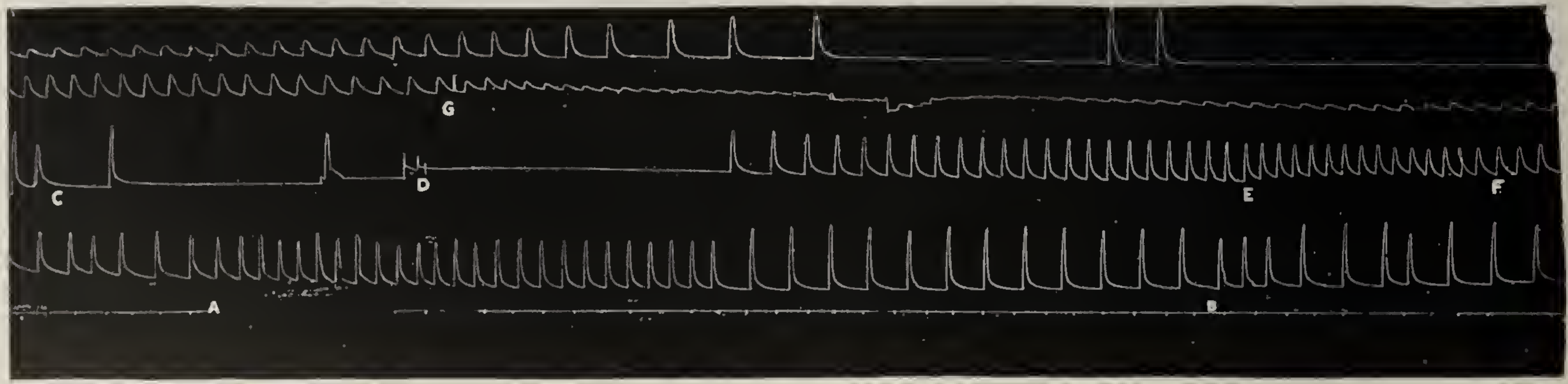

Fig. 6.—Experiment XLVII. Suspended right auricle of terrapin in moist chamber. Strophanthin crystals followed by strychnin. (Tracing begins at right lower corner, lowest line, time in quarter minutes.) A, crystals of ouabain applied to inner surface, B, washed; C, crystals of ouabain; D, strychnin solution; E, beta-eucain; F, ouabain crystals; G, strychnin solution.

Experiment xlvii.—Strip of right auricle of terrapin heart isolated and suspended in a moist chamber. Pure crystals of ouabain (strophanthin G) applied to the dry inner side caused an increase in rate with uniform systole for two and one-half minutes, when the rate suddenly became one-half as fast with increased force of systole. After washing off with NaCl solution, more crystals applied to the damp surface brought the strip to a standstill. In two and a half minutes after strychnin solution was poured on the strip, it resumed a regular rhythm unaffected at first except in force by beta-eucain solution, which did not prevent the subsequent application of strophanthin from causing a gradual slowing of the force and rate of the strip's beat. This was unaffected by strychnin but removed by washing with Locke's solution so that maximum systoles again occurred (Fig. 6).

Experiment liv.—Right auricle and sinus venosus of terrapin isolated and immersed. After regular beating was established in 0.1 per cent. ouabain solution which caused increased tone and rate, then as in Experiment xlvii, a sudden decrease in rate of from 12 per minute to 6 with increased force of beat which continued until, after a period of irregularity in rate with gradual increasing diastoles, a complete standstill occurred. Immersion in strychnin solution immediately brought about rapid irregular contractions partly in staircase series until the strip ceased to beat (Fig. 7).

Experiment l.—Auricle and sinus venosus. Strophanthin followed by strychnin. Auricle with portion of sinus venosus suspended in moist chamber. The sinus was beating twice to the ventricle's once. Ouabain crystals were applied to the outside of the sinus venosus at the junction with the auricular strip, and the auricle ceased to beat, the sinus continuing its contractions as before. A mechanical stimulus applied to the auricle produced a single contraction, hence the ouabain had produced block between the sinus venosus and the auricle. The strychnin solution was then applied and in one minute, after a short series of sinus venosus two contractions and auricle one contraction, the auricle began to beat with a little less force but with each contraction of the sinus venosus. This indicates apparently the ability of strychnin to overcome sinus venosus and auricle block due to strophanthin.

Experiment xl.—Ventricle and bulbus arteriosus suspended with sinus venosus and auricle cut away. After a short time spontaneous halving of rate with increase in force. Tincture of iodin on the apex had but little effect, but when it was applied to the stump of the auricle it caused more rapid irregular contraction. After a slower, feebler rate was resumed, immersion in strophanthin solution was immediately followed by rapid alternating contractions, practically a delirium cordis, with subsequent asystole of the ventricle and feeble beating of the bulbus arteriosus. No effect was noticeable after the application of strychnin. The sequence of normal contraction is from the ventricle to the bulbus arteriosus. In this experiment, the strophanthin apparently actively stimulated the connecting tissue at the base of the auricle perhaps made sensitive by the preliminary irritation of iodin.

These briefly sketched experiments with many others not here enumerated seem to bring out the following points:

1. Effects like those following toxic doses of digitalis may be obtained from the application of some irritants, which perhaps are also muscle poisons, to the surface of the terrapin heart.

2. Localized application of onabain crystals to isolated portions of the terrapin heart produce the characteristic effects, even after the use of atropin and cocain. Block between the different portions is readily obtained. The sinus venosus, the seat of origin of the heart-beat in the terrapin, is the most resistant portion of the terrapin heart to direct digitalis effects.

3. Strychnin solutions often remove the block between different sections of the heart due to strophanthin. Preliminary injections of strychnin enhance and prolong the period of stimulation that immediately follows the administration and delays the toxic symptoms of strophanthin.

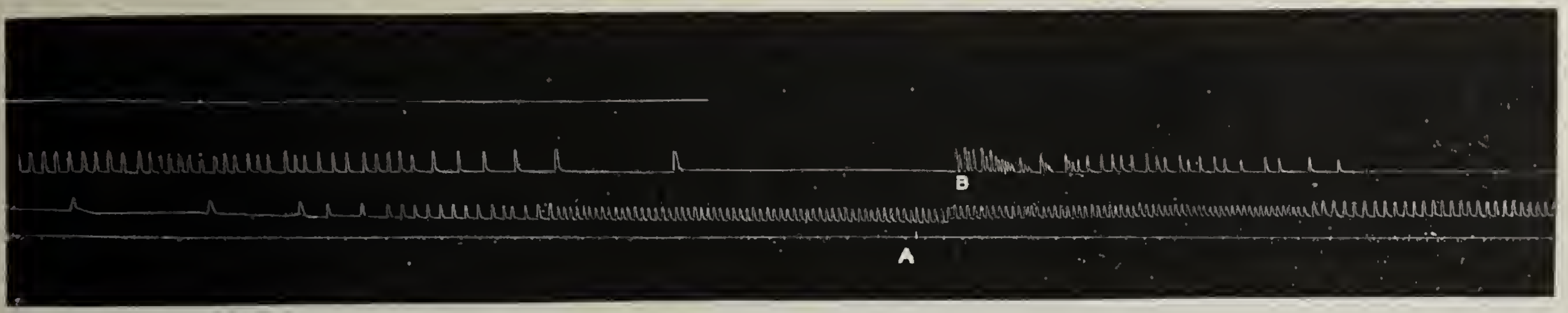

Fig. 7.—Experiment LIV. Isolated right auricle and sinus venosus of terrapin heart. Strophanthin followed by strychnin. A, strophanthin solution of 0.1 per cent.; B, strychnin solution substituted for strophanthin.

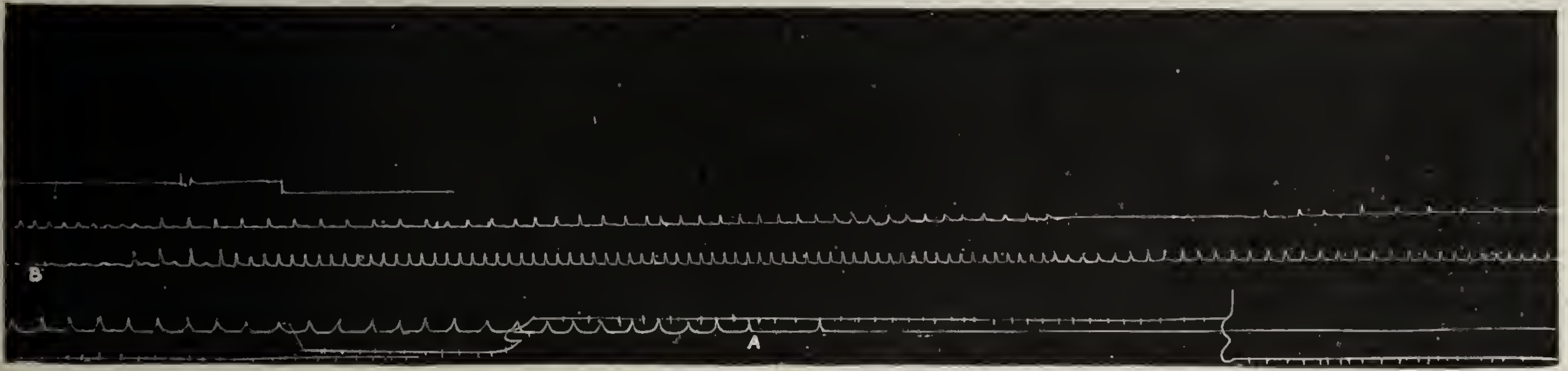

Fig. 8.—Experiment L. Suspended auricle and sinus venosus. Effect of strophanthin followed by strychnin. A, ouabain crystals to the sinus venosus near auricle; B, strychnin applied.

4. It is possible to stimulate directly by chemical agents the connecting bundles between the auricles and ventricles with resultant rapid irregular ventricular contractions.

Before considering these effects in regard to any light that they may throw on whether nervous or muscular tissue is primarily concerned in conduction within the heart, it would be well to have in mind some of the more recent observations made on the mammalian as well as on the amphibian heart. This is particularly desirable with reference to the various drug effects, including the digitalis series. The effects of digitalis in cold-blooded animals have been shown to be analogous to those in the warm-blooded, and conclusions drawn from them are applicable to mammals.[5, 20] The intricacy of this action is well indicated by such a statement as that of Edens,[21] that digitalis acts on the most damaged part of the cardiac mechanism. To build up any form of explanation for drug or other effects on the heart, it is necessary to have some conception of the cause of the heart-beat, of the site of its origin, of the conduction of the impulse to contract throughout the heart, as to whether these paths are of a primitive muscular character or of a nervous one, and as to which tissue and in which part of the heart the most striking effect of the drug asserts itself. This necessarily concerns itself with the neurogenic as opposed to the myogenic point of view of the origin of the heart-beat and of its transmission.

Gossage[35] says that a conducting system of nerves will explain conduction of impulses over the whole heart as well as will muscle. Besides, the nerve substance is primarily for conduction. Carlson, in his well-known work, has demonstrated that in the limulus heart, automatic beating depends on the nerve-cells of the ganglion.

It is particularly difficult to say in the striking effects shown by digitalis on irregular hearts (Gottlieb and Magnus), especially those due to auricular fibrillation (Cushny,[36] Hewlett,[37] Lewis[38]), on which tissue the drug has its greatest effect, but this unknown tissue is certainly one concerned in conduction.

For our present purpose of distinguishing muscular from nervous effects, we need not enter into all of the various kinds of action on the heart credited to digitalis, discuss the effect of atropin on the vagus mechanism or those of cocain and beta-eucain on sensory nerve-endings, but we do need to remember that the toxic effects of digitalis are much like those it is administered to remove (Tabora[40]), its ordinary effect is largely regulatory, that it acts best on irregularities originating below

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[20] Pouchet, G.: Digitale, Dict. de Physiol. (Richet), vol. i.

[21] Edens, E.: Pulsstudien, Habilit. Schr., Univ. München., Leipzic (Vogel), 1910, 57.

[35] Gossage: Anatomic Rhythm of the Heart, Brit. Med. Jour., 1907, ii, 1818.

[36] Cushny, A. R.: Digitalis and Its Allies, Am. Jour. Med. Sc., April, 1911, p. 469; Irregularity of the Heart and Auricular Fibrillation, Am. Jour. Med. Sc., 1911, cxii, 826.

[37] Hewlett: Auricular Fibrillation, Heart, 1910, vol. ii, No. 2.

[38] Lewis: Auricular Fibrillation, Heart, 1910, vol. i, No. 4.

[40] Tabora, V.: Ueber die experimentelle Erzeugung von Kammer Systolenausfall und Disassociation mit Digitalis, Ztschr. f. exper. Path., 1906, iii, 499.

the Keith-Flack node (Cushny), and that it acts on nerve-endings and has definite effects on the irritability and contractility of muscle. It is not impossible that its effect on conduction is definitely on the primitive muscle of the bundles. But that its effects on the nervous tissue are predominant seems more likely. As Cushny has pointed out in auriculoventricular block, digitalis does not slow the ventricle as might be expected were its action a direct one on muscle, but it does slow the auricle. The apparent ability of strychnin to remove, at times, the block caused by strophanthin is suggestive of the effect being on the nervous elements of the conducting bundles; still there is some variability of opinion in regard to the effect of strychnin on the heart and on nerve-cells and fibers. There is a question whether it directly stimulates the muscle, increases its irritability or increases the force of the impulses passing down the bundles or lowers the level of resistance to them. That the action of strychnin may be based on some special chemical differences between the tissues has been well brought out by Koch,[43] who has demonstrated the rapidly toxic action of strychnin when combined with lecithin. Its effect on the central nervous system seems well established. On motor cells it either increases the irritability or lowers the threshold for stimuli (Ryan and McGuigan[44]), and Retzius has shown that the great ganglionic cells of the heart of the frog are comparable to cells of the anterior horn of the spinal cord. The wide distribution of ganglion cells, particularly in the region of the various nodes and connecting bundles, is as well-known now for the mammalian heart as for the amphibian. Igersheimer[50] found a permanent diastolic stopping of the isolated frog's heart following perfusion of moderate strychnin solutions, although the muscle remained long susceptible to mechanical or electrical stimulation. This is similar to the condition previously described for digitalis. After very strong doses the muscle was not excitable. He considered this to mean that the first effects of strychnin are on the nervous elements, and he was able to overcome it with camphor, which has been shown by Böhme to stimulate the nervous apparatus, as it can bring back to beating the heart which has been brought to rest by chloral hydrate. The interference with rhythm that comes in one stage of chloral poisoning was also found by Henderson[51] to be eliminated by camphor. The results of Igersheimer I found to hold true for the terrapin heart and he worked them out as well for the rabbit. Atropin had no particular effect on them, so that it is evidently not due to the vagus mechanism. Hare is authority for the statement that "nux vomica has some slight influence in increasing the conducting power of motor and sensory nerves," and Hirschfelder, in his recent treatise, notes that clinically, strychnin is valuable when given with digitalis. While it is impossible to interpret accurately the effect of strychnin and its relation to strophanthin, the work reviewed and the experiments done by me would seem to indicate that the digitalis bodies modify the conduction throughout the heart, that this conduction is along nervous paths and that strychnin, by its actions on these same paths, can overcome the resistance offered to stimuli or cause new ones to take their places.

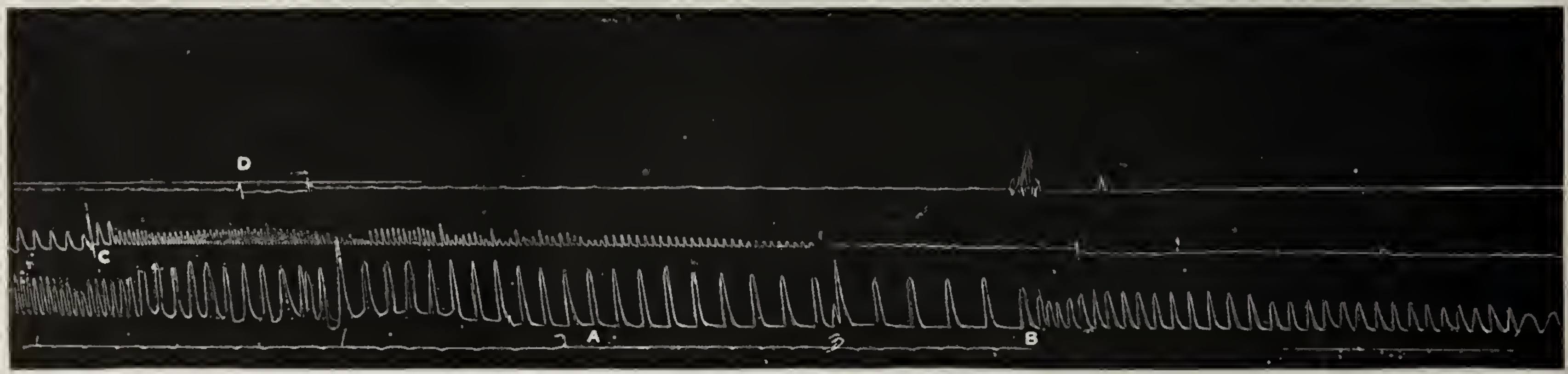

Fig. 9.—Experiment XL. Isolated ventricle and bulbus arteriosus of terrapin heart. A, tincture of iodin to apex; B, tincture of iodin to stump of auricles; C, immersion in ouabain solution; D, strychnin solution.

The action of atropin, cocain and beta-eucain does not throw much light on the matter of conduction. The latter two act much alike, paralyzing sensory nerve-endings and increasing force of contractions from small doses, but producing lessened power of contraction with alternation and standstill from larger ones. The heart so brought to asystole will, just as after it is induced by strophanthin and strychnin and after external use of irritants, still respond to mechanical stimulation.

Recently, Cullis and Dickson have not only clearly found the significance of the bundle in coordinating the contractions of the isolated rabbit heart, but have attempted with various drugs to show that the muscle elements in it are essential to its conduction. By electrical stimulation as well as by the application of rock salt, acids, etc., to the peripheral end of the severed bundle, acceleration of the ventricle like the delirium cordis of digitalis and similar to that noted in Experiment XL resulted. The fact that after depression of the heart with chloral hydrate partial section of the auriculoventricular bundle has but little effect, they ascribe to its acting on the specialized muscle of the bundle before it does on the general musculature of the heart. That this is an effect on the nervous tissue would seem more plausible. Five per cent. cocain solution applied to the bundle was without result, but since its principal effect is on nerve-endings, this would not speak against nervous conduction. Since they obtain, during the first minute or two, no stimulating results from nicotin applied to the bundle, they eliminate nerve-cells as the cause of the previous phenomena mentioned, but this does not eliminate the nerve fibers present. In their conclusion that irritation of the bundle is brought about only by muscle stimulants, they evidently lose sight of the possibility of the stimulation of nerve fibers which can readily be caused by the chemicals mentioned. Besides, these fibers are a portion of the plexus of the heart, and the physiology of the various portions of a plexus needs much further research before we can be sure of the function of the elements that make it up. Taken all in all and considering the present state of our information as brought out so well by Thorel,[59] it seems more reasonable to explain the various phenomena associated with the automatism and the conduction of the heart-beat, from one part to another, as resting on a nervous basis rather than on a muscular one.

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[43] Koch, W.: Recent Studies on Lipoids, The Journal A. M. A., March 18, 1911, p. 799.

[44] Ryan and McGuigan, H.: Jour. Pharm. and Exper. Therap., March, 1911, ii, 319.

[50] Igersheimer: Ueber die Wirkung des Strychnine auf des Kalt- u. Warmbluterherz, Arch. f. exper. Path. u. Pharm., 1905-06, liv, 73.

[51] Henderson: Therapeutic Action of Digitalis, Am. Jour. Med. Sc., September, 1910.

GENERAL CONCLUSIONS

1. The rôle of the serous surfaces of the heart in drug effects needs more consideration.
2. Strophanthin acts largely on the nervous mechanism of the heart, perhaps partly through its stimulation of the sensory nerve-endings of the endocardium.
3. The effect of strophanthin on conduction within the terrapin heart can at times be overcome by strychnin. This conduction is probably along nervous paths. Preliminary administration of strychnin enhances the early stimulating effects of strophanthin.

The relation of these drugs should be further studied clinically, as should the use of strychnin alone or in conjunction with atropin in partial heart-block.

TWO RUBBER DRAINAGE-TUBES, WITH A SINGLE STAB WOUND EXIT, IN ABDOMINAL SURGERY *

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PATERSON, N. J.

I wish to describe a distinct method of drainage which I am using in abdominal surgery. I hope that a description of the method may prove of service to others.

While I have frequently used it for draining spaces in the region of the kidney and appendix, most of my experience has been derived from its use in connection with operation for gall-stone disease.

Either the cigarette drain or rubber tubing threaded with gauze has doubtless afforded the most ordinary means of drainage by surgeons in general. Sometimes these drains have found exit through stab wounds, but more generally they have emerged from the incision with the opposing edges of the incision sewed around the drain.

In my employment of solitary and cigarette drains I have repeatedly observed a considerable gush or flow of serum, pus, or blood to follow their removal. Sometimes a rise in temperature and an increase in the leukocyte count were the conditions which made me withdraw the solitary drain. Fever, leukocytosis, and the other ordinary symptoms of sepsis ordinarily disappeared after removal of the obstructing drain.

The embarrassments incident to arrest of the drainage stream, whether obstructed by a cigarette drain, or a single rubber tube, led me to employ two rubber tubes with a common sinus of exit, instead of a single tube for the drainage of any sort of an exudative space where continuous evacuation was desired.

From that time hundreds of stab wounds, from every one of which twin rubber tubes emerged, constituted the ensemble of experience from which was obtained a certain amount of knowledge of materials and the manner of their employment in twin drainage.

Although my first use of this drainage with stab-wound exit was in many ways faulty, the inherent value of two tubes with a common stab wound exit was in itself so much greater than that of a single tube that, even in the very beginning of its use, imperfect as the technic then was, much was gained from the use of two rubber tubes instead of one.

The special size and length of the rubber tubing best suited for the drainage of any particular exudative, secretional, excretional, or bleeding space, the size of the drainage wick with which the lumen of each tube was threaded, the length of the gauze tails projecting beyond the ends of the tubes, and the placing of them in the spaces, the actual introduction or installation of the drains, the numerous and actually varying conditions affecting siphonage, the time and manner of removing the drainage parts, were all matters which had to be tried in various ways, and often over and over again, in order to acquire a proper working knowledge of the system.

DRAINAGE CHANNELS

Figure 1 represents a cross-section of tissue traversed by a pair of drainage-tubes, the two white circles the walls of the tubes, the black centers the lumens of the tube or the drainage channels. The two triangular black spaces appearing between the opposing peripheries of the tube and the bridging tissue also serve as drainage channels. Thus in twin-tube drainage there are, in addition to the two luminal spaces, the two triangular spaces, together affording four distinct drainage channels, whereas a single tube affords but one drainage channel.

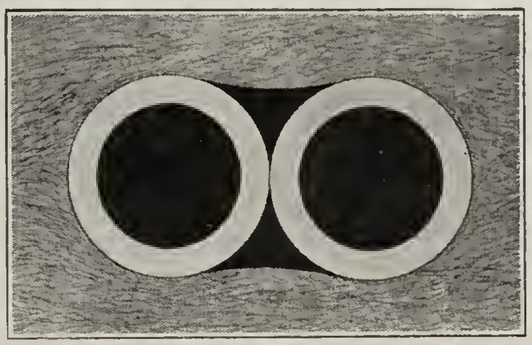
Fig. 1.—Diagram of a cross-section of tissue traversed by a pair of drainage-tubes.

It is true that the two very small and triangular drainage spaces will tend to close, but in a day or two, and before these spaces close, they and the lumens of the two tubes will have accomplished their most important task, which is to evacuate the exudation as rapidly as it appears, and thus favor an early and complete walling off of the exudative space.

Every distinct exudative area or space which it is desired to drain may be provided for with one or more pairs of drainage-tubes. These tubes are always threaded either with iodoformed or plain gauze, only rarely the latter.

Figure 2 shows a few drainage-tubes as they are ordinarily prepared and placed on the instrument table before operation. For intra-abdominal drainage these tubes are usually cut to a length of from 15 to 20 or more inches, according to the size of the patient and location of the drain. The sizes and lengths of these tubes may be estimated by the lines which cross the picture at right angles to one another, and which are exactly 1 inch apart. Attention is directed to the tails of gauze which project from the ends of the long tubes, shown in Figure 2.

For the evacuation of fluids from intra-abdominal spaces, my drains no longer emerge from the incision. They are brought directly out through the abdominal wall at some point sufficiently away from the incision to avoid, if possible, the incision or any of the exudative spaces common to it, and also at a point as far as possible beneath the incision to favor outflow, the postoperative posture of the patient being kept in view when the drains are installed.

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[59] 59. Thorel: Pathologie der Kreislauforgane, Ergeb. d. allgem. Pathol., 1910, xiv, 133.

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

INSTALLATION OF TWIN DRAINS

When it is desired to pass a pair of drainage-tubes through the abdominal wall, the assistant grasps the peritoneum, the fascia, and the skin, each with a pair of forceps, and while stretching them slightly and holding them in alignment, the operator makes with a sharp knife, a small stab wound just through the skin at the point where it is desired to transfix the abdominal wall. While these three parts, the peritoneum, fascia and skin are slightly stretched and held in alignment, a rather pointed and strong forceps (Carmalt's hemostats preferred) are introduced through the stab wound in the skin, and forced directly through the tissues comprising the abdominal wall.

While thus transfixing the abdominal wall, the operator must, of course, have his hand or fingers inside to push aside the viscera and protect them from harm, while receiving the point of the transfixing forceps. The penetrating or transfixing forceps is then opened to enlarge the stab wound sufficiently to allow the rather easy withdrawal of the folded tube from within outward.

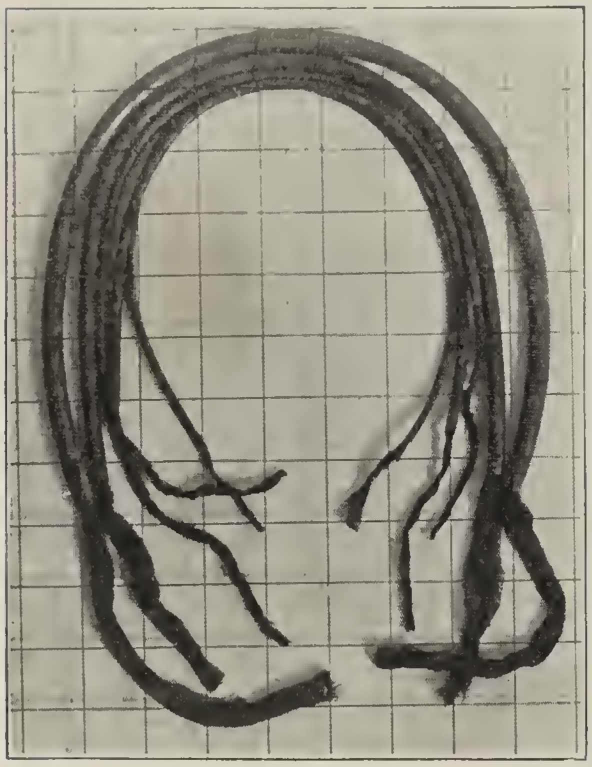


Fig. 2.—Drainage-tubes ordinarily prepared.

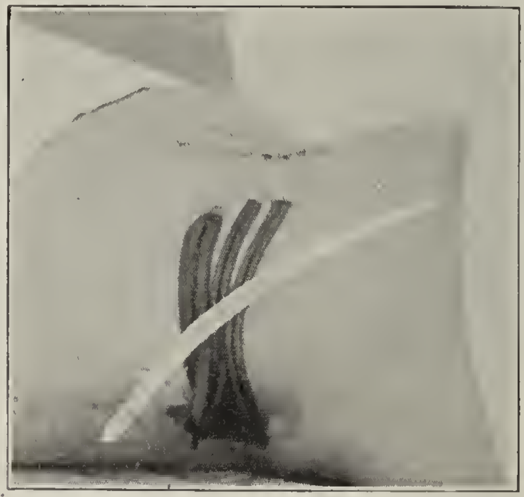


Fig. 3.—Installation of a drainage space.

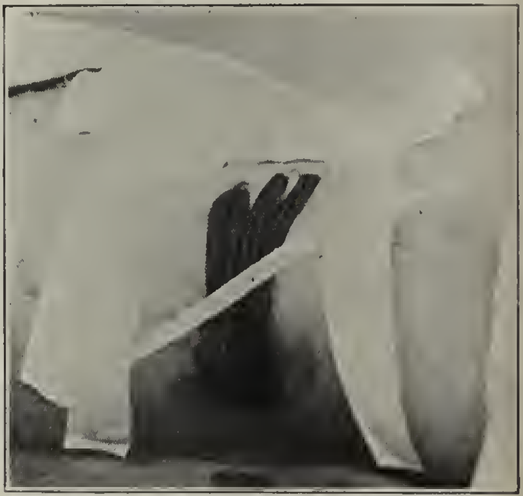


Fig. 4.—The covering of the incision by adhesive plaster.

If the stab wound is disproportionately small, undue traction will be necessary to draw the tubes from within outward, and it will also have the additional disadvantage of compressing the tubes, and possibly not only restricting their luminal spaces, but also of obliterating the two triangular drainage channels. On the other hand, the stab wound which is to be traversed by a pair of drainage-tubes should not be made larger than necessary for the easy introduction and transmission of the tubes.

Having with the penetration forceps drawn the long threaded and doubled drainage-tube from within outward, the operator next determines how much, if any, of either tube he wishes to have project to any point or points in the peritoneal cavity, gall-bladder, or other space. He must determine the amount or length of gauze tail he would have project from each tube, and after cutting each tail and removing all loose or easily detachable ravelings, place it where desired.

PLACING OF THE DRAINAGE TAILS

When the operator desires to drain but one exudative or other fluid-producing space, he must provide against the entanglement of the tail of one drainage-tube with that of the other. The only safe way to avoid entanglement and possible knotting of the two tails is always to leave one of them only long enough to reach to, or toward the exudative space. If this is done, the tail of the other tube may be left as long as the operator desires. He may thus leave several inches or even feet of it in an exudative space if he desires, without fear of entanglement to embarrass its removal, provided he carefully folds the gauze tail backward and forward in a to-and-fro manner and thus reposes it in the exudative space.

If the operator wishes to provide for the evacuation of two distinct spaces so separated from each other as not to entangle the drainage tails, the wick from each tube may doubtless safely be left as long as he desires.

If the operator, when installing the two tails of companion drainage-tubes in one exudative space, will always remember so to place them that the tube to his left is the one having the longer tail, and the tube to his right the one with the shorter tail, no further thought will be required when he comes to remove them, than to remember his habitual custom in this relation. The tube to his right will always be the first one to be withdrawn, and the tube to his left will be the last one to be removed.

ANCHORING THE DRAINS

When tubes and drainage tails have been placed, a needle, threaded with catgut, is next introduced through the lip of skin bridging the upper triangular space between the tubes. The ends are carried around one of the tubes and tied with a single knot, then carried around the other tube and doubly knotted, in so careful a manner as to exert slight pressure on each of the tubes, and to serve when thus tied as an anchorage and to prevent either inward or outward movement of the tubes.

The drainage wick of any tube should never have more than one tail. This can be avoided by using but one strip of cloth in a tube.

THE PRIMING OF A DRAINAGE-SPACE

A few drams of normal salt solution poured into an intramural space just before the overlying tier suturing is completed will help to start the drainage stream through the tubes and the triangular drainage channels.

To complete the installation of the tubes, it now only remains for the operator to sever with scissors or knife the depending loop of tubing and place a small strip of adhesive plaster, as shown in Figure 3, across these tubes to hold them in any position desired.

Each of the two tubes of twin drainage, when properly installed, forms a siphon, the working of which, although influenced by many conditions, is very particularly affected by two of them: the altitude of the angle of the siphon above the drainage-space, and the length of the outer and longer or discharging leg of the siphon.

In selecting a point of exit for twin drains, the operator must keep in mind the most likely posture of the patient after operation, and locate the stab wound at as low a point as possible in relation to the exudative space which it is desired to drain. The lower the point of transfixion of the abdominal wall for the siphon, the more will drainage be favored. To render these siphons most efficient, the long legs should be left as long as possible.

Discharge from the two triangular channels between the bridging tissues and the peripheries of the tubes, fortunately, is generally favored by intra-abdominal pressure. It is also sometimes affected by gravity, but it probably only rarely happens that siphonage is a factor in aiding the outflow from the triangular channels.

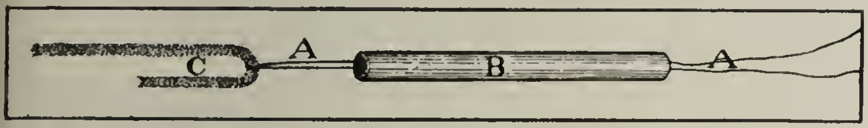


Fig. 5.—Method of determining size of the gauze drainage wick and of threading tubing with gauze.

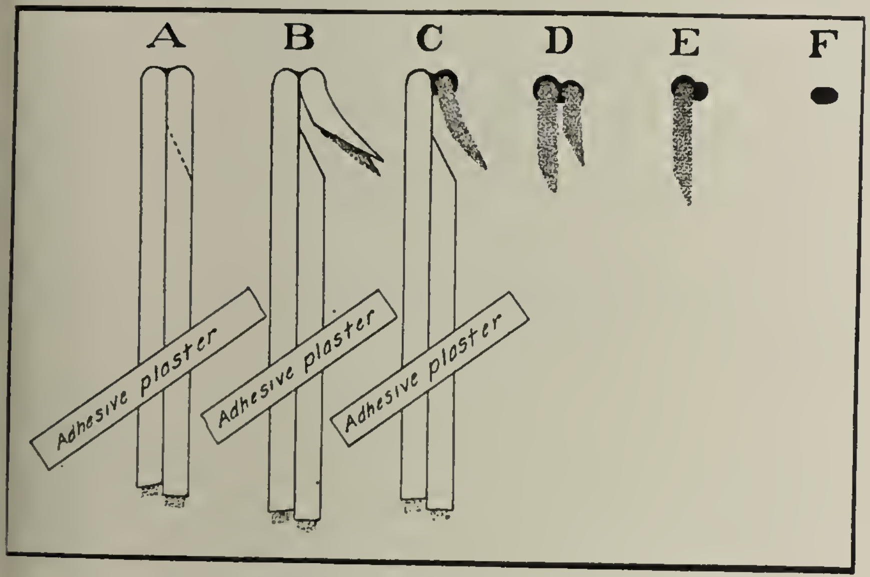


Fig. 6.—Piecemeal and gradual removal of parts.

In the employment of twin drainage, splitting of tubes, or the cutting of holes in them is generally both unnecessary and undesirable, excepting in such portions of tubing as may sometimes extend beyond the peritoneum toward, through, or into actual exudative, bleeding, excretional or secretional spaces. It is also quite unnecessary to fenestrate, split, or cut holes in such portions of these tubes as traverse the abdominal wall.

The two triangular spaces between the bridging tissues and the tubes afford sufficient drainage for the escape of serum or blood, which may originate at any point along the course of mural transfixion. So that if infection occurs at any point along the stab wound, the two triangular spaces are likely to afford outward escape for the exudates. As before stated, it is very desirable, when possible, in transfixing the abdominal wall, to avoid opening into any spaces which communicate with the incision.

THE IMMEDIATE DRESSING OF THE WOUND

Twin drains are always brought out of stab wounds sufficiently away from the line of incision to permit the operator to place a sterile dry pad on the incision itself, and to cover and protect it properly without having the edges of this pad encroach in any way on the stab wound or wounds through which the drainage tubes find exit.

The covering of the incision, consisting of a pad of cotton resting between two layers of gauze, is held in place by broad straps of adhesive plaster which are so placed as to exert pressure on the pad, and at the same time not to cover any of the wounds or parts of the drainage-system, and very often as shown in Figure 4.

The next step in the primary dressing of the field of operation is to cover the stab wounds and the tubes which emerge therefrom with an apron of folded gauze. On this gauze apron is placed a moderately thick layer of surgeon's cotton. This, in turn, is covered with a layer of gauze, and the dressing is held in place by three or four very narrow, long straps of adhesive plaster.

These pads which overlie the stab wound and drainage parts may be removed with the greatest ease at any time, by simply cutting the narrow adhesive straps on the anterior aspect of the body and removing the gauze pads. They may be so removed and replaced with new dressings as often as desired, and without disturbing the incisional dressings or the broad and strong plasters which hold that part of the body so firmly in one position, until solid healing of the incisional wound is accomplished.

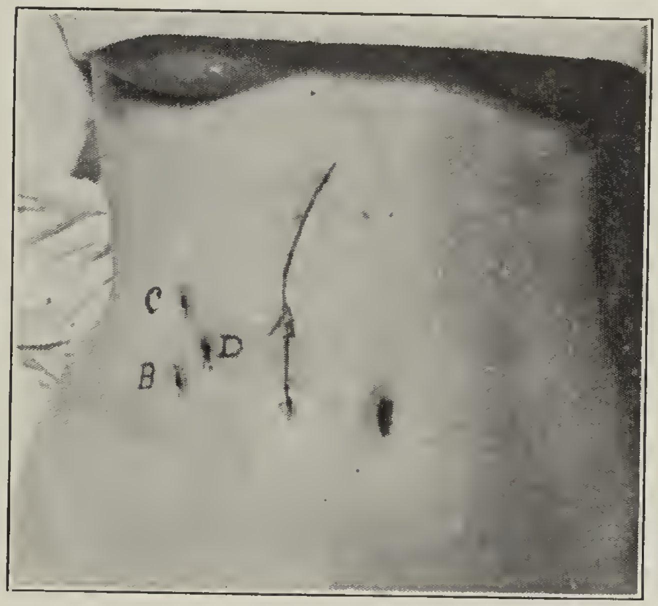


Fig. 7.—Showing ordinary location of stab wounds in relation to the incision in operation for gall-stone disease.

If, in addition to intraperitoneal drainage, intramural drainage is properly installed and cared for, the necessity of inspecting or dressing the incision will rarely arise during the course of the patient's recovery.

The drains which lead from exudative spaces and peritoneal cavity, and those which drain the incisional spaces always have exit through stab wounds from 2 to 4, 5 or 6 inches, or even more, away from the incision, and since the incisional spaces so rarely suppurate when thus drained, there is seldom either excuse or necessity for the removal of the primary dressing of the incision until the patient is well.

INTRAMURAL DRAINAGE OF INCISIONAL SPACES

When the abdominal incision is closed with tier sutures, and in the ordinary manner of sewing first the peritoneum, then the fascia, and lastly the skin, there are left two distinct spaces into which more or less blood or exudation may pour within the first few hours or a day following operation.

Blood or exudation thus thrown into pockets of the incision, if free from infective material, may not very materially impair the healing of the tissues severed by the incisional wound. If, however, sufficient infective material is entrapped in an intramural space, suppuration and consequent impairment of the strength of the abdominal wall at place of incision is likely to occur.

Appreciating the positive disadvantage of such intramural accumulations, I resolved to employ my twin drainage system regularly for the evacuation of these spaces. From that time onward with almost every case of abdominal section, a pair of twin drains emerging from a stab wound 2 inches or more away from the incision was so placed as to drain the intrafascial space, and another pair of drainage-tubes emerging from another small stab wound was so placed as to drain the suprafascial space.

The experience derived from the employment of several hundred intramural twin drains convinced me that no patient lost anything from such experimental drainage, while the greatest benefit accrued to some.

I believe that whenever it is possible to drain intraperitoneal exudative spaces without invading the abdominal incision or any of its connecting spaces, as may be accomplished through stab-wound exits, it is most desirable to do so. I also believe that the employment of the twin drainage-system for the two most important exudative spaces in the incision is an advantage. I have so generally witnessed a satisfactory healing of the incision by not utilizing it as an exit way for the evacuation of intraperitoneal collections that I am forced to conclude that the habit of draining exudative spaces of the peritoneal cavity through the incision is rarely necessary, and often faulty, in that it exposes the incision to possible infection, thus unnecessarily endangering the future integrity of the abdominal wall at point of incision, which point is, furthermore, often the most difficult and least dependent point of exit for the evacuation of intraperitoneal collections.

KIND AND SIZES OF TUBING BEST SUITED TO TWIN DRAINAGE

A most important item in the matter of twin drainage is the particular kind of rubber tubing which one employs. So-called pure gum tubing is so soft that comparatively light pressure distorts it. Not only are tubes which are too easily compressed liable to have the drainage streams within them retarded or arrested, but the two tubes may so shape themselves on each other when their peripheries are compressed, as practically to obliterate the two triangular drainage channels to which attention has been so particularly directed.

Rubber tubing which contains less gum is cheaper and being more indurated than pure gum tubing, is not so apt to become distorted from pressure, and, therefore, is more likely to secure and maintain for the operator the four distinct drainage channels obtainable from twin drainage. The rubber composing the most desirable tubing which I have used in twin drainage appeared to have about the same consistency as that of the ordinary soft rubber catheter.

The outside diameters of the drainage tubes generally used for intraperitoneal drainage have varied from 0.260 to 0.333 inch. The circumference of a drainage sinus after immediate and total withdrawal of a pair of tubes, each ⅓ inch in diameter, is 1¾ inches.

For drainage of exudative and bleeding spaces in the abdominal incision much smaller tubes varying from 1/5 to 1/4 inch in diameter are used. The internal diameter of the tubes intended for use in twin drainage should never be more than 4/6 nor less than 4/7 of their outside diameters.

THREADING DRAINAGE-TUBES WITH GAUZE

It is important that the filler or gauze drainage wick of each drainage tube should be of proper size. Both laboratory and clinical experience has shown me that a drainage wick which tightly crowds the luminal space of a tube retards siphonage, while the wick which is less compressed in the luminal space favors flow through the tube. It is, therefore, desirable to select a wick of uniform width, and of such size that it does not crowd the lumen of the tube.

To determine the size of the gauze wick for any particular size of rubber tubing, let a piece of perfectly dry gauze of uniform width, and 6 inches long, be passed through the loop of the traction wire, as shown in Figure 5, and then drawn by it through the tube. If the gauze thus folded passes very easily through the tube, and, while being so drawn, exerts no tension on the traction wire, a wider piece of gauze must be tried, and so on until a width of gauze is found which, when folded and drawn through the tube, exerts a decided degree of tension on the threading or traction wire. The particular width of gauze which, when folded on itself, can be drawn through the tube, but which, when so drawn, exerts a decided tension, is the exact width of gauze which, when not folded, is required to form a proper wick for a rubber tube of the size used in making the test.

As to the kind of gauze best suited for a drainage wick, a rather flimsy fabric is to be preferred to a more tightly woven or substantial cloth.

IMPORTANT CONSIDERATIONS REGARDING REMOVAL OF DRAINS

Improper or premature removal of drains may defeat the very objects for which they are employed. The time and manner of the removal and abandonment of drainage parts is a matter of the greatest importance.

In Figure 6, *A* is intended to show the long legs of the two siphons as they emerge from a common stab wound; *B*, the manner of cutting off one of the rubber legs of a siphon and its contained gauze, prior to the withdrawal of the enveloping tube from the gauze; *C*, the gauze filler or wick remaining in the sinus after the removal of its enveloping tube. (This procedure is ordinarily reached on the third or fourth day following operation.) *D* shows the two gauze drains remaining after the enveloping tubes have both been pulled off them and out of the sinus (commonly removed on the seventh or eighth day after operation); *E*, the deeper, longer, and presumably more important of the two gauze drains after removal of the shorter one (and as the drainage ordinarily appears on the eleventh or twelfth day following operation); *F*, the unclosed sinus after the removal of the component parts of the twin drainage (and as it commonly appears on the thirteenth or fourteenth day following operation).

While the respective parts of a twin drainage system for the evacuation of intraperitoneal exudation may generally be withdrawn and dispensed with in about the space of time above indicated, certain conditions might make it safe to accomplish in piecemeal fashion the total removal of the drainage parts at an earlier time. Or the other hand, there are cases in which infection or other factors afford a profuse and prolonged drainage stream and may render it necessary to very much more gradually dispense with the drainage parts. In isolated instances twice or thrice the average space of time ordinarily taken may be required for the safe abandonment of all the drainage parts. Every drainage sinus must be maintained until the discharge therefrom is practically *nil.*

To show the ordinary location of stab wounds in relation to the incisions in operations for gall-stone disease, I present, in Figure 7, the photograph of a patient after recovery from operation and before leaving the hospital. *A*, in Figure 7, shows the line of incision; *B*, the point of exit of the twin drains leading to the intraperitoneal exudative spaces; *C*, the point of exit for the drainage from the infrafascial space; *D*, the point of exit for the drainage from the suprafascial space.

Much has been learned from rather extensive experience with this somewhat elaborate system of drainage, and I feel that this method of evacuation, particularly when practiced as here described, constitutes a step forward.

26 Church Street.

MOTHER WITH IMPERFORATE ANUS DELIVERED OF NORMAL CHILD

ORVALL SMILEY, M.D.
INDIANAPOLIS

I was called at 2 a. m. to attend Mrs. N., aged 27, a primipara, well developed and well nourished, in labor. Her condition was normal. Pains had been coming very strong every five minutes for two hours. I did not know her condition until after the examination, after which I found that she had an imperforate anus, the rectum opening into the vagina 2 inches from the vaginal orifice. At the opening of the rectum there was an elliptical sphincter, which, though light, was sufficient to give the patient control of her bowels.

She had a very firm perineal body or muscular band extending from the true perineal body posteriorly to the coccyx. The sacrum bulged somewhat forward. The vaginal orifice would admit only two fingers and that with considerable difficulty, causing much discomfort to the patient. The clitoris was somewhat enlarged and very firm. A condition of hypospadias existed. The meatus of the urethra opened just under the clitoris. The urethra passed to the bladder just under the symphysis pubis; as near as I could make out it was an S-shaped tract.

On further examination I found the head engaged, position left occipito-anterior. After eighteen hours of labor pains coming hard and fast, no progress was made. The muscular perineum would not give. The forceps was put on under complete anesthesia and after considerable effort a 9½-pound baby girl was delivered, the muscular band referred to above being somewhat lacerated.

For thirty hours after delivery the patient was unable to void urine. Repeated attempts to pass catheters, sounds and bougies together with hot applications failed. With a urethral syringe I forcibly injected 2 per cent. boric acid in glycerin into the bladder; she voided 21 ounces of urine fifteen minutes later.

Up to the third day the temperature was normal. At this time she was given ½ ounce of castor oil which failed to have any effect. On the fourth day oil was repeated, bowels moved slightly and her temperature began to rise. The vagina was washed out every three hours night and day for seven days with a 3 per cent. dilution of liquor cresolis compositus, followed by an intra-uterine irrigation of a 25 per cent. hot alcohol solution.

On the fifth day the bowels had not moved. After two liberal doses of castor oil and Rochelle salts the patient was given a high enema which produced a thorough evacuation of the bowels.

From the fifth to the twelfth day her temperature ranged from 100.5 to 102.5, pulse 95 to 112 and there was a very foul-smelling, copious uterine discharge.

On the twelfth day the temperature began to drop and the thirteenth day was normal and uterine discharge had practically ceased.

Mother and baby from this time on did well. The patient still has full control of her bowels.

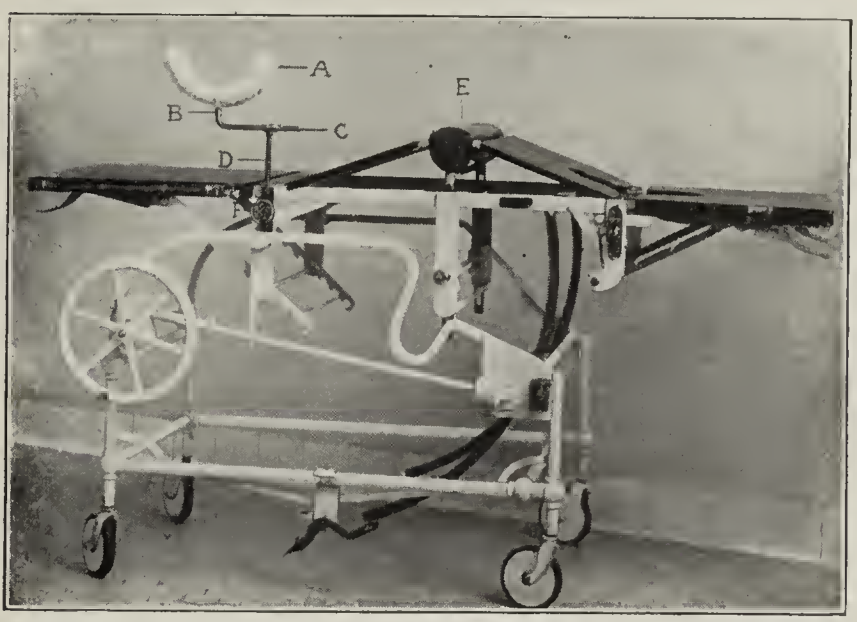
In conclusion I wish to acknowledge my indebtedness to Dr. J. R. Mountain for invaluable assistance in delivering this patient.

229 Newton Claypool Building

THIGH SUPPORT FOR KIDNEY OPERATIONS

DANIEL N. EISENDRATH, A.B., M.D.
CHICAGO

For operations on the kidney the majority of operators prefer to place the patient in a lateral position with the thighs flexed on the abdomen. Unless the thighs are thus held by an assistant they are soon extended, permitting the patient to fall forward or backward and greatly interfering with exposure of the kidney. This change in position during the operation occurs even when the iliocostal space of the side opposite to that which is to be operated on, is raised by some form of support such as is now generally employed (See E in illustration).



Apparatus for thigh rest to prevent trunk falling backward and forward during kidney operation. A, padded flat metal support for thigh; B, joint to permit rotation of rest; C, horizontal portion to permit rest, to be adjusted to various positions; D, vertical support, to be raised or lowered by movements of screw F, for different thicknesses of thigh; E, apparatus for lifting iliocostal space.

About one year ago I devised an apparatus to keep both thighs flexed by supporting the upper thigh on a wide, well-padded metal band (A). It can be readily adjusted to any one of the most generally used operating tables. The apparatus is so constructed that it can be applied to either side of the table. The support can be raised or lowered or moved toward, or away from, the median line, as the patient's length, etc., requires. We have employed this support in a number of kidney operations at the Michael Reese Hospital and find that it keeps the patient's body in a lateral position without permitting any rotation during the operation.

31 North State Street.

A NEW SELF-RETAINING VAGINAL SPECULUM FOR IMMEDIATE REPAIR OF THE PERINEUM

DON H. PALMER, M.D.
SEATTLE, WASH.

The primary repair of the perineum is one of the important features of the obstetric work of every general practitioner, and often one of the most difficult and unsatisfactory to perform, owing to lack of the skilled assistants and inability to obtain a satisfactory view of the operative field.

To overcome these difficulties, I have devised a small instrument which is simple, light and self-retaining. It is quickly applied, giving a full view of both the anterior and posterior vaginal walls, and the operator now has full use of both hands. The vagina can be packed with sterile gauze carried in a large test-tube and an immediate repair made in an easy, bloodless and satisfactory manner.

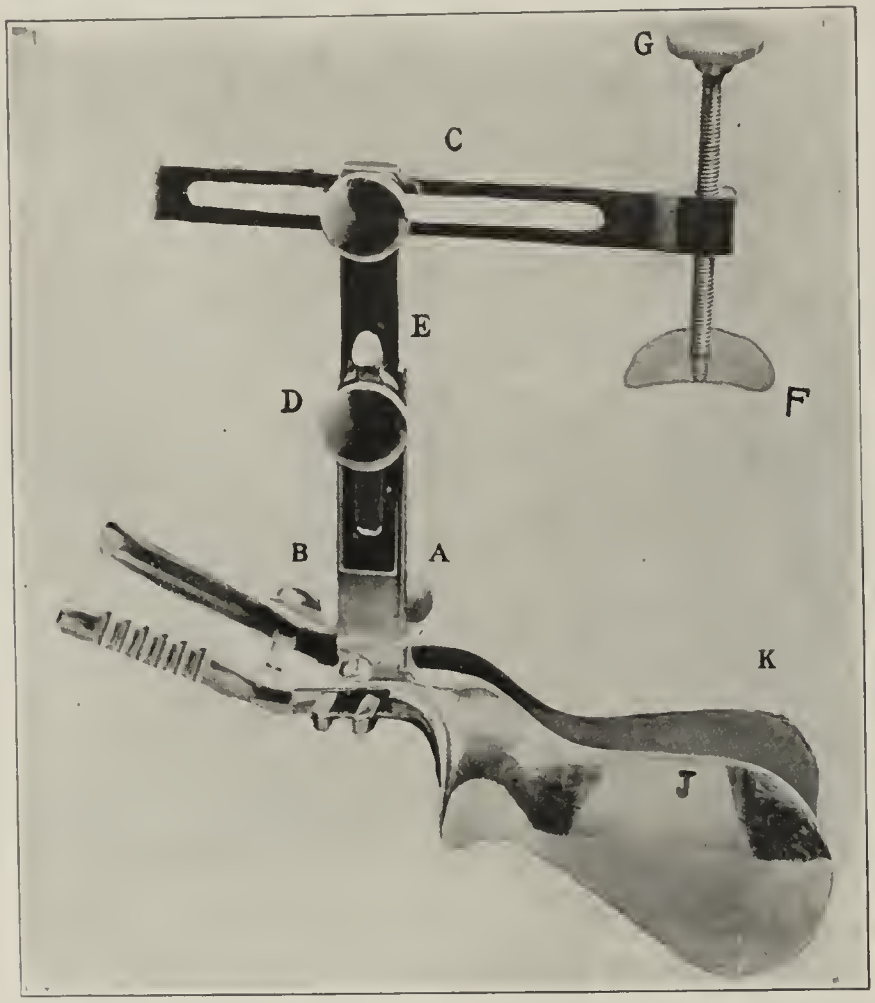


Fig. 1.—Self-retaining vaginal speculum for immediate repair of the peritoneum.

The instrument is conveniently carried in an ordinary obstetric bag and its mechanism is not complicated.

It is convenient for examination of the vagina after delivery as it can be painlessly inserted and can be used in operative work on the cervix.

A glance at the cuts of the instrument, together with the sectional view of the anatomy, will give a clear conception of the retaining principle. The lateral blades are inserted into the vagina and separated to the desired degree of lateral extension by means of the two threaded screws *A* and *B*, the horizontal arm *C* extending over the symphysis pubis.

By means of the screw *D*, the vertical arm *E* is shortened so that the concave plate *F* presses down firmly on the anterior abdominal wall above the symphysis. A few turns of the screw *G* now makes the instrument absolutely secure. The symphysis pubis is caught between vertical and horizontal arms (*E* and *C*), the divergent blade of the speculum (*J* and *K*) and the concave plate *F*.

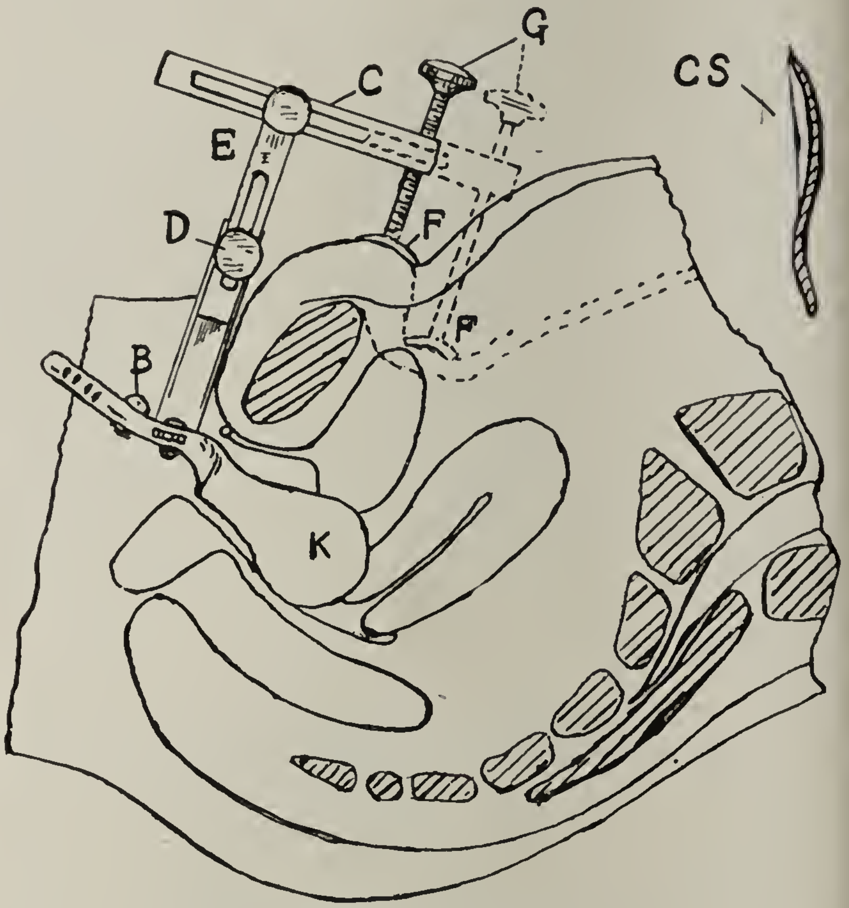


Fig. 2.—Diagram of instrument in use.

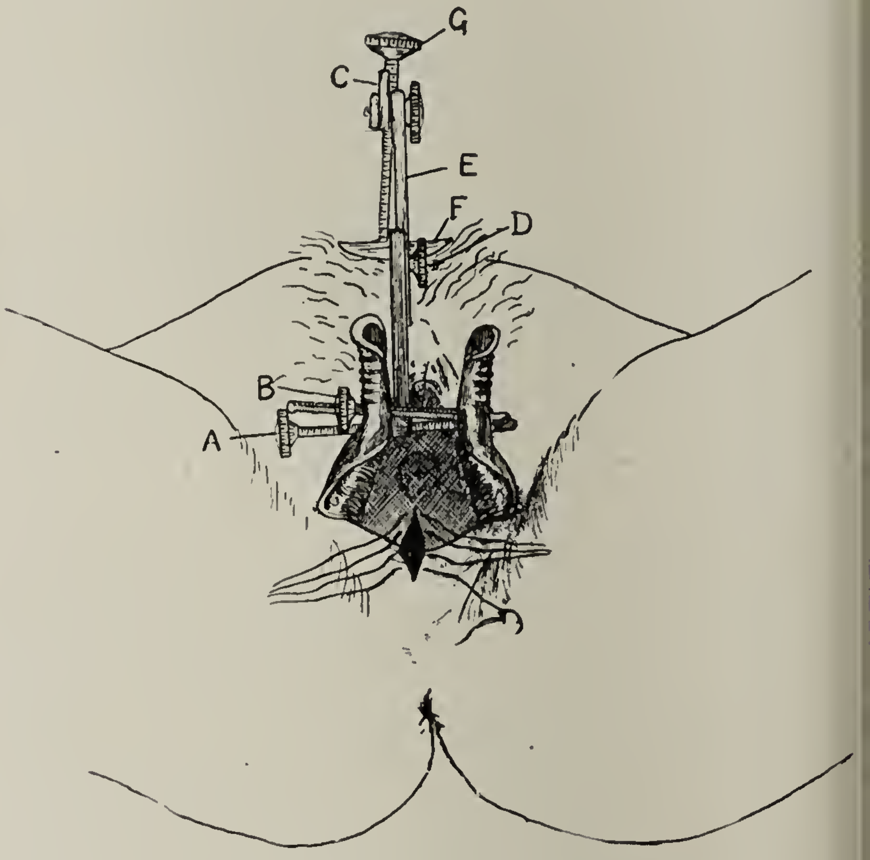


Fig. 3.—Sketch of instrument applied.

The relaxed condition of the abdominal walls, when an anesthetic is given, gives an even greater upward tilt to the handles of the speculum. Adequate room is now furnished for placing sutures, and a few turns of the screw *A* will relax the tension of the vaginal walls to allow an easy approximation in tying the sutures. *CS* indicates cross section of speculum blade.

UTERINE MYOMA

PERSONAL OBSERVATIONS IN THE STUDY OF 140 CONSECUTIVE OPERATIONS *

WALTER B. DORSETT, M.D.
ST. LOUIS

In the study of these 140 consecutive cases, I have noted some points which I will present for consideration. These questions are now being considered by our best surgeons, and were suggested to me by the histories of the patients and the clinical pictures presented on the operating-table. The three cardinal reasons for surgical intervention have been for the past decade:

1. *Hemorrhage.*—A. Menorrhagia: The amount of blood lost at each menstrual period being so great that the patient does not regain her normal circulatory equilibrium before the next menstrual period arrives, a continuance of this eventuates in hydremia.

B. Metrorrhagia: Indicative of rapid tendency to tumor necrosis.

2. *Rapidity of Growth (indicative of cystic or liquefactive changes) sarcomatous and carcinomatous degeneration.*—Though in adenocarcinoma in the fibroid uterus these changes may take place without rapid growth.

3. *Interference with the Functions of Contiguous Organs.*—A. Enuresis: By the encroachment of the growth on the normal bladder area.

B. The blocking-off by mechanical pressure on the cystic trigone resulting in retention of urine, or, for the same reason, the mechanical obstruction of the ureters, eventually producing hydronephrosis in rare instances.

C. The encroachment on the rectum to such a degree as to produce constipation and its resultant auto-intoxication, or by adhesions to coils of small bowel interfering with normal peristalsis, or adhesion to omentum which not infrequently results in a parasitic tumor of this organ.

While I have not been forgetful of these so-called cardinal reasons for operative interference, of late I have been so impressed with the possible and, in many cases, probable retrograde changes that may take place, that I have urged operations more frequently than I formerly did. In the pathologic examination of two specimens included in the 140 operations, adenocarcinoma was found in what some would term an inoffensive myoma, that is to say, the cases did not impress me as demanding immediate operation for this reason. In these cases there were no means by which a diagnosis of carcinomatous changes could have been made.

In reading recent discussions as to whether myomata undergo malignant degeneration, or whether the malignant elements are coincidentally present, we are impressed with the fact that clinically speaking the myomatous tumor is a dangerous tenant, and should be removed, if not for the reason that it is liable to degenerate into malignancy, then for the reason that by circulatory disturbances cystic, liquefactive or necrotic changes may occur. The history of the following case may illustrate this question as to the advisability of early operation:

CASE 1.—Mrs. S. (a farmer's wife), consulted me twelve years ago as to a growth in the uterus. Bimanual examination revealed a small myomatous growth in the fundus of the uterus, interstitial as to location. Operation was advised and refused. One year ago she returned with the tumor increased in size, and accompanied by great pain. Patient at this time consented to operation. Hysterectomy was performed and the tumor was found to have become carcinomatous. The patient died from general metastasis three months later. It is reasonable to surmise, at least, that her chances for recovery would have been vastly better had she consented to an operation at the first visit.

In the 140 consecutive cases, the ages of the patients at the time, recorded in decades, were as follows:

AGES

20 to 30	17 cases	or 12.1 per cent.
30 to 40	31 cases	or 22.1 per cent.
40 to 50	65 cases	or 46.4 per cent.
50 to 60	18 cases	or 12.8 per cent.
60 to 70	None	
70 to 80	1 case	or .7 per cent.

The youngest patient was 22, the oldest 76 years. Nineteen, or approximately 14.3 per cent., were unmarried. Sixty-four, or 38.6 per cent., were married, but never conceived. Fifty-nine, or 42.1 per cent., had had one or more children.

Dysmenorrhea was a prominent symptom in twenty-two cases, or 15 per cent.; menorrhagia in twenty-four cases, or 17 per cent.; metrorrhagia in thirty-one cases, or 22.1 per cent.

CLASSIFICATION AS TO LOCATION OF GROWTH IN CORPUS UTERI

Single	85 cases	or 60.7 per cent.
Multiple	55 cases	or 39.3 per cent.
Subperitoneal	41 cases	or 29.2 per cent.
Interstitial	25 cases	or 17.7 per cent.
Submucous	20 cases	or 14.2 per cent.
Intraligamentary	3 cases	or 2.1 per cent.

CHARACTER OF OPERATIONS

Abdominal hysterectomy	101 cases	or 79.2 per cent.
Vaginal hysterectomy	2 cases	or 1.4 per cent.
Abdominal myomectomy	26 cases	or 18.2 per cent.
Vaginal myomectomies	11 cases	or 7.8 per cent.

COMPLICATIONS

Cystic ovaries	34 cases	or 23.8 per cent.
Papilloma of ovary	1 case	or .7 per cent.
Ovarian cyst	6 cases	or 4.3 per cent.
Tubo-ovarian abscess	4 cases	or 2.7 per cent.
Adenocarcinoma of ovary	1 case	or .7 per cent.
Adenocarcinoma of uterus	2 cases	or 1.3 per cent.
Adenosarcoma	1 case	or .7 per cent.
Infected myoma	5 cases	or 3.5 per cent.
Degenerated myoma, cystic	2 cases	or 1.3 per cent.
Degenerated myoma, calcification	3 cases	or 2.1 per cent.
Pyosalpinx	5 cases	or 3.5 per cent.
Hydrosalpinx	1 case	or .7 per cent.
Gall-stones	2 cases	or 1.3 per cent.
Ventral hernia	1 case	or .7 per cent.
Inguinal hernia	1 case	or .7 per cent.
Salpingitis and ovaritis	4 cases	or 2.7 per cent.
Puerperal uterus	5 cases	or 3.5 per cent.
Cystic goiter	1 case	or .7 per cent.
Prolapse of uterus	3 cases	or 2.1 per cent.
Double uterus and double vagina	1 case	or .7 per cent.
Appendix removed (All showed pathologic changes.)	16 cases	or 11.3 per cent.
Phlebitis before operation	1 case	or .7 per cent.
Postoperative phlebitis in septic cases	4 cases	or 2.7 per cent.
Postoperative phlebitis in clean cases	4 cases	or 2.7 per cent.

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[*] Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

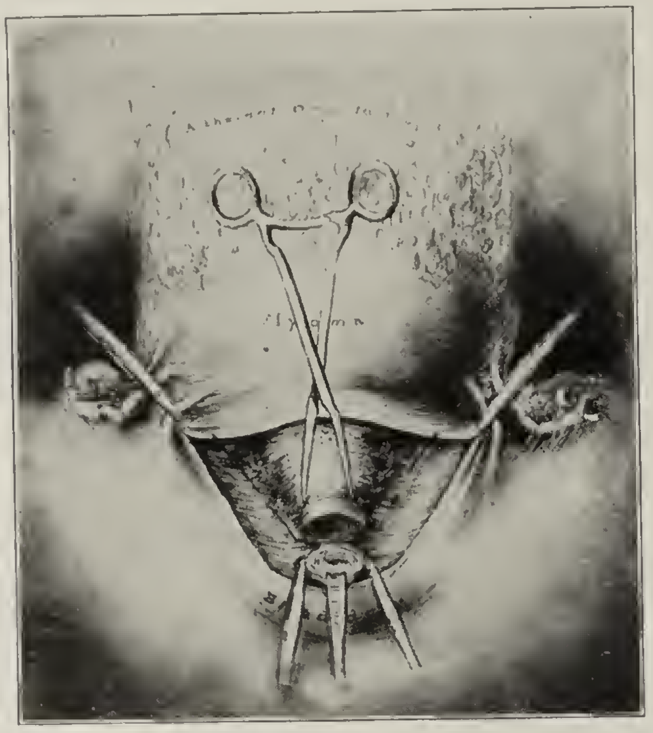
[*] From the Department of Obstetrics and Gynecology of St. Louis University School of Medicine.

FATALITIES

One patient died from shock, one from ileus, one from postoperative hemorrhage due to retraction of ovarian artery from point of ligation, one from peritonitis (a clean case), two from peritonitis (septic) present at time of operation.

Of the myomectomies, in one (woman pregnant) a subperitoneal fibroid occupied the lower anterior surface of the uterus, producing an enuresis and an obstruction to labor. It was removed by the abdominal route. The woman recovered from the operation, but miscarried eighteen days later. The removal of this growth was accompanied by some hemorrhage, but deep mattress suturing, rapidly applied, soon checked the flow of blood. The miscarriage was not attended by any complication.

In another case of myomectomy a recurrence of the myomatous growths came on twenty-one months later, and the patient submitted to hysterectomy. This patient was 36 years old, and was engaged to be married at the time of the first operation. Five subperitoneal fibroids were removed, and, as there was a marked retroversion, a Gilliam operation was done. At the second operation the uterus was in the normal position. The right ovary was cystic. There were adhesions around the appendix and between the uterus and abdominal wall. The operation consisted of an abdominal hysterectomy, resection of right cystic ovary and appendectomy. On section of the specimen the uterus showed scars of the old myomectomy and several unabsorbed catgut ligatures. Patient made a good recovery.


Uterine myoma; initial incision made through neck of uterus.

At the time of the first operation careful search by a sense of touch was made and all fibrous growths, however small, were removed. This emphasizes the statement of Cullen, namely, that it is impossible in cases of multiple growths to be assured that, however careful one may be, some seemingly insignificant growth will not escape detection and later give trouble. This is particularly true in submucous or interstitial growths which, on account of their location, cannot be felt or seen.

This has its weight in the argument, hysterectomy versus myomectomy. The conservation of the uterus in the child-bearing age should influence us in coming to a decision as to the operation of choice, but in previously sterile women and in women who have passed the menopause, hysterectomy should be chosen. We are impressed with the fact, however, that a fibroid which is interstitial in character is a menace to pregnancy, and in women past 45 is dangerously prone to degeneration.

I had nine cases of phlebitis, four in clean cases and five in septic cases. In my earlier work along these lines I used the angiotribe in most of my hysterectomies, and frequently depended on its crushing qualities alone to control hemorrhage; no ligatures were used on the ovarian and uterine arteries. No postoperative hemorrhages followed, but in studying the histories of these cases, I was impressed with the number of cases of phlebitis following the use of the angiotribe. This was the chief cause for its abandonment, as I was fairly well convinced that the crushing of large areas of tissue by the broad jaws of this instrument so devitalized the structures as to induce the inflammatory changes in the veins; particularly was this true in the already septic cases.

In none of my operations was the ureter encountered, nor were the ureters previously catheterized to denote their presence. In two of the intraligamentary cases they were exposed, but they did not interfere with the operation.

TECHNIC OF ABDOMINAL HYSTERECTOMY

The method I employ is one that has been simplified by practice. All operations are performed with the patient in the Trendelenburg position. As soon as the abdomen has been opened, a careful survey determines the operation—myomectomy or hysterectomy. If the latter is chosen, the uterus is grasped with a suitable grasping forceps and drawn out as far as possible without using great force. Forceps with narrow curved jaws are applied on the broad ligaments on the opposite side of the operator, and the ovarian artery is ligated *en masse* with No. 2 catgut on the distal side of the locked instrument. After securing it thus, this ligation is sewed, by one or two additional stitches, into the remaining portion of the broad ligament, thus taking no chances of retraction of the artery between the layers of the broad ligament, as occurred in one fatal case.

The incision is continued downward till the uterine artery is approached, when this is doubly secured, as in the case of the ovarian artery. After the separation of the bladder and after a cuff has been cut from the posterior and lower uterine wall, the uterus is cut through on a level with a point just below the internal os. The uterine and ovarian arteries are then secured, as on the side first attacked, except in reverse order. This is the operation of Kelly, except as to the precaution of sewing the artery *in situ*.

When there is a suspicion that the tumor is more or less submucous as to location, and for fear that a leakage of infected material may soil the field of operation, the amputation is not done until after the incision through the broad ligament is made on the side next to the operator. In these cases, the second incision is made exactly in the same manner as the first, and the ovarian and uterine arteries are ligated in the same order. The canal of the stump is cauterized with 95 per cent. phenol neutralized with alcohol.

In these 140 cases I have resorted to drainage through the cervix only six times. If there is a suspicion of malignancy the cervix can be better removed after the uterine body has been excised. If it is necessary to drain, it is best done through the cul-de-sac of Douglas.

In two of these cases I encountered dense adhesions of omentum and bowel. The uterus was retroverted and impacted in the pelvis. The tubes and ovaries were behind and under the displaced organ. The mode of procedure was first to make the initial incision through the neck of the uterus after the bladder had been pushed downward and the uterus pulled out from below upward, the bleeding vessels being ligated as they appeared. I believe this to be a good method inasmuch as there is less danger of tearing the rectum and small bowel and the division of adhesions is accomplished with more ease. Kelley believes that it is better to leave a portion of the posterior uterine wall adherent to the rectum than to endanger the rectal wall by forcible division.

In one case, I found a pregnant uterus with a subperitoneal fibroid with a broad pedicle located on the posterior wall, impacting the uterus in the pelvis. With some difficulty the uterus and tumor were dislodged, and no attempt was made to remove the tumor, for the reason that it seemed to dip far into the wall and I feared a perforation of the uterine wall, should I attempt its removal. The patient went on to full term and was successfully delivered of a living child. Several examinations made after the delivery show a marked decrease in the size of the growth, and as the patient complains of no discomfort nothing surgical has been done.

In the five puerperal cases all of the growths were submucous, except one subperitoneal tumor, which was enucleated, the operation being followed by a miscarriage. In the other four cases abortions had occurred, and were no doubt caused by the pressure of the growth. When the patients came to me they were more or less septic. In these cases the operation of choice was supravaginal amputation, for the reason that curettage is unsatisfactory in execution and morcellation is positively dangerous, while supravaginal amputation affords a clean and quick operation.

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ABSTRACT OF DISCUSSION

Dr. Albert Goldspohn, Chicago: I agree in the main with the ideas set forth by Dr. Dorsett, particularly that it is very desirable in younger females to preserve at least one ovary or a part sufficient to produce menstruation in a woman who has her uterus. It tends to her comfortable existence. It is not necessary to preserve both ovaries. Dr. Dorsett did not say anything about the tubes. From the illustration of his technic it is evident that he removes them. I speak of that because we do see some men who leave the tubes as an indifferent matter. I don't believe we should leave any tube in any woman after hysterectomy. An idle, useless Fallopian tube lined with mucous membrane I look on as a thing which is not innocent. We can remove the tubes so easily that I do not think a hysterectomy is complete without their removal. I would do that even if it required particular pains to accomplish it. Dr. Dorsett did not say how frequently he does supravaginal amputation. A woman with vaginal hysterectomy retains all the dangers of carcinoma of the uterus as if she had not had a hysterectomy. It is true that the majority of these women have not borne children and in that case the cervix is frequently not pathologic and is therefore not so likely to be the seat of origin of cancer in later years. At the same time, it does occur. As far as the Kelly suggestion is concerned, of detaching the bladder first and then cutting across the cervix, and turning the uterus backward and upward, that is, bringing out the cervix first, I have not found any advantage in such a method. It is supposed to be particularly advisable when the uterus is retroverted and badly adherent to the intestine and omentum. I can do better by detachment of the omentum from the fundus; and in most cases can separate the adherent uterus from parts attached to it, and if that cleavage line is not traceable we can more intelligently peel off the superficial coat of the body of the uterus and tumor under the eye where one can see with what one is dealing and the result will be more satisfactory than if an attempt is made to do the same thing in a bleeding wound.

Dr. John Osborn Polak, Brooklyn: The paper of Dr. Dorsett is right in line with some work that I have been doing. It is of interest to note that in forty-four of my myomectomies I have had to do a subsequent hysterectomy on twelve of these patients who came back for a recurrence of the fibroid condition. At the time of operation every visible or palpable mass was removed. I have come to feel that myomectomy rather excites the growth of the fibroid, by the inflammatory changes which take place in the tissues as the result of the operation. Certainly the rapidity with which some of these growths recur would indicate that that is more than a suggestion. In regard to removal of the ovaries, in an analysis of 132 hysterectomies which I presented to the American Gynecological Society a month ago, I made several deductions regarding resection of ovaries and leaving ovaries after hysterectomy. The result depends entirely on the condition of the ovary. An ovary that one has to resect and displace to save will give a painful ovary if left after removing the uterus. In this series I had the opportunity of comparing fifty cases in which complete extirpation was done against fifty cases in which one or both ovaries were left. I found that five of the resected ovaries presented distinct cystic changes, evidently due to disturbed circulation. Another point I might mention is that if an ovary is left it is better to leave the tube if it is apparently healthy, as there is less liability of disturbing the circulation in leaving the ovary plus the tube than if the tube is removed, leaving the ovary *in situ*. I should like to emphasize the importance of the point made by Dr. Dorsett of using the round and broad ligaments to keep the cervix high. Some of the worst results following hysterectomy are the prolapses of the vagina owing to defective technic. In regard to what Dr. Goldspohn said, supravaginal hysterectomy is preferable in the majority of cases because the stump can be brought higher in the pelvis, and if the precaution is taken of excising the mucous membrane of the cervix endocervicitis is avoided.

Dr. W. B. Dorsett, St. Louis: The illustrations show the tubes *in situ* in patients under 45 years of age. I resect the ovary whenever I think it needs resection. If I find an ovary that is cystic I resect it so far back that there is only a little rim of it left. By leaving only a small portion you subserve Nature's plans in maintaining the secretion that is supposed to exist outside of the normal function of the ovary, or the usually accepted real function of the ovary. If I find the ovary much diseased, or impacted behind the uterus, I remove it. I always leave the cervix unless I have a suspicion that it is malignant.

THE ELIMINATION OF FEBRILE REACTIONS FOLLOWING INTRAVENOUS INJECTIONS OF SALVARSAN *

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AND
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The intravenous injection of salvarsan is by far the most desirable method of administration. The reactions which follow such injections have been thought to be due to an inherent toxicity of the drug, because many of the symptoms are similar to those noted in acute arsenical poisoning. The intensity of reaction has been noted to vary to a marked extent in different places, and no doubt the severe criticism of salvarsan which has been made by various observers has been due to the marked toxic manifestations of the drug noted by them.

In our experience the reactions have varied greatly at different times. The reactions consisted usually of a chill, followed by a rise of temperature at times as high as 105 F. During the fever there was nausea and vomiting, and a severe diarrhea often followed. Intense headache and violent lumbar pains were not infrequent. Occasionally, following a high fever, a marked albuminuria with many hyaline and granular casts was noted. At one time, nearly 50 per cent. of the treatments were followed by herpes of varying intensity. In tabetics, violent lightning pains for two to six hours following the injections were almost constantly noted. They were considered evidence of a Herxheimer reaction, as the pains were usually noted in the parts of the body most affected by the tabetic process. These pains and the herpes have both been invoked as evidences of a neurotropic action of salvarsan.

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* From the Hospital of the Rockefeller Institute for Medical Research, New York.

The discovery of a method of injection whereby all of these disagreeable and dangerous symptoms are excluded is an important advance. Such a method has been found by Wechselmann.[1] This discovery followed an observation that the reactions occurring in the women's wards were less severe than those in the men's wards. Further investigation showed that the sterilization of the salt solution was carried out longer in the former wards than in the latter. He then tried the effect of distilling and sterilizing the water for the saline used in the solution of the salvarsan immediately before the treatment. After adopting this technic, no further reactions were noted. In a later communication[2] he states that he has given more than 150 injections in his office without any fever occurring within four hours after treatment. On the other hand, there was frequently a slight fall in the temperature. He considers salvarsan less toxic than mercury.

For the past six weeks we have been using freshly distilled water for the preparation of the salvarsan and normal saline, and have confirmed Wechselmann's observations. The water, with a few exceptions noted below, has been distilled within twenty-four hours of the time of the treatment. Normal saline was also prepared at the same time from freshly distilled water, and both the water and saline filtered and immediately sterilized in the autoclave. Our technic varies slightly from Wechselmann's in that we use only distilled water for the solution of the salvarsan. With saline it is often difficult to obtain a clear alkaline solution without adding a great excess of sodium hydrate. When giving the treatment, after the needle is inserted in the vein, normal saline is first injected to make certain that no leakage is occurring about the needle. The injection of salvarsan is followed by about 20 c.c. saline to wash the salvarsan from the tubing and needle before it is withdrawn.

For the past five months we have been giving repeated small intravenous injections of salvarsan as a routine. As a rule, 0.2 gm. is injected each week until a total of at least 1 gm. is administered. In some cases nearly 2 gm. have been given in this way. These small injections were frequently followed by nearly as severe reactions as doses of 0.4 or 0.5 gm.

The table shows the striking difference between the old and new methods of preparation of the salvarsan.

A summary of the above shows twenty patients who received solutions prepared by both methods. A mouth temperature of 99 F. or over is considered a febrile reaction. With the former method there were forty-eight reactions in a total of fifty-three injections. With the freshly distilled water there were fifty-six injections, forty-five of which were followed by absolutely no rise of temperature or other unpleasant symptoms. Eleven treatments were followed by a temperature of 99 F. or over. Among these eleven reactions, four were only 99 F. In two with a temperature of 99.4 F. and 99.6 F., respectively, the water and saline were one week old, but both were autoclaved on the day of distillation of the water and the flasks in which they were preserved tightly capped. In three cases the water for the solution was fresh, but the saline used to precede and follow the salvarsan was some weeks old. One of these patients had a temperature of 99.6 F., and two of 100 F. Patients in another ward, who were treated with the same salvarsan solution and freshly prepared saline, had no reaction. One patient who had been previously running a slight fever had a temperature reaction of 100.2 F., and slight headache. In this instance both the water and saline had been opened twenty-four hours previously. The last reaction, 100.6 F., was in a patient who had previously been having an afternoon temperature of 100 F. In all instances with a temperature over 99 F., the reactions can be accounted for either by water or saline not absolutely fresh, or by a febrile condition of the patient. Still more striking was the absence in all the patients of nausea, vomiting, diarrhea, headache or

TABLE SHOWING DIFFERENCE IN REACTIONS AFTER INTRAVENOUS INJECTIONS OF SALVARSAN

	— Old Distilled Water —		— Freshly Distilled and Sterilized Water —		
Stage	No Reactions	Reactions	No Reactions	Reactions	
Primary	..	..	1	1–100.2 F.	Water and saline opened twenty-four hours previously.
Secondary	..	..	2		
Secondary	..	2	3		
Secondary	..	1	2		
Secondary	..	5	2		
Secondary	..	1	4		
Secondary	..	4	3	1–100.6 F.	Temperature of 100 F. on the previous day.
Secondary	..	2	2		
Secondary	..	2	2		
Secondary	..	2	1		
Secondary	..	2	1	2– 99.0 F. 1– 99.6 F.	Water and saline one week old.
Tertiary	..	1	1		
Tertiary	..	4	2	1– 99.0 F. 1–100.6 F.	Water fresh, saline old.
Spinal cord syphilis	1	4	3		
Spinal cord syphilis	..	4	5		
Spinal cord syphilis	..	5	4	1– 99.6 F.	Water fresh, saline old.
Spinal cord syphilis	1	4	1		
Tabes	1*	2*	3		
Tabes	..	2*	1		
Tabes	2*	1	2	1– 99.0 F. 1– 99.4 F. 1–100.6 F.	No lightning pains. No pains. Water and saline one week old. Water fresh, saline old.
Total	5	48	45	11	

* Lightning pains.

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[1] Wechselmann: Deutsch. med. Wchnschr., 1911, xxxvii, 778.
[2] Wechselmann: München. med. Wchnschr., 1911, lviii, 1510.

general malaise. The patients now take their regular meals within one hour from the time of treatment. Not one of the treatments has been followed by herpes. Using the old method in patients with tabes, seven out of eight treatments were followed by lightning pains, while with the freshly prepared water in a total of nine treatments not one has been followed by any pain.

An attempt was made to find if it was absolutely necessary to have the water and saline prepared on the day of treatment. Among the forty-five treatments without reactions, two were with water and saline two days old, one seven days old and three eighteen days old. In all of these instances the water and saline were autoclaved on the day on which the water was distilled and the containing flasks tightly stoppered. As two slight reactions were obtained with water similarly prepared seven days previously, however, it is probably safer always to use the water as fresh as possible.

The explanation of the febrile phenomenon is not entirely satisfactory. Wechselmann[2] thinks it is due to the fact that distilled water which has stood for some time contains saprophytic microorganisms. A certain amount of proteid matter is dissolved out of these into the water. This passes through the filter and when injected into the circulation gives rise to the febrile reaction.

Whatever may be the true explanation of the febrile reaction, the fact remains that the preparation of the salvarsan with freshly distilled and sterilized water eliminates practically all unfavorable toxic symptoms. With the toxic action of salvarsan eliminated, repeated doses can be safely given and, no doubt, more effectual results will follow its more thorough application.

Sixty-Sixth Street and Avenue A.

ARTHRITIC MUSCULAR ATROPHY *

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Recognition of the fact that injury or disease of joints is apt to be followed by atrophy of adjacent muscles, especially of the extensors above the joint, is said to date from the time of Hippocrates, but until the early part of the nineteenth century there was no serious attempt to explain why this atrophy occurred.

John Hunter spoke of it as being due to "sympathy," whatever that may have meant. In 1860, Brown-Séquard advanced the idea that atrophy following joint disease was due to reflex irritation acting through the vasomotor system. Sabourin, in 1873, attributed it to direct extension of inflammation from the diseased joint, while Vulpian was the first to suggest that it was due to reflex influences exerted on the trophic nerve centers in the spinal cord, which opinion was later supported by Charcot. Valtat and Dide, in 1877, studied the changes in the muscles following arthritis experimentally produced, while Raymond,[1] in 1890, furnished what appeared conclusive proof of the correctness of the reflex theory of Vulpian. This last author, after cutting in dogs the posterior roots of the lower lumbar and upper sacral nerves, on one side, set up in these animals arthritis in both knee-joints, by injections of nitrate of silver, the cautery, etc. He found that while on the side on which the posterior nerve roots were intact, muscular atrophy occurred in the usual way after the production of an arthritis, on the side on which the roots had been cut, the muscles either did not atrophy at all or only to a very slight extent. He explained this difference by assuming that, while on the sound side the influences arising from the injured knee were able to pass into the spinal cord through the posterior roots and to act on the trophic centers in the anterior horn, on the side of the cut roots this was impossible, hence the atrophy did not occur. In 1891, Duplay and Cazin repeated Valtat's experiments and showed that the change in the muscles was one of simple decrease in size of the fibers. Hoffa,[2] in 1892, repeated Raymond's experiments on dogs, with confirmatory results. While Klippel, in 1888, had reported some changes in the spinal cord in arthritic muscular atrophy, none of the other observers, previously mentioned, had been able to discover anything abnormal in either the spinal cord, the nerves, or the muscle-nerves. In 1898, Achard and Levy reported finding in this disease atrophy of the cells in the anterior horn of the spinal cord, while Mignot and Mally,[3] in 1900, found in each of eight dogs with experimental arthritis, a diminution in the number of cells in the anterior horn, throughout the lumbar portion of the spinal cord, on the side of the muscular atrophy, as compared with the number on the sound side. In his Paris thesis of 1900, Tossigny[4] gave an extended review of the subject, but presented nothing new, while O. Meyer,[5] in his inaugural dissertation at Greifswald, in 1902, brought forth the idea that atrophy is, at least sometimes, due to overstretching of the muscles, through effusion into the joint, and gave an account of some experiments which he had made, the result of which he thought confirmed this view of the matter.

Since the comprehensive review of the subject by Lorenz,[6] in Nothnagel's "System of Medicine" in 1904, no literature of importance has appeared. Several years ago I undertook to repeat the experiments of Raymond and to study, by the finer histologic methods which have come into use since Raymond's time, both the central and the peripheral nervous system, as well as the muscles of dogs kept for varying periods of time after operation.

The operation of laminectomy and cutting the posterior roots of the spinal nerves is one of some delicacy and involves considerable shock, besides being complicated by the difficulty of maintaining asepsis later.

It was soon found that only young dogs were suitable, as the laminectomy was more easily performed on them and the hemorrhage more readily controlled. Several of the older animals died shortly after the operation, while two of more suitable age succumbed to septic infection before muscular atrophy could be set up.

The material from seven dogs was ultimately utilized. In two of these, laminectomy was performed; the posterior roots of the last three lumbar and first three sacral nerves were cut and arthritis was set up in both knee-joints by the injection of a 25 per cent. solution of nitrate of silver. These animals were kept respectively twenty and sixty-eight days after the production of arthritis. In the other five dogs, arthritis was produced in one knee-joint and the animals were sacrificed after sixteen, twenty-one, thirty-two, sixty-two and seventy-eight days. In two of the latter cases the spinal cords were spoiled and could not be used, though the muscles and nerves were examined.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Raymond: Rev. de méd., 1890, p. 374.

[2] Hoffa: Samml. klin. Vortr. (Volkman's), new series, No. 50.

[3] Mignot et Mally: Arch. gén. de méd., 1900, ii, 296.

[4] Tossigny: Thèse de Paris, 1900.

[5] Meyer, O.: Inaugural Dissertation, Greifswald, 1902.

[6] Lorenz, H.: Krankheiten der Muskeln, in Nothnagel's Spezielle Pathologie und Therapie, Wien, 1904

For study of the nerve-cells, Nissl's stain and toluidin blue were used. The cords were also studied by the Weigert and Marchi methods. For the muscles hematoxylin and eosin, Bismarck brown and Weigert's and Marchi's methods were used. The intramuscular nerves were stained by the method of Sihler.

In the animals in which the joints were injected without root-cutting, the diminution in size of the muscles on the extensor surface of the limb was apparent as soon as the inflammatory reaction following the irritant had subsided. In those animals which were kept for sixty-two and seventy-eight days, the contrast between the sound and the affected sides was very marked, in one case the difference in the circumference between the two thighs being as much as 6 cm.

Faradic irritability of the muscles was retained, though it was slightly reduced on the affected side. The change found in the muscles was one of simple reduction in size of the fibers, the space between them being greater than normal. The fibers preserved their striation, however, and no increase of muscle nuclei was noted. In some places near the inflamed joint there was slight round-cell infiltration. While the fine nerves within the muscles could be readily traced in the pieces prepared by Sihler's method, no pathologic change was found in them or in the nerve-endings. Neither did the peripheral nerves show any change by either the Weigert or the Marchi method.

In the laminectomized dogs, there was a decided difference between the circumferences of the two thighs, 2 cm. in one case and 1 cm. in the other, atrophy being more marked on the side of the intact roots. As the animals had become much emaciated, however, the muscle fibers were smaller than normal on both sides. The changes found were in general the same as those observed in the other dogs, and there was equal absence of change in the nerves. In the cases in which the posterior roots had been cut, ascending degeneration on one side of the spinal cord was made evident by both the Weigert and the Marchi methods, but no other change was found. In the plain arthritis cases, no pathologic change was disclosed. A careful examination of the whole lower part of the spinal cord by Nissl's method and by toluidin blue failed to show degenerated nerve-cells in any case. Particular attention was paid to the fourth and fifth lumbar segments, in the former of which Parhon[7] located the cells of origin of the anterior crural and obturator nerves, which supply the anterior muscles and the knee-joint, but not one cell showing axonal reaction could be found.

The large cells of the anterior horns were carefully counted in a very large number of sections and a marked difference in their numbers on the two sides, varying from 1.3 to over 7 per cent., was found. In the laminectomized dogs, the number of cells was greater on the side of the cut roots, while in the others it was greater on the side of the arthritis and the muscular atrophy. The sections were carefully marked by a hair on one side and were recorded when they were taken. A further count of *all* the anterior horn-cells gave figures essentially the same. I was unable to study Mignot and Mally's results in the original, but had to depend on an abstract, hence I do not know just what figures they found or what precautions they took. Is it not possible that there may be in normal cases a difference in the number of cells on the two sides of the spinal cord? I am not familiar with any investigations directly bearing on this subject. Professor Van Gehuchten, speaking of some studies of the spinal cord in dogs with experimental arthritis by Nissl's method, said that he had been unable to find any changes in the nerve-cells; Korniloff, of Moscow, had a similar experience. In the preparations studied, there was not one cell in process of degeneration, although my material was from dogs which had died at different times. It would seem that if the cells disappeared as a result of some irritation through the nerve fibers from the diseased joint, they must first undergo a degenerative process and at least a few degenerated cells should be found. The passage of degeneration from one neuron to another is entirely opposed to all previous experience in nervous pathology, and neither the nerves nor their posterior roots showed any degeneration. Charcot spoke of the influences from the inflamed joint as producing a sort of "inertia or stupor of the cellular elements," and others have assumed a so-called "dynamic" alteration in the cells of the anterior horn of the spinal cord. All of these expressions are rather indefinite and add nothing to our knowledge. While the reflex theory is not entirely satisfying, it must be acknowledged, however, that all experiments hitherto performed go to strengthen rather than to disprove it.

Lorenz, in his general considerations with regard to muscular atrophies, holds that for a muscle to maintain its nutrition in the first place the peripheral neuron must be intact; second, that there are no special trophic nerves as far as is known, and third, that the nerve-centers do not spontaneously exert a trophic influence, but must be stimulated from the periphery and from the center in order to do so. The cutting off of voluntary influences may thus result in diminution in size of the muscle, as in the atrophy sometimes observed after a cerebral lesion. On the whole, the muscular atrophy following joint disease or injury would seem to be due to the combination of several causes. In the first place, there is a tendency to keep the limb inactive in a more or less fixed position, in which the muscles are not only in disuse, but the habitual and necessary stimuli to the nerve-centers are more or less cut off from the nutrition and the muscle is apt to suffer. That immobilization alone may cause some wasting is well known. The right leg of a rabbit was put in a position of extension in a light plaster cast (with precautions against the exertion of pressure), and maintained in this position for nineteen days; on removal of the plaster, the muscles of the right thigh had undergone appreciable atrophy, there being a difference of 1.25 cm. in the circumference of the two sides. After being free ten days, the animal was using its leg normally again, but the difference in size persisted for some time.

In cases in which there is joint effusion, overstretching of the muscles and constant pressure may play a rôle, while impairment of the general nutrition may result in some cases, though why it does so more on one side than on the other is not clear. In this connection the question as to whether some toxic substance produced in the inflamed joint may act unfavorably on the muscles might be considered, but why this agent should attack a special group of muscles unless they offer a *locus minoris resistentiæ*, is difficult to understand, and we have no anatomic evidence of such action. Of the direct extension of inflammation from the joint we usually find no trace, though in some pieces of muscle from very near the joint, round-cell infiltration has been found when periarthritis has accompanied the arthritis. While the idea of reflex influences from the inflamed joint acting on the nerve centers in the spinal cord may not satisfy us, we nevertheless cannot disregard it, neither can we consider it as proved that these influences are the cause of the atrophy of the muscles.

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[7] Parhon et Goldstein: Jour. de neurol., 1902, p. 243.

Each of the etiologic factors mentioned has at one time or other been put forward by an author of eminence as the determining cause. Why does the atrophy affect almost exclusively the extensor muscles? It is a suggestive fact that the nerves which supply the joints are branches of the same trunks from which the affected muscles draw their supply, or have their origin in the same region of the spinal cord. The muscular tonus of the quadriceps extensor cruris depends on impulses which are carried back to the spinal cord by the afferent fibers of the anterior crural and obturator nerves, which nerves include fibers from the knee-joint. In arthritic muscular atrophy there is a flabbiness and lack of tone of the extensor muscles, though the tonus is not all gone, for the knee-jerk is not lost and is even apt to be exaggerated. If the tonus depends in part on impulses arising from the synovial membrane of the knee-joint and these impulses are cut off, it is reasonable to suppose that the nutrition of the muscles will suffer.

As the matter stands, the evidence does not favor the idea of a unique cause as effective in all cases of arthritic muscular atrophy, but would indicate that the atrophy is the product of a number of different factors which may be responsible to different degrees in different cases.

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ADVISABILITY OF GOVERNMENT MEDICAL CONTROL OF THE HYGIENIC FACTORS OF THE WATERS OF THE GREAT LAKES *

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During the summer of 1907 a large passenger steamer from Chicago arrived at Buffalo with a number of patients with typhoid fever aboard, among whom deaths occurred. A physician[1] of the Buffalo Board of Health had charge of the investigation. It was revealed that the tank of the steamer had been filled with infected water, taken at some indefinite point on the long lake trip of over one thousand miles.

As a measure of future safety, it would have been of great value to know at what point the infected water was obtained, and who, if any one, was to blame. Under existing conditions of conflicting authority, it would be difficult to determine on whom the responsibility should be placed. The surgeon of the steamer, often a new and inexperienced graduate, appointed for the trip, could not be expected to know the sanitary character of the channels traversed. State authorities and boards of health would be equally at fault, and would clash as the steamer passed along the shores of many states.

Failure in the first attempt at disinfection of the large tank of the vessel, through the condensation of the steam utilized, held the great steamer from her regular trip. Subsequently she was allowed to proceed, with the provision that bottled water only should be used. The tank was subsequently disinfected with formaldehyd solution. This all entailed a large expense.

This incident brings up so many questions pertaining to the sanitation of the great lakes and adjoining waters, affecting the health, not only of the floating population of the lakes, but of the cities along their borders, that we at once see the need of special medical control in this connection.

Some central medical authority, which would have in its natural function the determination of the sanitary status of the bays, rivers and channels of the great lakes, from which the potable waters of these vessels may be obtained, would prevent such dangerous condition as that cited in the case of the steamer mentioned.

DANGER OF INFECTION TO CITIES FROM LAKE VESSELS

It is quite within the probabilities that a city along the line of lakes might be endangered by refuse thrown from a steamer. Some precaution should be observed as to the scattering of fecal matter at any point on the lakes.

As an instance, a steamer entering or approaching the port of Buffalo, passes within about a half mile above or up-current from the "new intake" of the Buffalo water-works, at the so-called "Emerald Channel." Without suitable authority and control, the pathologic filth of a vessel might be thoughtlessly thrown overboard at or near this point; it would float with the current to the intake and be pumped into the water-supply.

Numerous instances of this character might be cited.

INFLUENCE ON SANITATION OF THE CURRENTS OF THE LAKES AND RIVERS

In a paper which I read before the Rochester Academy of Science, discussing the subject of our lakes and rivers, I stated that the question of the influence of these currents on sanitation would seldom need to be considered if the population of the lakes remained as it was in the first half of the nineteenth century. The befoulment of our water-supplies through the emptying into them of the then limited refuse factors, sewage and excrement, would not have been sufficient to call special attention to the subject with the small population then existing.

However, with numerous cities of four or five hundred thousand or greater population lining their shores, the utilization of the waters of the great lakes and rivers of the country for potable purposes becomes an absolute necessity from which we cannot escape.

Through an extended and most interesting series of "Current Observations on Lake Erie and the Niagara River"[2] instituted in 1903 for the city of Buffalo, we know that these current factors are of unquestioned import so far as the health of the cities of the lakes is concerned. Had my report at that time been heeded, an immense financial saving would have been effected in the construction of a great, and at this time unnecessary,[3] new water-works system for the city of Buffalo, costing several millions of dollars. This subject of the influence of lake currents needs further investigation and could well be pursued under the control of a central medical body.

REQUIREMENTS TO PREVENT BEFOULMENT OF LAKE WATERS

The excessively rapid growth of the population surrounding the great lakes demands the prevention of the befoulment of this great system of waterways, and the subject should be immediately considered. We are at

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Dr. Thomas B. Carpenter.

[2] THE JOURNAL A. M. A., Sept. 3, 1910, p. 828.

[3] See Report of Engineers of Chamber of Commerce, Buffalo, N. Y.

a pressing initial stage in the proceedings needed to organize the methods of control. In the great cities of Chicago, Detroit, Cleveland and Buffalo the instinctive need is felt of an intelligent answer as to how we shall best proceed to improve the present status and ward off impending disaster through the unwise sanitary methods now being followed.

WHAT CHICAGO HAS DONE

Chicago has made an attempt to solve the problem by digging its drainage canal, an attempt probably unwise, as we now look on it, and quite ineffectual for the reason that it cannot go on to a satisfactory termination under natural existing conditions. With the quantity of water taken from Lake Michigan at present it is insufficient to take care of the sewage output of this great city. The head and surroundings of the drainage canal are anything but sanitary, and are growing steadily worse from excess of sewage; the fermenting condition and foulness of the waters here are decidedly objectionable, and very far indeed from that state which future methods should permit. A minimum degree of forethought was given to the subject by the projectors and supporters who devised this great method for the future sanitation of so great and growing a city as Chicago; they did the best for their time, but the world had not progressed to a point where better knowledge places us to-day.

DANGER IN GREATER ABSTRACTION OF WATER FROM THE GREAT LAKES

The drain of the waters of the great lakes by such outlets as the drainage canal, the deepening of the channels of natural drainage without adequate compensation, as in the instances of the Detroit, St. Clair, Niagara and St. Lawrence rivers, which has been going on, possibly with a minimum of excess, for years, must be more carefully controlled, so that with the needs of navigation, which must not be excessive, the outlets will closely correspond in cross-section of discharge to the natural conditions heretofore existing. The conservation of the water is here quite as important as the conservation by the government of coal, lumber and other great commodities of life.

The careless denudation of the forests of the lake region adds to the seriousness of this question and indicates further how we have been stumbling along until aroused by a serious state of affairs. The low stage of water reported as now existing on the lakes teaches that natural laws must not be trifled with.

Sanitarily, our present method is suicide on a great scale, which will increase apace as the population grows or is radically changed to prevent the unwise distribution of our own disease-producing organisms. The forethought of the nation has been sleeping instead of attacking vigorously one of the most important subjects for the welfare of the future millions of citizens of the great lakes. Need we ask whether there is need of a central medical body to study and control the conditions (urgent as they are) affecting this important subject?

OUTLINE OF THE COURSE PURSUED IN THE PAST AND AT PRESENT

1. A small community of settlers locates on a large lake of pure water and takes its potable water from the lake, and also utilizes the lake for its refuse drainage.

2. The community becomes a village. The waters of the lake near shore become foul and the potable water-supply is naturally taken farther from shore.

3. The village becomes a city; a large increase in potable supply is needed; sewage drained into the lake has befouled the water so that a tunnel conduit is built to a point thought to be safe from shore drainage.

4. The large city produces increased sewage; there is greater area of disseminated lake sewage; tunnels are made at enormous expense, extended miles into the lake.

5. Continued growth of cities, the pathologic products of non-epidemic sewage, colon and typhoid bacilli, produce a high continuous percentage principally of typhoid fever from the now thoroughly contaminated lake. There is not an epidemic of typhoid but a constant increase, as in many towns along the line of the lakes.

THE ACTUAL CONDITIONS

At the city of Cleveland, Ohio, for instance, there has been a great increase in population, with increased sewage thrown into the source of the potable water-supply. The subaqueous tunnels were extended mile on mile only to find time and again the contamination of the source of supply.

The city of Rochester, N. Y., is contemplating a more scientific (?) discharge of its sewage into Lake Ontario than by the present simple drainage into the "low level" water of the Genesee River, which produces the unpleasant effect of an open sewer. As stated to me, it is contemplated to extend a discharge tunnel to a distance into the lake and begin the befouling of the lake waters, which must affect the welfare of the surrounding communities. The condition of the navigable outlet at the mouth of the Genesee River, where the sewage of the city collects at present, is nauseating to the great body of tourists arriving and departing on the lake and St. Lawrence steamers at Charlotte during the summer months.

Thus we find that a more or less sanitarily chaotic state exists at all the centers of population along the great lakes and rivers, calling for immediate consideration at the hands of an authoritatively constituted central medical body in respect to their control and the betterment of conditions.

THE CONTROLLING BODY MUST BE MEDICAL

From the nature of the problem, varying as it does, from the bacteriologically medical to engineering of a sanitary nature, associated with the lake factors of our lake cities, the central control body should necessarily be medical. The medical problem must go hand in hand with the engineering, and yet control it, if the former does not precede the latter, as was necessary at Panama. We now know that all the engineering ability of the world could not have constructed the canal unless medical science preceded it.

GREAT LAKES SANITATION AN ARGUMENT FOR A NATIONAL BOARD OF HEALTH

The mere discussion of this great subject strongly emphasizes that it is an argument for the immediate organization of a national board of health. Let the several states take care of the matters of importance within their borders, such as the control of streams and rivers that properly come under state jurisdiction. When, however, the health factors of the great rivers of the country, the Mississippi, its tributaries, the Missouri and others, intertwining among many states, are at issue, a national central medical controlling body, which will assist, guide and not conflict with, state authority, is needed.

With the peculiar condition existing along the great lakes, differing from any other in the world in their magnitude and general characteristics, comprising portions of the states of Wisconsin, Minnesota, Michigan, Ohio, Pennsylvania and New York, with Canada on the north requiring international consideration, the force of the argument in favor of a national board of health is overwhelming.

I would reiterate, if my voice could avail, that there is no question more insistingly pressing for adjustment than this need of the national government. Can the successful administration of President Taft add—I will not say glory—but more wisdom to its laurels than by seeing inaugurated and in working order this valuable and absolutely necessary medical branch?

I may mention the deaths of our carelessly sacrificed soldiers at Chickamauga and other camps and compare their condition with that produced by the utilization of our even then well-known modern bacteriologic methods by the wise Japanese in their war with Russia, and the wonderful work of our respected and revered former president of this Association, Colonel Gorgas, in Cuba and at Panama. No events in the history of medicine so well demonstrate that we now possess the knowledge, and it is hoped that the wisdom of our national legislators may enable it to be applied without stint to meet and overcome the great problems associated with the sanitation of the great lakes.

OUTLINE OF THE CURE

As it has seemed necessary to present many features connected with the sanitation of the lakes to illustrate clearly the need of a central medical body of control, it will be at least in keeping to suggest what has been in my mind for many years as an outline of the course to pursue in effecting a radical cure of the chronic progressive malady of the great lakes.

It must consist in the purification of the sewage or refuse from any source before being deposited in the waters of the lakes, which would, if it were immediately practicable, at once end all controversy. Or, were it possible to absolutely prevent the deposition of any such material in our lakes and rivers, we would have accomplished the same result.

I assume that the silt or natural material always found at the bottom of the lakes, which is held in suspension in the water in stormy weather, is non-pathogenic and need not be considered a factor in the present controversy. It can always be removed by simple filtration in the home if considered esthetically objectionable. It does not produce specific disease.

We must also continue to use our already provided intakes as the source of supply, assuming that the intake water is not contaminated by infective seepage before it reaches the distributing point or reservoir.

INITIAL COURSE TO PURSUE

It would seem, then, that the plausible initial course to pursue, so far as the immediate prevention of disease is concerned, is to prevent the further pathologic infection of lake waters. Specific infection must proceed from a disease-producing focus, as a patient with cholera, typhoid or some zymotic disease.

Eight years ago in a paper presented to a college bulletin,[4] I wrote as follows:

> Let all material from patients with enteric disease be thoroughly disinfected before being disposed of through the sewers. It will be contended that it is not practical. Let us figure a little. There were 113 deaths from typhoid fever (in Buffalo) in 1902 (the exact number per month was given). Now I submit that it is within the simple possibilities of medical practice and control to prevent the material coming from the number of cases represented by these deaths, all enteric, from gaining access to the sewers of our city. For the security of the cities of Tonawanda, Niagara Falls and others now contaminated in their water-supplies by the sewage of Buffalo, it should be done.

Since then many have advocated a similar course. There should be added measures of sanitary engineering which will effectually prevent access of infection to the lake waters from any source.

HOW WILL THE PREVENTION OF BEFOULMENT BE BROUGHT ABOUT?

Beginning on a small scale, it will broaden to a great educational factor, which will ultimately reach from the smallest hamlet of any brook, stream or river, tributary of the great lakes, to the bedside of the sick in the homes and hospitals of the cities bordering the lakes. It will continue until every reasoning being is taught to understand, appreciate and demonstrate by his acts that he may become a personal factor of great importance in influencing the health and welfare of his fellowman.

Remember that never before in history has it been possible to see with prospective certainty a sanitary condition such as we hope for; it would not have been possible prior to the conception of a Lister, the labors of a Pasteur, a Tyndall and a Koch, and the army of bacteriologic investigators of the world.

In the attainment of this ideal sanitary state we shall be benefiting the present generation, while we are or should be building for the future, not of decades, as in the past, but of centuries to come.

It is indeed a subject so great as to require the control and management of a central governmental medical body.

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IMMUNO-DIAGNOSTICS IN INTERNAL MEDICINE *

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In the presence of infection certain reaction products are developed in the infected individual. Their development is excited by the infective bacteria. This immunizing process may be due to the action of the cells or of the fluids or of both. If the process more particularly affects the cells the result is termed cellular immunity; if it affects the fluids, humoral immunity. Some of the substances formed are protective to the individual; others apparently have little demonstrable protective influence, and still others sensitize the subject. The substances formed in humoral immunity may be divided into: (1) agglutinins, (2) precipitins, (3) complement-binding substances and (4) opsonins.

The demonstration of these substances forms the basis of the serum reactions which have attained so much importance in recent years. The detection of agglutinins attained its greatest importance in the diagnosis of infections caused by typhoid, paratyphoid, and colon bacilli, in which they are specific. Strictly speaking, the latter term must be used in a relative sense, as normal serums possess a certain amount of agglutinins and it is only their demonstration in relatively high dilution that renders the reaction specific.

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[4] Alpha Omega Delta Bulletin, University of Buffalo, August, 1903.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The complement-binding principle of Bordet has received many applications to diagnosis, the most important of which is the serum diagnosis of syphilis. While numerous modifications of this method have been proposed, the original method of Wassermann still remains the most reliable. While the test requires for its proper performance the skill of a trained laboratory worker, the interpretation of the results should always be in the hands of the clinician, who should possess for this purpose a broad knowledge of immuno-diagnostics. This test is not only useful for the initial diagnosis of syphilis or for determining the presence of that disease in doubtful cases, but it has many applications as an aid to prognosis and treatment during the course of the affection.

It is quite remarkable that this reaction is not more frequently employed in controlling the treatment and management of syphilitics. One of the strongest claims for the specificity of salvarsan was the fact that it converted positive Wassermann reactions into negative ones. I am fully convinced that if syphilitics were properly managed in this age, serious recurrences and parasyphilitic diseases would be reduced to a minimum.

However, when used to control the treatment of syphilitics, this reaction should be properly understood. One negative reaction does not mean that the patient has been cured of syphilis. This, unfortunately, has been considered sufficient, especially since the introduction of salvarsan. Just how often a patient should be examined after giving a negative reaction will of necessity remain more or less speculative. In the first year I should not regard a negative reaction as an indication to suspend treatment, but I should wish to know by an occasional examination, say every other three months, whether the reaction was still negative; in other words, whether the treatment was being pushed sufficiently. This would apply equally in the second year, with but few and short intermissions of treatment. The intermissions might be lengthened in the third and fourth years. Every time the reaction is found it means, as pointed out in my first paper.[1] active syphilis, and calls for specific treatment. When the reaction persists under treatment over an indefinite period, it means active lues with all its possibilities and its resistance to treatment.

Passing over the various applications of this and similar principles to the diagnosis of such diseases as echinococcus infection, cancer, etc., I wish to take up the consideration of the diagnosis of tuberculosis by means of immuno-reactions and particularly by an application of the complement-binding principle.

Interest in the tuberculin reaction has been materially increased since the discovery of Pirquet, who found that individuals who had once suffered from a tuberculous infection or were at the time affected with tuberculosis, would react locally to the application of Old Tuberculin by the method of vaccination. This reaction is the first example of the use of such immuno-diagnostic methods for the diagnosis of tuberculosis. Following this discovery of Pirquet, a variety of vaccination methods have been devised, such as vaccination in the conjunctiva, hence the ophthalmic reaction, the percutaneous method, etc.

In regard to the subcutaneous reaction, some interesting observations were published by Franz. He found, on examining 400 men of a Bosnia regiment which came from a tuberculous district and whose members were in the first year of the service, that 61 per cent. reacted positively to Old Tuberculin. He examined a Hungarian regiment from a section with little tuberculosis and found that 38 per cent. of them gave positive results. Only a small number of the reacting individuals were demonstrably tuberculous, while a number of the non-reacting individuals were tuberculous. While these statistics might argue strongly against the specificity of the tuberculin subcutaneous reaction, there is no doubt of its value in suspected tuberculous cases in the hands of competent observers. We may say that whatever the subcutaneous method lacks in decisive diagnostic value for tuberculosis, the other methods do not possess; notwithstanding this, great claims are made for the efficiency of the ophthalmic reaction in active tuberculosis. There is, likewise, no doubt of its being a valuable aid in the diagnosis of tuberculosis; that it is not a decisive differential diagnostic recourse is generally recognized.

The skin reaction of Pirquet is a specific tuberculin reaction, but the tuberculous process may have healed out years before; as a consequence, this test is of little value in diagnosing an active process, except during infancy, although a strong reaction may at times lend additional weight to a diagnosis.

The occasional unfavorable effects of the subcutaneous injection of Old Tuberculin, together with the uncertain value of tuberculin reactions, show the desirability of a test devoid of these two objections. Efforts have already been made in this direction. They have been directed toward the demonstration of specific substances in the blood of tuberculous patients. The antibodies that have been investigated are agglutinins and complement-binding substances. Arloing and Courmont were the first to report on agglutinins in tuberculous cases. They found that the serum and serous exudates of many tuberculous patients agglutinated tubercle bacilli. This serum test has not been much tried out, evidently because it has fallen short of tuberculin reactions in simplicity and results.

Bordet, in his studies of Pfeiffer's phenomenon, discovered a new principle in immunity, namely, that of complement fixation. He was able to show by an indirect method, in which a hemolytic system was employed, the presence of complement-binding antibodies.

By means of this method he found that the blood of guinea-pigs which had been immunized with killed tubercle bacilli contained an antibody that would unite with an emulsion of tubercle bacilli as antigen and bind complement.

The discovery of Bordet opened up a great field for investigation into the presence of antibodies in body fluids by this method, and from this investigation the syphilis reaction ultimately developed.

Wassermann and Bruck investigated extracts of tuberculous tissue for tuberculin and antituberculin and found both. They believed that there existed a direct association between tuberculin treatment and antituberculin in the blood of tuberculous patients. They observed that tuberculous individuals who had no complement-binding antibodies reacted strongly to tuberculin, while those that had them failed to do so. From this, Wassermann originated an ingenious theory in explanation of the tuberculin reaction. He asserted that when antituberculin was present, it neutralized injected tuberculin and consequently no reaction occurred. If it was not present the circulating injected tubercul was attracted into the diseased focus by antituberculin, with which it united and took up complement, thus causing local congestion and the general reaction.

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[1] Butler: Serum Diagnosis of Syphilis, New York Med. Jour., Nov. 30, 1907.

Wassermann's and Bruck's experiments were confirmed by Lüdke and Citron; other workers, however, were unable to do so. Weil and Strauss, Czastka, Wolff-Eisner and Ascher, Cohn, and Butler and Mefford were unable to find any parallelism between complement-binding antibodies and tuberculin reactions, or between opsonins and the latter. All seem agreed, however, that they were able in a considerable number of cases to show complement-binding antibodies in the serum of tuberculous patients.

In association with my assistants, Drs. William E. Putz and Nora Johnson, I have undertaken an investigation into the serum diagnosis of tuberculosis on the basis of complement deviation. The majority of the patients were selected from the second and third stages of the disease, including, however, a number of suspected cases.

The technic employed in this work is that used for complement-deviation reactions. For antigens, the various tuberculins were used, including bacilli emulsion. Old human tuberculin was chiefly used. My previous experiences with it were not satisfactory; in fact, its action at times was so erratic as to raise the question of specificity of the reaction.

To avoid this difficulty in subsequent experiments we used human bacilli emulsion as antigen. It is necessary to titrate it carefully and also to repeat titrations before each test in order that it shall not be used in more than half the amount of inhibiting quantities. We also used bovine bacilli emulsion, titrating it in the same manner.

The serums are obtained in the usual way and inactivated to 56 C. for one-half hour. This is absolutely essential, as we convinced ourselves that active serums could not be used for this reaction. And as a matter of fact, the original reaction calls for inactivation. Active serums frequently contain anticomplementary substances. They may show inhibiting properties without the antigen. In the presence of antigen this may be increased evidently from a summation of inhibiting factors.

In regard to the employment of active serums for their complement, we can also state from experience that the content in complement of different serums is variable and absolutely unsuitable for the reaction.

In our first examinations we put through three different tests with all serums. In the first the serums were inactivated and guinea-pig serum added for complement. In the second the serums were not inactivated, but fresh guinea-pig serum was also added. In the third the serums were used in active state, but no additional complement was used.

We found that the first series would work out satisfactorily, the second series was erratic on account of anticomplementary substances, above referred to, and the third series showed little or no hemolysis in practically all tubes.

Fresh guinea-pig serum was used as complement and rabbit antisheep amboceptor and sheep's corpuscles were employed as the hemolytic system. Emory speaks of non-tuberculous serums anchoring complement in the presence of bacilli emulsion, the chief difference between non-tuberculous and tuberculous serums being in the latter absorbing complement in shorter time. We are not able to confirm this observation.

The protocol of a reaction would read as follows:

T. B. Bacilli Emulsion	Patient's Serum	Guinea-Pig Serum	Anti-Sheep Amboceptor	Sheep Corpuscles, 5% Suspension	Hemolysis?
0.05	0.1	0.1	0.002	1	No
0.05	0.2	0.1	0.002	1	No
0.025	0.1	0.1	0.002	1	No
0.025	0.2	0.1	0.002	1	No
0.05	...	0.1	0.002	1	Yes
0.025	...	0.1	0.002	1	Yes
....	0.4	0.1	0.002	1	Yes

The quantities of antigen and amboceptor employed are, of course, variable and depend entirely on their strength. It is necessary to titrate the antigen and amboceptor before each test. Therefore, the above is simply a diagrammatic representation of the amounts used.

The amboceptor should be used in twice the strength sufficient to hemolyze the corpuscles in from fifteen to twenty minutes.

In making the reaction, the tubes must be closely watched after being finally placed in an incubator. A reading should be made as soon as the controls on the hemolytic system, tuberculin and a few known controls hemolyze. The degree of inhibition of hemolysis varies from 1 to 4. Eventually in practically all instances the hemolysis will be complete, but the delay in hemolysis with tuberculous serums is striking in contrast to the promptness with which the controls hemolyze.

We examined the serums of 100 cases. Sixty-five of these were tuberculous or suspects. The remainder were control cases, consisting chiefly of acute infections, as pneumonia, erysipelas, typhoid fever, catarrhal jaundice, influenza, etc. The patients from whom the specimens of blood were obtained were in the tuberculous department and medical wards of the Cook County Hospital and in my Willard Hospital clinic.

Of the tuberculous cases, 72 per cent. gave a positive reaction with human tubercle bacilli emulsion as antigen and 23 per cent. gave a positive result with bovine emulsion as antigen; in only one instance did we get a reaction with bovine emulsion and not with human. Of the thirty-five controls, three gave a reaction with human tubercle bacilli emulsion. One of them was a pneumonia, another an influenza and the third case was one of rheumatism. One control gave a reaction with the bovine emulsion.

In one case of cancer and one of chronic nephritis, the heated serums as well as the inactivated serums with antigen inhibited hemolysis to some extent. This is an experience, above referred to, that we frequently observed with active serums in general and not infrequently in cancer serums which had been inactivated.

In view of the first experiences with the lues reaction, we have every reason to feel encouraged and to believe that this reaction will be brought to a high degree of efficiency in the diagnosis of tuberculosis.

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ABSTRACT OF DISCUSSION

Dr. F. M. Pottenger, Monrovia, Cal.: It is very interesting to note the difference in the attitude of both the profession and laymen toward the two diseases, syphilis and tuberculosis. If a Wassermann is found on a patient he is willing, and is at once advised to have treatment for syphilis. If a positive tuberculin test is found, in the absence of clinical symptoms, we simply say that an infection is present, but as a rule take no steps to cure it. I believe that the time will soon come and is now almost here when the treatment of tuberculosis will consist in hunting out these early infections and treating them without delay. We know that practically every child is infected with tuberculosis before his fifteenth year. If these cases were sought out at this time they could easily be healed and the healing would result, according to animal experimentation, in a considerable degree of immunity, which would protect the patient in after years. I believe the future cure of tuberculosis will consist in early diagnosis and early treatment and that it will fall into the hands of those who treat children's diseases. If we are successful in our efforts to cure tuberculosis we must employ every means possible to diagnose and treat the disease early. I hope that Dr. Butler's method will be able to show definitely the presence or absence of active tuberculosis. If so it will be a great advance.

Dr. William J. Butler, Chicago: In the employment of the tuberculin reactions, with the exception of the subcutaneous test, we should remember that they are not decisive diagnostic tests for active tuberculosis. We can also say that the subcutaneous test, where positive, is not decisive unless we can demonstrate evidences of activity in the suspected focus of infection. The statistics of Franz, above cited, as well as personal experience, substantiate the latter statement. Individuals with healed-out foci of tuberculosis may react positively to any method of inoculation with tuberculin. Under these conditions a positive reaction would not mean active tuberculosis and would not therefore call for treatment. In view of the fact that the tuberculin reactions are not decisive differential diagnostic measures, except under the conditions above mentioned, it is hoped that the investigations into the antibody content of the blood during an active immunizing process, that is, active tuberculosis, may help to dispel the present uncertainties.

NEW CLINICAL VALUES IN THE TREATMENT OF THE GASTRIC NEUROSES *

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The nervous dyspeptic has ever been a joy to the quack, the *bête noire* of the honest surgeon and internist, and a mystery to all three. Some have treated him as a hypochondriac, others so seriously as vainly to explore his interior, and yet others have sought to enfold him in that ample but threadbare diagnostic cloak which we term neurasthenia. He has been sanguinely drugged by some, abandoned as hopeless by others, and passed from hand to hand until travelling has become a fixed habit of the well to do of his species.

Those who have read the delightful lectures of Louis Bourget will recall his deliciously satirical yet true picture of the extreme form of this ailment. We also have encountered the patient with the notebook which by its copious entries of intimate yet trivial events so well expresses the vicious introspection of the unfortunate autobiographist. We have all listlessly read the distinguished names appended to his over-growing collection of prescriptions, the headings of which may constitute a complete list of continental spas.

This extreme type which even Bourget speaks of hopelessly as *diese unheilbare Krankengruppe* is fortunately the exception, and between this and the trivial and transient varieties one finds that great group of pronounced dyspeptics who represent 70 per cent. of all cases consulting the gastrologist.

No ailment is more protean in its manifestations, and because of this fact and an entire misconception of the underlying causes, its victims have in the past too generally suffered from overtreatment, mistaken treatment or absolute neglect, according to the attitude, point of view or therapeutic bias of the physician consulted.

Nervous dyspepsia manifests itself through various disturbances of the nervous mechanism of ingestion and digestion. It is essentially functional in character, concerns both secretory and motor activities, and may represent either excitation or depression of function.

Ingestion and digestion are dominated and controlled by the nervous system and a modern writer reminds us of the fact that ingestion alone demands the efficient centrifugal activity of the trigeminus, glossopharyngeus and hypoglossus, and the centripetal activity, integrity, and exact coordination of centers located in the optic thalamus, rhomboid fossa, corpora quadrigemina and anterior frontal convolutions.

The sensory and motor functions of the stomach demand not only the efficient and harmonious action of both vagus and sympathetic, but also the aid of those special senses so highly developed in the gourmand.

In the presence of malnutrition, of depressed or submerged vitality, congenital or acquired, the nervous system must suffer and complain, and proper and sufficient nutriment and efficient metabolism are indispensable to the proper correlation and transmission of those nervous impulses indispensable to normal digestion.

If then we regard the predominant type of so-called gastric neurosis as merely one expression of congenitally deficient structure and unstable function, demanding, yet always tending to depart from, a high level of nutrition, we obtain a rational explanation of its diverse relationships, bizarre manifestations and resistance to empirical treatment. We understand the successes of psychotherapists like DuBois who combine wholesome advice and proper suggestion with the upbuilding of nutrition and we cease to marvel at the good effect of rest-cures, instituted under the inadequate but satisfying diagnosis of neurasthenia.

An understanding of fundamental conditions permits a proper differentiation of cases, rational prognosis and effective therapy.

In my opinion the gastric neuroses depend not wholly on one but on three factors which may be placed thus in the order of their importance and are for the most part seen in combination:

1. *Asthenia universalis congenita.*—By far the most frequent primary cause.

2. *Chronic starvation.*—Almost invariably associated with the asthenic cases but adequate as a primary cause.

3. *Pure psychoneurosis.*—A relatively rare factor.

Asthenia universalis congenita has been described by Prof. Bernard Stiller of Budapest in a remarkable monograph entitled "Die asthenische Konstitutionskrankheit."

In a masterly discussion he shows the general depression of vital functions and the tendency to psychoneuroses and chronic malnutrition characteristic of the condition. He asserts the almost invariable coincidence of visceral ptoses and gastric atony with slender bones, a loose costal belt, an unusually movable or floating tenth rib and a tendency to obstipation. He emphasizes the importance of the tendency to rapid loss of weight under adverse conditions, and the poor resistance to acute ailments and major surgery and thus, from old iron, welds link by link a new diagnostic and therapeutic chain.

Such individuals when at their best are usually alert and energetic, but are easily rendered psychasthenic, inclined to go beyond their strength, imaginative, emotional and impressionable, and in them we find present every element necessary to the development of a gastric neurosis under certain all too common conditions.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The second cause, chronic starvation, is intimately connected both with the asthenic habitus and to a less degree with the cases classed as psychoneuroses.

Patients suffering from digestive disturbance seek to eliminate the supposedly injurious foods or to pursue one of the faddish fasting-cures, and by this personal adverse selection aided by injurious lay suggestion, the unfortunate victim is reduced to an insufficient diet or one so exclusive as to be equally injurious.

The following brief abstract of cases will serve to illustrate these points:

Case 1.—*Congenital asthenia, starvation, exclusive diet.*—A young married woman, ailing for eight months, bedridden, mother of four children, believed to be fatally ill with tuberculosis, presented a slight daily intermittent fever, extreme weakness and emaciation, and a marked anemia of the secondary type. The most searching examination failed to reveal any localized lesion.

Slight postinfluenzal indigestion and a foolish friend had led her to adopt an exclusive diet of meat and hot water eighteen months before.

The stigmata of congenital asthenia, including nephroptosis and gastroptosis with atony, were well marked, but prolonged rest, isolation, and a mixed diet brought about a rapid gain of 40 pounds and complete and permanent recovery.

Case 2.—*Starvation.*—A man, aged 40, complained of constant indigestion, "nervous exhaustion," progressive loss of weight (25 pounds) and insomnia. Solid food had been progressively eliminated from his diet and many meals consisted of but a few swallows of milk and buttermilk.

Rest, absolute reassurance after a complete examination, and six liberal feedings daily restored his previous weight, cured his so-called "nervous exhaustion," and permanently removed all signs of digestive disturbance.

Case 3.—*Congenital asthenia, starvation, profound neurasthenia.*—A professional man, aged 42, and a typical neurasthenic patient of the asthenic habitus, was "desperate" and "driven to extremities," by flatulence, insomnia and chronic obstipation.

Absolutely no signs of organic disease were revealed by a most thorough examination. Under rest, reassurance, six feedings daily and a seventh at midnight if awake, without special limitation as to foods, his recovery was prompt and permanent, his weight increasing 35 pounds.

Case 4.—*Congenital asthenia, self-starvation, simulated gastric ulcer, hysteria (anorexia nervosa).*—A young girl was admitted, apparently *in extremis* from repeated gastric hemorrhages, and extreme gastric intolerance. She had retained neither food nor water for the preceding seventy-two hours. Emaciation was excessive, physical weakness extreme, and the asthenic habitus typically shown. There was the usual movable kidney, a marked gastroptosis, and flabby abdominal muscles.

Examination failed to confirm the diagnosis of gastric ulcer. The girl had first fasted because of postinfluenzal indigestion, had become weak, anemic, and hysterical, had been repeatedly examined by various physicians and had heard and read much of gastric ulcer.

Her hemorrhages were spurious. No one had ever been present when blood was vomited and the stools were blood-free. No localized tenderness existed, yet pain, both spontaneous and induced by pressure, could be developed any and everywhere by suggestion.

Food or water was *instantly* returned and throughout her illness her vomiting bore no definite time relation to the digestive process. Reassurance, rest, isolation and suggestion, reinforced at the onset by the threat of gavage, enabled us to give six nutritious feedings daily after the first forty-eight hours. The girl gained for the first thirty days over a pound a day and has remained symptomless for five years.

Case 5.—*"Malade imaginaire."*—A stout, ruddy policeman, a peripatetic hypochondriac, accustomed to starve and gorge himself alternately, presented symptoms of gastric neurosis. His stomach was normal in size, position and secretions. The general examination was absolutely negative.

He was refused treatment with the emphatic assurance that no excuse for it existed. Leaving in anger, he next visited a notorious *x*-ray quack, received one *x*-ray exposure and a positive assurance that it had cured him, paid a fee of $100, and was healed.

Such cases could be indefinitely multiplied and would include the simple achylias, many instances in which a diagnosis of tuberculosis, gastric or duodenal ulcer, gallstones, appendicitis and even cancer had been made, but these suffice to show the effect of constitutional weakness, starvation and pure imagination in producing this ailment.

TREATMENT

Cases of misdirected imagination need suggestion in its strongest form and little more, as is illustrated by Case 5, but the more common types demand and merit careful consideration for their disease is not imaginary and their suffering is real and at times extreme.

Treatment should properly commence in childhood, but this phase cannot receive adequate consideration within the limits of this paper.

Under proper conditions even the severest types in the adult may be entirely relieved, but these demand an expenditure of considerable time and money on the part of the patient, and skill and tact on the part of the physician and nurse.

Treatment of the ordinary case in the adult must be based on the fundamental proposition that the patient is suffering from impaired nutrition which affects practically every organ and function of the body, and from mechanical displacements of the abdominal viscera which under such conditions assume a serious aspect, though usually symptomless when the nutrition is improved.

One seeks, therefore, to obtain for them such rest and improved nutrition as can usually be had only in a hospital and with the services of a special nurse, and in most cases a persistent psychotherapy must be maintained because of the accompanying psychasthenia.

Every attempt at cure must be initiated by a thorough examination of the entire body and especially of the stomach, and a positive and emphatic statement as to the negative or trivial findings obtained.

In the milder cases the patients, and especially such as lack the asthenic basis, may be treated as office patients or in the hospital under ward nurses, but many failures or only temporary cures must be anticipated under such conditions.

The most difficult problem is presented by the poor asthenic who cannot follow the ideal treatment. Some may be greatly benefited by proper instructions as to diet and rest, a simple explanation of the nature of their trouble and the simple procedures indicated.

The *x*-ray examination readily demonstrates the fact that gastric atony and the vertical fish-hook stomach accompany nearly all of the gastric neuroses, and that in active cases emptying of the abnormally placed viscus is delayed from one or both of two causes — first, atony; second, spasm of the pylorus associated with hyperacidity of the gastric secretions. The pain associated with the latter is frequently confounded with that of appendicitis.

Using the pain onset as the gauge, a patient may obtain marked relief by taking a recumbent position on the right side or assuming the knee-chest position for several minutes at short intervals following a meal. Peristalsis may be further assisted by massage or by having the patient clasp the left knee and make strong intermittent pressure of the thigh against the abdomen while lying halfway between the prone and the lateral position.

Helpful suggestion, abundant nourishment taken in small quantities and at short intervals, attention to any existing anemia, and the mechanical aid afforded by the before-mentioned procedures accomplish wonders in many patients.

Stiller's work has placed the whole subject on a new foundation and in the light of our present knowledge it becomes ludicrous to treat gastric atony as a local disease or to attempt to correct secretory excesses, perversions or deficiencies by drugs and diet alone.

Furthermore, the physician is at last in a position to appreciate the *raison d'être* of the wonderfully kaleidoscopic pain picture possible in the gastric neuroses and to understand why so many of its victims bear the scars of futile operations.

Time will not permit an extended discussion and I trust that my paper will be regarded only as an attempt to call attention to the basic features of an important and distressingly common ailment offering every opportunity for successful treatment in the light of a rational etiology.

In closing I shall summarize as follows:

1. The gastric neuroses whether motor or secretory depend almost wholly on an underlying asthenia.

2. This asthenia may be acquired or temporary, may be due to self-starvation or other debilitating causes, but almost always represents a chronic congenital insufficiency of body structure and function, producing a peculiar nutritional instability.

3. So-called passive neurasthenia or psychasthenia is most frequently seen in individuals of the asthenic habitus and is but a part of the clinical picture though a genuine and troublesome complication.

4. Gastroptosis produces symptoms only in the presence of atony or marked secretory changes and does not justify primary operative procedure.

5. The same statement as to the unwisdom of operative interference applies to other displacements such as movable kidney and certain uterine malpositions.

6. Certain cases occur in which no structural abnormality exists. Of these some are due to self starvation, others occur in the robust individual who represents the *malade imaginaire*.

7. Under proper conditions the gastric neurosis of the common type justifies hopeful prognosis.

8. Pain manifestations are so variable as to site, severity, character and persistence as to lead frequently to erroneous diagnosis and futile operative interference but rational non-surgical treatment affords relief in the greater number of cases.

9. Cases of the chronic congenital type bear surgery badly and usually obtain from it either definite harm or but slight and transient improvement.

10. Simple procedures may give great relief in mild cases and to those patients whose means will not permit the institution of the proper treatment but under the latter conditions failures are frequent.

11. All severe or persistent cases demand isolation, rest and hypernutrition, combined with helpful suggestion and the minimal use of drugs.

Finally, in our modern treatment of the dominant asthenic type of gastric neurosis we are successfully attacking the most common cause of chronic invalidism.

150 Lowry Arcade.

ABSTRACT OF DISCUSSION

Dr. Walter B. Cannon, Boston: It has long been known that the most efficient stimulus for the stomach and intestine is the mechanical stretching to which they are subjected: when we consider any mechanical stretching it means, of course, that there must be something to be stretched. This is a matter that should be kept clearly in mind. To illustrate what I mean, we may regard the effects of stretching on a rubber band. If an old rubber band is pulled out, and remains out, it is not stretched; if, on the other hand, a fresh rubber band is pulled out, and it goes back again, such a band has been stretched. The condition of the alimentary canal is somewhat analogous to the condition of the rubber band. Under certain conditions the alimentary canal is incapable of being s[illegible] then the introduction of materials into it does not br[illegible] activity. This has been noticed by numerous obser[illegible] the stomach, for instance, has been in a relaxed cond[illegible] a long time, the introduction of material will not [illegible] peristalsis. The same thing is true of the large inte[illegible], it is in a similar condition of relaxation, which has continued for any length of time, the introduction of food into the organ will not result in antiperistaltic waves.

These are matters which relate to the influences of the central nervous system on the alimentary canal, and especially the influences coming through the vagus nerves; the gastro-intestinal tract to the ileocolic valve receives its "motor" impulses entirely through the vagi. If these nerves are severed, the alimentary canal for days will have only a slight activity. There is, therefore, a tonic state dependent on the connection between the alimentary canal and the central nervous system. I should like to emphasize again the point brought out by Dr. Greene with regard to the atonic condition of the alimentary canal, that it is not merely a local condition but one which results from the bodily state of the whol individual. This, I believe, is a very important point and wel worthy of consideration.

We have evidence to show that a tonic state of the stomac and intestines is produced when the animal takes food. I hav severed the vagus nerves before the animal was given food and as a result I have seen the food in the stomach remain ther for hours. If the vagi are severed after the animal has bee given food, however, digestion will go on quite undisturbe This indicates a discharge of tonic impulses along the vagu nerves during the time the food is taken.

There are further to be considered the emotional influence such as fear and worry, which, acting through the splanchni nerves, cause a lessening or abolition of tonus. These influenc may stop not only motor but also secretory functions. I hav brought these matters before the Section because I wished t corroborate from my laboratory studies the point which D Greene has so strongly brought before you, that the activitie of the gastro-intestinal tract are intimately related to th entire bodily state of the individual.

Dr. Frank Billings, Chicago: I am entirely in accor with what Dr. Greene has stated in his paper. What Dr. Ca non has said agrees with what all of us have met in our cli ical observations. I wish to discuss the question of surgic interference in this class of cases. The medical managemen of course, must vary with every individual and with every typ of patient suffering from a gastric neurosis. I think that t surgeon with widest experience has now learned that he shou not interfere with these patients surgically. All over th country, I am sorry to say, there are many men who have n learned this. We continually find patients, especially in t large centers, who have been treated by surgeons and who hav of course, expected to be bettered by the treatment; they hav however, become worse. Many of them have become very mi erable, and this has brought discredit on the proper manag ment of these cases. It is to be understood that there may a surgical side of the question in these cases sometimes. The may exist a focus of infection, for instance, which will ha an influence on the nervous system and produce disturbanc of the gastro-intestinal tract. These are the cases in whi surgery should interfere. Sometimes there may be troub caused by an appendicitis, by disease of the gall-bladder, or gastric ulcer; again there may be a cystic degeneration of t ovary which causes trouble. These are the cases to which the surgeon is invited. These patients should not be interfered with surgically unless there are distinct indications.

Dr. Seale Harris, Mobile, Ala.: I agree with what Dr. Billings has said in regard to the surgical interference in cases of gastric neurosis. I have seen many mistakes made by surgeons in operating on these patients, and I am sure it would have been well if the paper just read could have been read before the Section on Surgery as well as before the Section on Practice of Medicine. There appears to be a tendency on the part of surgeons to operate on all patients with chronic indigestion. I recently was surprised to hear a distinguished surgeon state that if a patient suffering from indigestion did not respond to treatment in a given time, the gall-bladder should [illegible]ed or the appendix removed. Surgeons are frequently mo[illegible]h operations on these unfortunate sufferers. The [illegible] a few years ago, was the organ most frequently [illegible] by surgeons. To illustrate this phase of the question [illegible] to relate an instance. The patient was a woman who came [illegible] me two years ago; she had been advised by a surgeon that she had an ulcer of the stomach and that her only relief was in the operation of gastro-enterostomy. She had lost weight, she was very nervous, she had much pain, she had hyperacidity and many other symptoms of gastric ulcer. This was a case that should have been carefully studied. After a thorough examination I was convinced that she had no gastric ulcer and that a gastro-enterostomy would probably have increased her symptoms; the operation, too, might have resulted in her death because of the low state of her nutrition. I advised the "rest cure" and employed psychotherapeutic measures with her. All the symptoms subsided in two months, without operation, and she gained 30 pounds. Many of you present, no doubt, have had similar cases.

One should make a careful and accurate examination of these patients. Indeed there is no class of cases in which the physician should be more careful in his history taking than in these patients. In getting the anamnesis it is very important not only to get a complete history of the symptoms complained of, but also of emotional disturbances to which they have been subjected, which might bring on gastric symptoms. At least [illegible]0 and, perhaps, 90 per cent. of the patients whom I have treated for digestive troubles are instances of gastric neuroses. These neuroses not only occur in women, but in business and professional men who have been overworked. When a patient comes for an examination with symptoms such as have been described, one should inquire if such a patient has been overworked. Has he had too long hours of work? Has he the worry habit? These are the things that give trouble in so many cases. The business man may have many difficulties to encounter of a financial nature; if so, he may be a sufferer from digestive disturbances. It may be the wrong husband, or wrong wife, or perhaps the proverbial mother-in-law, that is the cause of gastric symptoms in a person of neurotic temperament; if so, the readjustment of marital relations sometimes cures the patient. With regard to the treatment of the gastric neuroses in overworked business or professional men, it is apparent that their mode of life should be changed. They should work fewer hours each day, and have regular hours for rest and recreation. Eight to ten hours in bed at night and an hour's rest after the noon meal will sometimes work wonders in such cases. Such patients should also take increased nourishment and plenty of pure water between meals. This modified rest and forced feeding plan gives most excellent results.

Dr. Charles L. Greene, St. Paul, Minn.: I was glad to hear something regarding the work that Dr. Cannon has carried on in the laboratory in Boston; the work that he has brought before us is certainly very valuable and we are all glad to learn of it. With regard to surgery in relation to the disease under discussion, I brought this before you in my paper. One of the last patients whom I saw before leaving home was plainly a case of gastric neurosis with the neurasthenic habit very well marked. As Dr. Billings has stated, there is too much operating on these patients. As the result of treatment instituted, I have had a great improvement in these cases during the past few years. It may be interesting to report that, on my way here, I was asked by one of our leading surgeons if he could not read the paper which I was to present before this Section. When he had finished reading it he offered only one criticism—that the surgeons had not been hit hard enough. There is no question about the value of Stiller's work in this class of cases. Any of you who have the opportunity of reading his work should do so. The only papers in English that I am aware of which deal with this subject are two in number. One was published some years ago in the *Cleveland Medical Journal* and the other appeared in the *New York Medical Journal* six or more weeks prior to this meeting. After reading Stiller's paper, as well as others that have appeared on this subject, one will have a far better idea of the stigmata of the condition which has been designated as "chronic congenital asthenia." I think it is important that the general physicians of this country should understand that this class of cases, a class of patients called "chronic invalids," was designated under the wrong term; the term employed was in fact a misnomer.

COMPLEMENT IN HUMAN SERUM *

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C. C. Bass,[1] in "A New Conception of Immunity," draws interesting conclusions from several statements, the experimental proof of which he unfortunately does not give. The broad application made of the principles stated, and the fact that, as stated, they are contrary to generally accepted ideas, encouraged the following brief experiments.

The statements referred to are as follows:

"Human complement capable of acting with human amboceptor to produce lysis . . . is destroyed by any temperature above normal body temperature. . . . A temperature of 40 C. (104 F.) destroys complement in human serum in from fifteen to thirty minutes and prevents lysis regardless of the amount of amboceptor employed."

"Freshly drawn human blood contains little or no complement capable of acting with human amboceptors. . . . No human specific complement develops at ordinary fever heat, 38 to 40 C. (101-104 F.), such as obtains locally and often generally in most inflammations."

"In the event that human complement has developed in a blood . . . it again disappears in from thirty to seventy-two hours. . . ."

EXPERIMENTS

Experiment 1.—Five human serums, all of which had been on the clot for over seventy-two hours, were withdrawn and tested for complement before and after heating at 40.5 C. for thirty minutes.

To tubes, each of which contained 0.25 c.c. of a 2 per cent. suspension of washed calf-cells and 0.25 c.c. (two units) of a 1-600 dilution of inactivated serum of a rabbit immunized to calf-cells, was added the human serum in the following amounts: 0.8, 0.4, 0.2, 0.05 and 0 c.c. A similar series was set up for each patient with like amounts of serum heated for thirty minutes at 40.5 c.

Patients A and B gave no hemolysis with either heated or unheated serum. Patient C gave complete hemolysis with 0.4 c.c. of serum, both heated and unheated. Patient D gave slight hemolysis with 0.8 c.c. of serum, heated and unheated. Patient E gave complete hemolysis with 0.8 c.c. of serum, and almost complete with 0.4 c.c. heated and unheated.

This experiment shows that complement may still be present in serums over seventy-two hours old capable of completing a lytic system and that such complement is not destroyed by thirty minutes' heating at 40.5 C. It would be remarkable if human complement capable of acting with a calf immune system were not destroyed by thirty minutes' heating at 40 C., while "human complement capable of acting with human amboceptor to produce lysis" were thus destroyed. As, however, the article in question[1] specifies the latter, the following experiment was performed to determine this point, as well as the truth of the statement that "freshly drawn human blood contains little or no complement capable of acting with human amboceptors."

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* From the Pathologic Laboratory, St. Luke's Hospital, New York.

[1] Bass, C. C.: The Journal A. M. A., Nov. 4, 1911, p. 1534.

Experiment 2.—A normal individual was bled directly into an equal amount of citrate solution in a water bath at 41 C. The cells were immediately centrifuged off, and varying amounts of the supernatant fluid added to a 5 per cent. suspension of sheep-cells previously sensitized with human serum containing natural sheep amboceptor, and set up in the bath at 41 C. Incubation was at 41 to 43 C. for thirty minutes.

The remainder of the supernatant fluid was retained in the bath at 41 to 43 C. for thirty minutes and then added to sensitized cells.

To tubes, each of which contained 0.25 c.c. of a 5 per cent. suspension of washed sheep-cells and 0.125 c.c. (=2 units) of human serum containing antisheep amboceptor, inactivated one-half hour at 56 C., was added the citrated plasma, prepared as above described, in the amounts given in Table 1.

TABLE 1.—COMPLEMENT CONTENT OF PLASMA OF NORMAL INDIVIDUAL

Citrated Plasma	Result	
....	With Fresh Plasma	With Plasma Heated 30 Min. at 41 C.
	Hemolysis	Hemolysis
0.6	Complete	Complete
0.3	Complete	Complete
0.15	Almost complete	Almost complete
0.075	Partial	Partial
0.0375	Slight	Slight
.0	None	None

Experiment 3.—Two patients, one with a temperature of 104 F., the other 104.5 F., were bled directly into equal amounts of citrate solution in a water bath at a temperature of 42 C. The cells were at once centrifuged off and the plasma thus diluted added to sheep-cells sensitized with human serum, as in Experiment 2, already in the bath at 42 C. Incubation was at 42 C. for thirty minutes.

TABLE 2.—COMPLEMENT CONTENT OF PLASMA OF FEBRILE PATIENT

Fresh Citrated Plasma from Febrile Patients	Result	
	Patient A	Patient B
	Hemolysis	Hemolysis
0.6	Complete	Complete
0.3	Complete	Complete
0.15	Complete	Almost complete
0.075	Partial	Partial
0.0375	Silght	Silght
.0	None	None

From the above experiments the following conclusions seem justified:

1. Human complement capable of acting with human amboceptor to produce hemolysis is not destroyed by a temperature of 41 C. for thirty minutes.

2. Freshly drawn human blood contains a considerable amount of complement capable of acting with human hemolytic amboceptor, and such complement is not destroyed by heating at 41 C. for thirty minutes.

3. The blood of a patient with a temperature of 40 C. contains complement capable of acting with human hemolytic amboceptor.

4. Complement does not necessarily disappear from human serums in seventy-two hours after withdrawal from the body.

RABIES IN A HUMAN BEING, WITH POST-MORTEM

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Since the introduction of the Pasteur treatment, deaths in human beings due to rabies are rare. It is a blot on public health legislation that they should occur at all. Of all the serious diseases, rabies is the most easily prevented, and yet, when symptoms are once manifest, death is certain. Proper support of health measures would make fatalities from rabies unnecessary.

By courtesy of Dr. R. L. May, of Jacksonville, I have the privilege of reporting the following case:

Patient.—March 12, 1911, Dr. May was called to see a boy with severe throat symptoms and inability to swallow. It was at first thought that possibly this might be due to some of the commoner throat affections, probably diphtheria. On examining the throat, however, nothing definite was revealed and the forcible depression of the tongue during the examination seemed temporarily to enable the patient to swallow a bit of medicine which the doctor administered. When the boy tried to drink some water it was forcibly expelled through nose and mouth and a general convulsion was noted. Aside from this the patient's condition did not seem very serious and the doctor left, stating that he would call again.

History.—A few hours after leaving the patient, Dr. May received a hurry call and on returning found the patient very much worse. The boy was more nervous, the respiration was interfered with, and the muscles of deglutition were paralyzed. This aroused the doctor's suspicion and he began to inquire about the possibility of the boy's having been bitten by a dog, and learned that some three weeks previously a stray dog had made its appearance about the premises and the boy had captured it, intending to keep it as a pet. The dog seemed somewhat vicious at times and, when the boy was tying it up, bit him severely on the calves of both legs. The father, in attempting to help the boy tie the dog up, was bitten on the wrist but not very severely. Two other children were also bitten by the same dog but so far nothing had come of it. Shortly after this the dog escaped and nothing further was known of it. Three days before Dr. May was called, the child went to bed without supper, complaining that he did not feel well. The following day the condition seemed to be the same and he refused food and drink of all sorts with the exception of a small quantity of milk. In drinking the milk the child complained of feeling coffee-grounds in it, and the family, in order to humor the boy, obtained a tube for him that he might see that there was nothing of that nature in the milk.

Course.—As the disease progressed he seemed to grow thirsty and would ask for water, but when it was brought to him he would strike the glass out of the hands of those bringing it, or would jump out of the bed in various directions, as though he were frightened and trying to escape. The child ate nothing from the onset of the illness, on a Sunday evening, until the time of his death, which occurred late Wednesday afternoon of the same week. In order to determine definitely the cause of death, permission for autopsy was obtained.

AUTOPSY

External Macroscopic Examination.—The body was that of a poorly nourished male child, 9 years old, symmetrical in outline, development fair, no deformities. Conjunctivæ and mucous membranes were very pale. Eyes were sunken and rolled upward, pupils dilated to about 6 mm. in diameter; rigor mortis was present throughout, most pronounced in upper extremities, especially the jaw. There was no oozing from mouth or nose; teeth were irregular; mouth could not be opened; both sides of the face presented marked swelling which extended uniformly down the neck to the upper part of the chest; on palpation this swelling crackled, showing the condition to be one of emphysema extending down as far as the nipples on the chest and as far as the elbows on the arms. No especial redness was connected with this, such as one would expect in a swelling of an acute inflammatory nature. Dependent parts showed hypostatic congestion. Genitalia were normal. There was no edema of extremities.

Internal Macroscopic Examination.—Abdomen: Subcutaneous fat was scanty. The serous surfaces were smooth, moist and glistening, and there was no increase in the peritoneal fluid. The intestines were slightly distended with gas but appeared to contain a diminished amount of fecal matter. In places intestines showed darkened areas as of hemorrhage in the mucosa. On opening the small intestines a large worm of the type *Ascaris lumbricoides* was found; a smaller worm of the same type was also found in the stomach. The intestinal mucosa showed marked hyperemia which in places amounted to oozing hemorrhages, Peyer's patches showing the most marked injection. The other abdominal organs, on superficial inspection, presented no marked lesions. Time did not allow as careful an examination as would be desired here. The bladder was partly distended with urine.

Thorax: The mediastinal tissues were congested and markedly emphysematous, showing large blebs throughout. The lungs were emphysematous, cyanotic, congested and edematous. The chest was free from adhesions. The pleural fluid was not markedly increased. The heart showed no abnormality.

Head: A bulging of the meninges was found when the skull was opened. The meninges were redder than normal and the blood-vessels of the brain were congested. The brain substance was edematous, and on section showed small punctate hemorrhagic areas. A viscid exudate was noted on the mesencephalon, dorsally. It seemed that the general appearance of the brain was of a rather viscid quality, though not very marked.

At times it seems that there is a peculiarity about the appearance of the brains of animals in which we find Negri bodies within the nerve-cells. The gross findings in general are very indefinite and negative. The intestinal tract is as a rule empty on account of the animal's inability to swallow. In a certain number of cases a number of foreign substances such as pieces of wood, stones, etc., are found and considered characteristic. The microscopic examination, however, is characteristic and diagnostic.

Microscopic Examination.—In this autopsy we took pieces of Ammon's horn, cerebrum, cerebellum and mid-brain. From each of these we made smears, according to the custom of this laboratory. The smears were stained by the Anna Williams method, as follows: Smears are fixed in neutralized methyl alcohol for ten seconds, and then stained in a mixture of acid fuschin and methylene-blue. (Methyl alcohol 500 c.c., sod. bicarb. 0.25 gm., picric acid 0.397 gm., the fixative. Saturated alcoholic methylene-blue 5 drops, saturated alcoholic fuchsin 1 drop in 10 c.c. of distilled water, constitutes the stain. Slides are flooded with stain as they are in staining for tubercle bacilli and heated to steaming for a few seconds to one minute, washed in tap water, dried and examined in oil.)

In all the smears examined we found Negri bodies, many of which were outside of the cell, but definite numbers were also found within the protoplasm of the large ganglion cells, in one of which my assistant, Dr. Mills, counted six definite, typical Negri bodies. Other pieces of brain-tissue were hardened in Zenker solution, sectioned and stained with hematoxylin and eosin. In the sections from the hippocampus, Negri bodies were found within the ganglion cells. In this stain they are eosin-staining with small vacuole-like formations in place of the "inner bodies" which stand out like granules or nuclear structures in the Anna Williams stain.

In addition we inoculated three rabbits, two subdurally, and one intravenously in the lateral veins of the ear. One of the rabbits died from the operation (subdural), but the other two survived the operation and died with typical rabies on the nineteenth and twenty-third days, the rabbit with the intravenous inoculation dying on the twenty-third day after inoculation. The brains of each of these rabbits showed Negri bodies in smears from Ammon's horn.

From the negative nature of the gross morbid anatomy, from the finding of Negri bodies in the ganglion cells in Ammon's horn and the reproduction of the disease by inoculating an emulsion in two rabbits which later died with symptoms of rabies (their brains again showing typical Negri bodies), we have a right to conclude that we were dealing with a case of rabies in a human being. This has been further borne out by the fact that a number of animals which were inoculated with brain-emulsion of animals, in which no Negri bodies were found, have continued well for a number of months. Other animals were inoculated with negative brains at the same time that the above inoculations were made and are well and show no symptoms at the present writing. Other positive brains were inoculated into rabbits subdurally. Intramuscular inoculations deep into the muscles of two guinea-pigs were made of an emulson of the brain of a rabid dog, which inoculations resulted in death from rabies on the fourteenth and seventeenth days, respectively, after inoculation. The brains of each guinea-pig showed Negri bodies. The dog whose brain was used in these inoculations was one of especial interest to the local health authorities, because the owner of the dog and a friend of his, who was a dog-trainer, declared that the dog did not have rabies. The dog, however, died of rabies and showed the presence of Negri bodies in the ganglion cells of the hippocampus and, as stated above, the inoculation of his brain-emulsion reproduced the disease in two guinea-pigs. The owner of this dog had been bitten by a bitch, a sister of the dog in question, and he died with typical rabies in spite of the fact that he had had nineteen anti-rabies inoculations.

HISTORY OF RABIES

E. Marx[1] speaks of the first reference to rabies as follows: "The first indication of the mania is perhaps found in that place in the Iliad in which Homer represents Teucer as calling Hector a mad dog."[2] Aristotle, in speaking of diseases among dogs, speaks of rabies thus: "Of these, lyssa (rabies) causes mania, and whatever is bitten by those bitten, goes mad except man." (322 to 284 B. C.) Democritus is said to have spoken of the disease in the fifth century before Christ. Celsius, in the first part of the Christian era, is the first to refer to human rabies and employs the term hydrophobia. Galen also spoke of the disease (second century, A. D.). The transmission of the disease to man by wolves was recorded in 1591. During the latter part of the eighteenth and the beginning of the nineteenth centuries the disease extended over all Europe; about that time it also made its appearance in America where the first outbreak was reported from Boston, in 1768. In 1779 it appeared in Philadelphia and in the state of Maryland. In 1785 it became prevalent in the northern states and soon after spread to the southern states. In 1803, and for a number of years following, it was epizootic among foxes in southern Germany and Switzerland. During the last century the disease has caused heavy losses among farm animals in Europe and America.

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[1] Kolle and Wassermann: Handbuch der Pathogenen Mikroorganismen, iv, part 2, p. 1264.

[2] "Die erste Andeutung über die Tollwut ist vielleicht in jener Stelle der Ilias zu sehen, in welcher Homer Hector von Teucrus einen wütenden Hund nennen last."

Some of the leading men who have studied the disease carefully are the following: John Hunter in England. Viborg in Copenhagen. Waldinger in Vienna, Hertwig in Germany and Pasteur in France.

PREVALENCE

The disease exists in all countries except Australia, where it has been kept out by the most rigid quarantine laws. Recently England has been free, due to the proper enforcement of muzzling regulations. The following table is cited by Jordan.

Year.	Cases of Rabies.
No muzzling regulation, or an ineffective one.	
1887	237
1888	160
1889	312
Muzzling enforced.	
1890	129
1891	79
1892	38
Opposition to muzzling: ordinance relaxed.	
1893	93
1894	248
1895	672
Muzzling again enforced.	
1896	438
1897	151
1898	17
1899	9
1900	0

Such figures speak for themselves. Proper muzzling will prove efficient wherever enforced. In addition to muzzling, all dogs brought into England are kept in quarantine for six months and a careful history of the dog is recorded.

The disease is common in France, Belgium and Russia; in Russia most common among wolves. It is rare in Holland, Denmark and Sweden. It now exists in every part of the United States.

ETIOLOGY

The etiology of rabies is still a more or less disputed point. In 1903, A. Negri, of the University of Pavia, described bodies which he found in the large ganglion cells of Ammon's horn (hippocampus major). He believed these to be protozoa and the etiology of rabies. These bodies vary in shape and size, from 0.5 to 23 or more microns in diameter, and are round, oval or irregular in outline. The round and oval forms are most common. The bodies grow as the disease progresses and are found both intracellular and extracellular. The largest bodies are usually extracellular but occasionally one finds very large bodies within the ganglion cells of the hippocampus in the protoplasm of the cell, but never in the nucleus. They are always found in the brain (protoplasm of ganglion cells) of an animal in which the disease has run its full course. The bodies are larger in long drawn out cases than in those with an acute rapidly terminating illness. The Negri bodies can be found in all parts of the central nervous system, but with difficulty in such parts as do not have large ganglion cells. They are found in the largest numbers and attain their greatest size in Ammon's horn. It is not to be inferred, however, that the portions of the brain showing the most and largest Negri bodies are the most virulent. On the contrary, it is often found that the more virulent the infection the smaller are the Negri bodies, and they may not be found at all in the spinal cord in such cases. In animals inoculated with a fixed virus the bodies, if found at all, are so small that it is difficult to recognize them as Negri bodies. That these bodies are specific has been very well established. That they are protozoa and the original infective agent is not so satisfactorily proved or so generally believed. The structure of the body, however, its varying size and shape, with a tendency to send out pseudopodia, argues for the protozoan, rhizopodan nature of the body. The protozoan theory is further supported by the fact that quinin will neutralize the virus in the test-tube (Reichel). That the presence of Negri bodies in the brain means rabies has repeatedly been proved. In our present epidemic we have inoculated, from cases definitely positive, according to microscopic examination, three rabbits and two guinea-pigs, each of which developed rabies and died in due time, and when examined showed the presence of Negri bodies in their brains. At the same time a number of rabbits and guinea-pigs were inoculated with emulsion of brains from animals, which did not show the presence of Negri bodies by the microscopic examination, and all of these animals are alive and in good condition. Previous to our present epidemic we inoculated a number of rabbits with emulsion of negative brains and all of them are alive and in good condition. Such experiments have been carried out in all of the leading laboratories and ought to be convincing to the rabid skeptics.

The disease is either of the furious or the dumb type. In the furious type the animal is extremely restless and very irritable, snapping at everything which it sees in motion and sometimes at objects not in motion. A dog of the furious type will suddenly leave home and may be gone for several days, during which time it may have traveled many miles, but it finally returns home in the last stages of the disease and paralysis sets in. In the dumb type the animal rarely, if ever, bites, owing to the early paralysis of the jaw. Here there is a progressive paralysis. In both types of the disease there is a terminal involvement of centers controlling deglutition and respiration.

The infection is always transmitted by the bite of a rabid animal. The saliva of such animals contains the infection which we speak of as street virus. Not only is the saliva of the animal virulent, but it has been found that any portion of the central nervous system will produce the disease if emulsified and inoculated. The infection travels along the nerve from the bite or site of inoculation centripetally, and when it reaches the brain, symptoms become manifest, from which time all hope of a cure must be abandoned. That it is a slow-growing infection along the nerve-trunks has been claimed on account of the following experiments:

A number of different animals have been inoculated directly into the sciatic nerve and, after incubation of varying lengths of time, these nerves have been taken at various levels, pieces of which have been emulsified and inoculated into other animals. The more central portions have failed to reproduce the disease while those closer to the site of inoculation, i. e., distal portions of the nerve or cord, have given positive results. In some of these the distal portions of the spinal cord have given positive results while the medulla and thoracic and cervical portions have given negative results. That the growth along the nerve-trunks is the only method by which the infection takes place seems to be disproved by the experiments of Konradi, who inoculated a number of pregnant rabbits and guinea-pigs, and found that the young, born nine days before symptoms became manifest in the mother, were infectious to guinea-pigs, when their brains were inoculated subdurally into the experimental animals. A number of cases are cited in which fetuses were removed from the mother dead of rabies, and an emulsion of the brain of each fetus was inoculated, with resulting rabies and demonstration of Negri bodies in the inoculated animal. One must first conclude from this that the infection was circulating in active form several days before symptoms were manifest in the mother. The presence of the virus in the saliva has been demonstrated as early as the thirteenth day before symptoms (Konradi). Schindler, in his work on rabies among rodents, obtained positive results in 30 per cent. of rodents fed with Berlin fixed virus. Pace reports a positive result from inoculating the emulsified cicatrix from a child dying with rabies.

The incubation period varies with the severity and location of the bite, the virulence of the virus, and the species of the animal biting and bitten. The virus of wolves is more virulent than that of dogs. The saliva of man is less virulent than that of dogs. In monkeys the disease becomes attenuated. Reichel gives the following table for the average periods of incubation:

Man	14 to 90 days
Cats	14 to 60 days
Horses	21 to 90 days
Rabbits	9 to 90 days
Dogs	14 to 60 days
Cows	14 to 80 days
Swine, sheep, goats	21 to 60 days
Guinea-pigs	8 to 60 days

There are rare instances in which man has developed symptoms after the hundredth day. One authentic case is reported in which the disease developed in a dog after the 365th day. Much longer periods have been observed by Konradi.

Bites about the face or any exposed surface are more serious than bites through clothing. Sixteen per cent. of untreated persons bitten by rabid animals develop rabies and die. This percentage is based on figures varying from 3 per cent. to 32 per cent. Among dogs, 67 per cent. of those bitten develop rabies.

The diagnosis is difficult to make clinically and should always be confirmed by a reliable laboratory. Veterinarians lay a great deal of stress on the peculiarity of the howl which, together with snapping and the ceaseless unrest, is considered pathognomonic. Hydrophobia does not exist in dogs, but is more or less marked in man. It has been stated that it is the fear of swallowing the liquid and the pain it causes, rather than any fear of the water itself. In two recent fatal cases in human beings at Jacksonville, Florida, the onset of the disease was characterized by headache and extreme nervousness. One of the patients would go into convulsions on the slightest provocation. The breathing is affected early. In both of the local cases insomnia was present from the onset. The second case referred to was that of a large well-built man, about 30 years old, who was bitten just above the eye. Treatment was started on the fourth day, but he developed symptoms on the nineteenth day after the bite, and died on the twenty-first.

PROGNOSIS

The prognosis is most grave. The diagnosis of rabies means certain death, a death most horrible to behold, and agonizing beyond description for the patient. There are, however, a few isolated reports of cases of rabies with recoveries. Joseph Koch, of Berlin, reports a number of instances in experimental animals and one case in a man. The animals inoculated with emulsions of positive and suspicious brains would develop symptoms which would last one week or more, and then would gradually recover. Some of these animals were later killed and emulsions of their brains gave positive results, typical rabies. One instance is cited in which a dog, while showing positive rabid symptoms, bit a man; the dog recovered, but the man developed rabies and died.

In another case a white laborer, aged 57, was severely bitten on the arms by a dog whose brain showed typical Negri bodies. Treatment was started on the third day after the bite. On the fifteenth day the patient complained of pressure in the stomach, headache and insomnia. On the morning of the seventeenth day, when going for treatment, he had to be supported by persons on either side, and on entering he said: "My legs are so weak that they can no longer carry my body; they are as if dead." The condition increased in severity until there was a partial paralysis of arms, legs, muscles of neck and face, and he became unable to close his eyes or pucker his mouth to whistle. On the thirty-second day paralysis of the bladder and bowels were made manifest by frequent involuntaries. Until the fifty-second day the condition was most grave, but from that time on a gradual improvement was noted and the patient was able to go to his home on the seventy-second day, after fifty-seven days illness. Some slight paralysis of the face and muscles persisted producing an ectropion of both eyelids.

The case was considered one of atypical rabies. The possibility of a luetic paresis was excluded by a negative history and a negative Wassermann reaction. We have, therefore, a well-developed case of rabies with recovery. It is unlikely that the course described could be due to treatment, since thousands of others have taken the same treatment, many of whom were delicate children, and none of them have shown any symptoms.

Other instances are recorded by Konradi and others.

TREATMENT

The treatment is entirely prophylactic and should be begun as soon as the person is bitten. The wound should be cauterized at the earliest possible moment, in order for cauterization to be of value, and one might say that if half an hour elapses cauterization is useless. The Pasteur treatment should be begun at once and given in accordance with the severity of the bite. The Pasteur treatment has reduced the average mortality from 16 per cent. for untreated patients to an average of 1.2 per cent. for treated patients. Of 24,000 patients treated at Charkow between the years 1888 and 1908, Kozewaloff reports 266 deaths, or 1.1 per cent. Of these, 161 died fifteen days after completion of treatment or later. Of the fatalities, 16.25 per cent. were of persons bitten by wolves, while the next highest percentage is that in persons bitten by dogs; 0.98 per cent. were fatal. In the cases in which symptoms develop either with or without the antirabic treatment there does not seem to be anything to be done except to try to keep the patient as comfortable as possible. Opiates in their various forms are useless to produce sleep. As much as 10 grains of morphin have been given in about eighteen hours' time without producing sleep. Chloroform should be resorted to in such cases as soon as the symptoms are definitely established, and the patient kept unconscious for many hours, the length of time depending entirely on the character of pulse and respiration. Since recoveries have been reported, as quoted in this paper, it might be possible that if the wear and tear of the convulsive stage could be eliminated some might have a faint chance for recovery. In case the patient dies, the chloroform will have saved him from the agonizing mental state which such patients pass through. One other attempt can be made, namely, the administration of the serum of an immune animal or person. As much blood should be withdrawn as the individual's strength will allow, and, after separating the serum and red corpuscles, injected in graduated doses. This is partly speculative and will require a great deal of experimental work to show its real value. There is still room for a great deal of experimental work along lines of the true etiology of rabies and the treatment of developed cases.

In the preparation of this paper I am greatly indebted to Dr. R. L. May for the privilege of the post-mortem materials, to Dr. H. R. Mills for assisting in the post-mortem and the subsequent work in the laboratory, and to Dr. Iva C. Youmans, Drs. Mills and Youmans having had the largest part of the routine examinations in our recent rabies epidemic.

429 West Fifth Street.

RECENT EXPERIENCES IN THE ARTIFICIAL FEEDING OF ONE HUNDRED INFANTS

DURING THE FIRST THREE MONTHS OF LIFE *

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The experiences recorded in this paper were noted during the past year in the care of foundlings in a maternity home for unfortunate girls. No private cases are here included, so that my conclusions as to feeding-results are not so favorable as would be found in the handling of a similar number of cases in homes.[1] The material at hand included infants some of whom were fed at the start on breast-milk, but few of whom continued longer than two weeks. In many of these breast-milk cases the patients were wet-nursed and some fed on mixed milk drawn by the breast-pump. It would be almost impossible to trace any phenomena while the infant was on breat-milk to a cause in the milk or wet-nurse, as the handling of the infants was entirely separate from that of the mothers or wet-nurse, about whom I knew nothing except that syphilis had been carefully excluded. Wherever possible an infant at birth or in a nutritional illness was given a start on breast-milk, and this food was, of course, continued as long as breast-milk was available.

All cases were, therefore, problems for artificial feeding at varying periods, beginning at birth or within two or three weeks thereafter.

I wish to speak first of the initial loss of weight and the rectal temperature in both breast-fed and bottle-fed infants which our records show.

INITIAL LOSS OF WEIGHT

As has been stated by many observers, notably by Griffith and Gittings,[2] the breast-fed baby continues to lose weight for the first two to four days. The feature in which I was most interested was as to the day on which the child had regained the amount of its birth weight. In Schaeffer's series, 44.5 per cent. of infants were still under weight at the fourteenth day.[3] In the ninety-five cases of Griffith and Gittings, thirty-one did not regain their weight until after the fourteenth day. In my series of sixty breast-fed infants, eight did not show any loss of weight at the end of twenty-four hours, nor later. Four of these were wet-nursed from the start. With the other four, I could find no explanation as to why they so quickly recovered their primary weight. The average number of days was eleven while the longest was eighteen.

Case 1.—Baby H., weighed 3,725 gm. at birth, had lost 305 gm. at the end of twenty-four hours, began to gain on the fourth day but did not regain birth weight until the eighteenth day, after which the gain was regular. The child showed no febrile nor other disturbance and was nursed by the mother, whose condition was reported good.

In those infants that were given the bottle from the start, and that thrived, the return of the initial weight averaged no slower than the breast-milk babies. One infant on the bottle had about regained its birth weight at the end of twenty-four hours and continued to gain as follows:

Case 2.—Baby O., weight at birth 3,660 gm., was placed at once on half buttermilk and water. The second day the chile regained to within 5 gm. its initial weight, and showed a gain of 100 gm. on the third day. A small amount of malt sugar to gain slowly when at the eleventh day there had been a tota increase of 300 gm. above the initial weight.

RECTAL TEMPERATURES IN INFANCY

There is quite a difference in the text-books regarding the normal rectal temperature in the new-born. Rotcl states that about a week following birth it is 98.2 F Fischer places it between 99.4 F. and 100 F. Koplil believes that a temperature above 100.4 F. is abnormal One frequently hears it stated that the temperature i the mouth is one-half a degree higher than in the axilla and that of the rectum one-half a degree higher tha that in the mouth. Therefore, assuming that the axillar temperature is 98.6 F., it has often been erroneousl concluded that the normal rectal temperature is 99.6 F In several years of routine temperature taking in th children's dispensary, I seldom saw normal temperature above 99 F. It was for the purpose of convincin myself as to whether 99 to 100 F. is rare and should b regarded as pathologic in infants, that a study of sevent infants was made, first in the infants during the firs nineteen days of life, and a second in infants up to si months of age. Sixty of these were on the breast for a average of nineteen days, ten were bottle-fed from th start. Nineteen days was the average that babies wer fed on the breast, hence the new-born bottle babies wer considered only for nineteen days. No difference wa found in the normal temperature of breast- and bottl fed, and the temperatures averaged the same in infant of this age as in those whose temperatures were taken u to three months, only a few of our cases remaining i the institution up to six months. The temperature wa taken twice daily, at 8 a. m. and 6 p. m., just befo bathing and feeding. The temperature of one child ave aged 97.2 F., while eleven others averaged between 97. and 98 F. One infant alone showed an average ten perature above 99 F., it being 99.4 F. Only thos infants who were not premature, and who were runnin a consistent temperature while they were clinically wel were considered. The average of 2,660 temperatur was 98.6 F. The temperature at 6 p. m. averaged 0.07

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] In Arch. Pediat., February, 1911, Dr. Glazebrook describes the Speedwell Country Homes idea of Dr. Chapin, a movement which will be appreciated by all who have had the sad experience of fighting the mortality in a foundling asylum.

[2] Griffith and Gittings: Arch. Pediat., May, 1907.

[3] Schaeffer: Arch. f. Gynäk., 1896, p. 2282.

above the morning temperature. So consistently was there some apparent disturbance in the infant whose temperature ran above 99 F. (only one of the infants in this number had an average reading of over 99 F.), that it has confirmed my earlier convictions that a temperature between 99 F. and 100 F. should be regarded as pathologic.

EFFECT OF PEPTONIZATION OF THE MILK

During the year we frequently peptonized the milk, adding the extract of pancreas and bicarbonate of soda to the bottle ten minutes before use. The milk was peptonized for many of the new-born and for many of those infants who were not gaining in weight, with the hope of finding a favorable effect. An occasional increase had been demonstrated to me by Rosenstern at the Berlin Kinderasyl. For many years in difficult cases physicians have used some form of peptonizing in feeding, often combining it with milk sugar. Undoubtedly we have all seen an occasional good effect. During the past year we have had but two cases in which gain could be attributed to peptonization. One was in an infant fed on buttermilk to which was added malt sugar. There had been no increase in weight for several weeks, the bowels and digestion, however, being clinically normal. One-third of a peptonizing tube was added to each bottle of the buttermilk preparation, with an immediate gain in the infant's weight.

CASE 3.—Baby O., aged 3 months, had gained regularly on malt soup containing two-thirds full milk of 3.4 per cent. fat, but at this time there had been no gain for ten days. The milk was peptonized, the weight increasing 211 gm. in the next two days, and continued to increase thereafter.

No favorable effect in all of forty cases was observed by peptonizing the food of the new-born infant.

EXPERIENCES WITH BUTTERMILK

The buttermilk which we have used was churned daily in the institution from top milk soured naturally at the room temperature or by the addition of a small amount of the previous day's buttermilk. In warm weather, the top milk frequently becomes sour in half a day at which time it is put on ice until ready for churning. A glass rotary churn has proved satisfactory and can be completely sterilized. As small a quantity as one quart may be churned at one time if desired.

In many of the infants that were difficult to feed, buttermilk was employed, and also in all cases of atrophy. As long as the child thrived it was kept on buttermilk, even through a period of several months, with the gradual addition of top milk. Our experience has been that it exerted a beneficial therapeutic effect in mild enterocolitis cases and that such cases developed less commonly among the infants who had been fed on buttermilk.

CASE 4.—Baby W., a healthy child, weighing 3,530 gm. at birth, fed on the breast for ten days, and then on a sweet-milk formula containing 2.5 per cent. fat for the next twenty days, during which time it gained only 150 gm. At this time we began using half buttermilk and water with the addition of 1 per cent. fat in the form of top milk. During the next twenty-three days the infant gained only 200 gm. The top milk was then withdrawn, the buttermilk was increased to two-thirds, and the water one-third, the infant gaining 800 gm. in the next twenty days, after which it was taken from the hospital.

Buttermilk proved of special value in the summer months, at which season it was better tolerated and produced better stools than the same patient would probably have had if fed on a sweet-milk mixture.

SKIMMED MILK

Some of the infants who had an apparent intolerance for fat and who took buttermilk easily, thrived for a time on skimmed milk. One child that had a simple loss of weight on mixed breast-milk showed a remarkable gain when put on skimmed milk with malt sugar. The routine was followed with a series of new-born infants of starting them on a dilution of skimmed milk with enough maltose to bring the total sugar up to 7 per cent., as low as one-third skimmed milk to two-thirds water. When an infant ceased to gain or failed to show any increase, top milk was added from time to time to bring the fat content up 0.5 per cent.

This method has given much better results in most cases than arbitrarily starting an infant at birth on a fat-containing milk with a higher caloric content that the infant needs or will tolerate.

MALT SOUP

Thirty infants were fed on malt soup for varying periods. Those that did not thrive were next tried on different quantities of the ingredients.[4] Four formulas were used, called Malt Soup A, B, C and D.

MALT SOUP A

(Keller's formula, with the exception of the flour, which is here reduced one-half.)

4 tablespoonfuls of malt soup extract, dissolve in 18 ounces of warm water.

4 level tablespoonfuls of wheat flour mixed with 4 ounces of water, and any lumps of flour strained out.

These are added and brought to a boil in double boiler, stirring all the time, and then boiled for five minutes.

Cool and add 11 ounces of whole milk.

MALT SOUP B

2 tablespoonfuls of malt soup dissolved in 18 ounces of warm water.

2 level tablespoonfuls of flour dissolved in 4 ounces of water.

Cool and add 11 ounces of whole milk.

MALT SOUP C

4 tablespoonfuls of malt soup dissolved in 12 ounces of water.
2 tablespoonfuls flour in 4 ounces of water.
Cool and add 17 ounces of whole milk.

MALT SOUP D

2 tablespoonfuls malt soup dissolved in 12 ounces of water.
2 level tablespoonfuls flour in 4 ounces of water.
Cool and add 17 ounces whole milk.

In these, the quantities of flour, malt soup extract and milk were varied, and were given according to the needs of the individual cases. These changes proved necessary and successful in many cases. Other modifications besides these four regular formulas were also used.

Infants under two months of age did not show the gain found in those who were older. We have used malt soup preparations in the majority of the infants and have been favorably impressed with its tolerance by infants above two months of age. The milk is not to be boiled or added until the malt soup is cooled, so that there need be no fear of scurvy.[5]

CASEIN MILK

The present German literature regarding experiences[6] with *Eiweiss-Milch*[7] is voluminous and favorable,[8] while comparatively little has been published in this country that has given practical proof of its merits.[9] Those who have seen its use demonstrated by Finkelstein and Meyer have felt that in theory it is correct and works successfully in their hands. That artificial feeding will always be a greater problem in the United States and in those other countries which have such extremes of summer heat than it is in the more moderate climate of Germany is evident. Therefore, it is not to be expected that casein milk will show so favorable results here as reported by the German observers. After twenty-four hours of a hunger diet, the use of a practical whey-free preparation, leaving out the buttermilk, such as we have employed in some cases of alimentary intoxication with diarrhea, was, in the favorable ones, attended by an improvement in most symptoms, but the rapid fall in weight was so alarming that the addition of buttermilk or sugar was imperative. When buttermilk was added to the casein milk, as advised by Finkelstein and Meyer, we saw no better results than by the use of buttermilk alone.

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[4] Holt: Diseases of Infants and Children, Ed. 5.
[5] Thomas: Ohio State Med. Jour., 1907.
[6] Weide, E.: Therap. Monatsh., 1911, xxv, 83.
[7] v. Reuss: Gesellsch. f. inn. Med. in Wien., January, 1911.
[8] Birk, W.: Monatschr. f. Kinderh., 1911, ix, No. 3.
[9] Leopold: Arch. Pediat., August, 1910.

MALT SUGAR

Accepting the German teaching[10] regarding milk sugar[11]—that it is not so well absorbed as maltose, that it frequently causes a rise in temperature, and that it has the smallest influence on the body growth—we have used malt sugar in all cases that did not gain in weight and in many normal cases as a routine. Maltose is undoubtedly slower to ferment in the intestinal tract than is lactose.[12] With the advent of hot weather, it was found that the milk sometimes curdled after the addition of the malt extract, in which case the acidity of the malt was neutralized by the addition of carbonate of potassium, 4.8 gr. to the ounce of glycerinized malt extract. Many patients showed a gain in weight which could not be ascribed to any other cause than the change from milk to malt sugar. In some constipated infants, the change to malt sugar markedly improved the condition and frequency of the stools.[13]

CONCLUSIONS

From observations on one hundred infants in this institution during the past year, the following conclusions have been reached:

1. The average length of time before an infant regains its initial weight is eleven days.
2. The rectal temperature of infants under six months of age is 98.6 F. This method of taking should be employed exclusively, so as to avoid the misunderstanding which often exists regarding the indefinite mouth and axillary readings. A temperature of 99 F. or above is suspicious and should be regarded as pathologic.
3. Peptonization of milk showed no advantages in the new-born, but is occasionally beneficial in older infants.
4. Buttermilk is a useful food in some cases, even in the first weeks of life, and where breast milk is not available, should be tried in cases of fat intolerance and in enterocolitis.
5. Some infants showed increased weight when fed on skimmed milk which, when suitably diluted, can be made the basis for fat and sugar additions.
6. Malt soup is the food that in our experience proved the best milk preparation.
7. Casein milk has a useful but limited field in catarrhal enteritis, the alimentary intoxication of Finkelstein.[14]
8. Maltose answers all the requirements for a sugar in infant-feeding.

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ABSTRACT OF DISCUSSION

Dr. Thomas S. Southworth, New York: The early regain of weight in such a large number of cases surprises me. In my experience in the hospital the baby's initial loss in weight is considerable. I can confirm what Dr. Neff says as to the peptonization of food for infants. It has largely failed me in my hospital work. Its value, where it is useful, is simply in changing the coagulability of the proteid, but where a child is given a formula which it cannot digest peptonization does not help matters. Malt soup mixtures with suitable milk modifications are very valuable, but it would certainly be a great mistake to go backwards and take one stock formula or one mixture and try to use it for all infants.

Dr. M. Dranga, San Diego, Cal.: I have found that in the case of babies under six weeks old, when they are unable to take other food, I can start them and they gain rapidly on condensed milk, although when admitted they would not retain barley water or any other kind of food. Condensed milk is used only until the babies are able to retain other food.

Dr. Langley Porter, San Francisco: I believe condensed milk has a definite place in the feeding of infants. One of the arguments that is usually made against condensed milk is that it is low in fat and low in proteins. If any one giving condensed milk will study as carefully his formulas as he would in giving any other food, he will find it possible to augment the protein and the fat. I believe the contumely that has been heaped on condensed milk is deserved by the people who prescribe it because they do not use it as carefully as they do other forms of milk.

Dr. J. P. Sedgwick, Minneapolis: Regarding the mortality, a word from the northern section may be of interest. The twin cities, Minneapolis and St. Paul, have a population of about 500,000. There are few negroes, little poverty and little crowding. The mortality last year was between 600 and 700. The death-rate is higher during the summer, and although we do have a hot season the heat does not last as long. I remember one August, however, when eighty or ninety infants died. I have found the same condition of which Dr. Royster speaks. During some years we have a preponderance of the catarrhal type of diarrhea and in other years there is a preponderance of the enteritis type. I have been using casein milk and have found it of definite value in certain cases of atrophy and intestinal trouble. In regard to maltose, of which Dr. Neff spoke, I would like to know what form of maltose he used. Some preparations have much more dextrin than others. Maltose itself is rather expensive, costing about $3.00 a pound wholesale.

Dr. R. B. Tubbs, Council Bluffs, Ia.: I cannot see why it is any more legitimate for us to give condensed milk than it is to give proprietary medicines. It has nothing in the world to recommend it but that it is sterilized. Why should we use condensed milk with 25 per cent. of sugar added to it? I cannot understand how a man can say that it does not produce scurvy. In my experience it does not agree with the babies except temporarily. I know the use of condensed milk has brought me more cases in a desperate condition than anything else. As regards the temperature as a causative factor in summer diarrheas, I believe that overfeeding has as much to do with the etiology as anything else.

Dr. A. L. Tilton, Kingman, Ariz.: In the desert country of Arizona we use a great deal of condensed milk. We use it because it is, in a large number of cases, the only thing we can get. Although there are many cattle ranches in Arizona, a cattle ranch is the last place in the world where you will find milk because there is not sufficient grass near the ranch houses for the cattle to be well fed. Hence we have adopted condensed milk as the least evil, and in my limited experience in its use I have seen but one case of scurvy, and in that case no orange juice had been used. I do not think I would have permitted the use of condensed milk but for the fact that it had already been used there with success.

Dr. I. A. Abt, Chicago: There is a great diversity in infant feeding. Professor Keller of Berlin collected formulas of feeding in different parts of the civilized world. He has shown that in England, in Germany, in the United States and in France they have their own methods. The fact is that babies

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10. Leopold: Ztschr. f. Kinderh., Dec. 22, 1910.
11. Helmholz: Arch. Pediat., May, 1911.
12. Rotch: Cardinal Principles for Successful Feeding of Infants.
13. Kerley: Arch. Pediat., March, 1908.
14. Finkelstein: Jahrb. f. Kinderh., lxv, lxviii.

are raised on artificial food all over the world, and in no two countries is the same method employed. I believe that one is justified in feeding a baby according to the best experience that prevails in the section where one is practicing. If most babies in the desert of Arizona are saved by feeding condensed milk, then, it seems to me, that method of feeding is justified there at present. We still have much to learn in the matter of adapting artificial food to babies. I am in favor of every man telling his experiences according to the best light he has, and we may, in that way, be enabled to draw conclusions. Answering the gentleman who said it was wrong to use condensed milk because it was a proprietary food, I think it would certainly be wrong to sacrifice the babies for the want of it, if it will save them. I do not wish to be understood as advocating condensed milk, though I should not hesitate to use it if the supply of fresh cow's milk was for any reason unsafe or inadequate.

Dr. L. T. Royster, Norfolk, Va.: I have had no experience in feeding babies on condensed milk. Nine times out of ten the patients brought to me have been on condensed milk, and are in a wretched condition. I am in charge of an institution that takes foundlings. It was formerly customary to feed them temporarily on condensed milk, but I have made the experiment of feeding them on a solution of milk-sugar, and they do just as well. But those that have been put on condensed milk by the physicians have had it given them without any effort to modify it in any way, as many of the physicians knew no more about it than the mothers.

Dr. W. V. C. Francis, Los Angeles: I frequently put children on goat's milk; I believe that is one of the best substitutes for mother's milk.

Dr. F. C. Neff, Kansas City, Mo.: Dr. Southworth asked about the absence of the usual loss in weight of these infants. I did not mean that there was absolutely no loss in weight, but that they had regained it. We simply put them right to the wet-nurse. Whether that had anything to do with their regaining it so promptly, I do not know. As to scurvy, my statement in regard to the boiling of the milk in preparing the malt-soup was simply a quotation from Thomas, who, in 1907, objected to malt-soup because the milk had to be boiled. In my paper I have used quotation marks to show that it was not an expression of my personal opinion. Dr. Sedgwick asked about the maltose we used. The exact analysis of the malt extract preparation we used I do not know.

VERRUCA PERUANA *

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ANCON, CANAL ZONE

One of the most interesting diseases in South America is the one known as "verruca peruana" (*verruga peruviana*), *fiebre de la Oroya*, or "Carrion's fever," as it is called in Peru, in honor of Daniel Carrion, a young Peruvian who died as a result of his zealous attempt to determine the infectious nature of the malady which, although given the commonplace appellation of "wart," is a very serious and frequently fatal disorder.

Some knowledge of the disease is necessary to Americans, from the fact that American physicians have from time to time passed through the endemic region or have engaged in professional work in connection with some of the American commercial interests in Peru.

The disease is interesting from several points of view: to the parasitologist on account of the peculiar bodies in the erythrocytes, and on account of its probable transmission by ticks or other suctorial invertebrates having a peculiar geographic and altitudinal distribution; to the hematologist, on account of the remarkable blood-picture in the malignant form of the disease, there being a profound anemia; to the physician and quarantine officer, from the fact that the disease is rife in certain districts in Peru, where Americans have commercial interests and where American physicians and engineers, bridge-builders and other mechanics have occasion to pass through or work within infected zones. Convalescents occasionally return to the United States with some evidences of the disease still present on their persons.

It is of additional interest to Californians because one of the very few accounts of the disease by Americans is that of Browne.[1]

GEOGRAPHICAL DISTRIBUTION

Verruca peruana is an infectious disease in which a fever of irregular type, associated with more or less severe anemia, is followed by a wart-like eruption of the skin, and sometimes of the mucous or serous membrane.

Formerly, it is believed, the disease had a much wider distribution than it has to-day. It is now encountered in certain narrow valleys on the western slopes of the Peruvian Andes, between latitudes 8° and 13° South, and at altitudes of from 1,000 to 12,000 feet. It is distributed along narrow tributaries which drain into rivers flowing into the Pacific. The disease is never contracted in the lower coastal plain, but always up in the valleys at the higher altitudes mentioned, not less than 28 to 60 kilometers (16 to 36 English miles) from the sea. Neither does it cross the divide, for it is unknown on the eastern face of the Andes. It is encountered oftenest at altitudes of from 2,000 to 6,000 feet.

The chief endemic areas are to be found in the departments of Ancachs in the Province of Huarez; and in S. Bartolomé, Casapalca, Chosica, and Santa Eulalia in the Department of Lima.

The mortality from verruca was so great during the construction of the Oroya Railroad, which extends from Lima to the Cerro de Pasco mines, that one of the large bridges crossing the river is known generally as "Verruca Bridge."

Peruvian physicians believe that only by sleeping in an infected district or by passing through it at night can the disease be contracted; and it is generally believed that the disease is transmitted by the bite of an insect. This naturally suggests a carrier in the shape of a tick or mosquito, or other suctorial invertebrate having a peculiar altitudinal distribution.

CLASSIFICATION

Two forms of the disease are recognized: the malignant and benign.

Malignant Form.—This is known as "Oroya fever," "Carrion's fever" or *fiebre grave verrugas*. The initial stage of this form corresponds with that usually noted in severe acute infections. The second stage constantly exhibits fever of an irregular remittent or intermittent type. There is a rapidly progressive and severe anemia, the erythrocytes falling below 1,000,000, sometimes even to 500,000 per 1 c.mm. There is poikilocytosis, polychromatophilia, enormous numbers of nucleated red cells, leukocytosis and high color index. Coincident with the anemia there is vertigo, great restlessness and air hunger. The sensorium is always clear and the mortality very high. The third or eruptive stage occurs in the small percentage of patients who recover from the *fiebre grave*.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Browne: Verrugas and Arroyas Fevers, Tr. Med. Soc. Cal., 1872-1873, p. 173.

Benign Form.—In this group Barton places the milder forms of verruca infections. They are quite common and the mortality is low. The symptoms are more undefined and the patients usually follow their vocations. The anemia and fever are moderate, and the eruption is more frequenty of the nodular type and lasts longer than in the malignant forms.

The second stage is followed by the skin eruption which appears first as an exanthem of small, purplish-red spots, which become papular and later develop into warty excrescences occasionally of large size, having a tendency to spontaneous hemorrhage. The lesion may occur on the mucous or serous membranes and deep subcutaneous tissues. After lasting for from four to six months, the eruption disappears by involution or ulceration.

The period of incubation, if we consider the experiment of Carrion, is about twenty-one days.

There is no natural immunity to the disease of any kind—race, age or sex. Scheube says that infants have been born infected with the disease.

DURATION

The duration of the disease varies considerably, being a couple of weeks in the *fiebre grave,* to months and years in the other forms. The mortality among natives is said to be 10 per cent.; among whites 40 per cent. In the Oroya fever, however, it is 85 per cent. to 90 per cent. Frequent complications are septicemia, exhaustion, anemia, infections by the typhoid-colon group of bacilli and tuberculosis.

ETIOLOGY

Little can be gained by delving into the historical aspect of this subject. The infectious nature of the disease was demonstrated in 1885 by Daniel Carrion, a young Peruvian medical student, who inoculated himself in both arms with blood taken from warts. After a latent period of twenty-one days, he entered the febrile stage of the disease and died eighteen days afterward of *fiebre grave,* before the development of the eruption.

It is curious to note that in verruca several strains of paracolon bacilli have been isolated by Barton and Biffi, from patients suffering from *fiebre grave,* and also from cadavers in cases of the same disease; just as in yellow fever, varieties of paracolon bacilli, having been obtained from yellow fever patients before and after death, were thought by competent observers to be the cause of the disease.

In 1900, Barton called attention to the existence of infections by members of the typhoid-colon group of bacilli in patients suffering from verruca. These infections were noted during the course of an attack of verruca, particularly toward the end of the second stage, and during the eruptive process. Barton believes that the "typho-coli infections" alter the symptomatology of verruca and aggravate its progress to a considerable degree.

Biffi reports isolating two strains of bacilli, one resembling *B. paratyphosus,* Schot, the other, Gaertner's bacillus.

To those who have had any experience with infections by members of the typhoid-colon group in the tropics, and in view of our knowledge of the history of the relation of *B. icteroides* and bacillus *x* of Sternberg to yellow fever and the relation of the hog cholera bacillus to true hog cholera, which, as De Schweinitz and Dorset have shown, is due to a filterable virus, these bacteriologic findings of Barton and Biffi are very interesting, and they add another disease to the list of those frequently complicated by infections with bacilli of this group.

In October, 1905, Dr. A. L. Barton[2] of Lima called attention to certain bacillus-like elements in the erythrocytes of two patients suffering from *fiebre grave de verrugas.* Later, in January, 1909, he described the bodies found in fourteen additional cases. Barton stated his belief that the bodies were protozoa and were the specific agents of the disease. Gastiaburú and Rebagliati,[3] in October, 1909, confirmed Barton's findings.

Barton's views as to the relation of his intracellular *x*-bodies to verruca have not been generally accepted by European investigators; chiefly, I believe, for the reason that the latter have studied films in which the *x*-bodies were oftenest seen after they have "broken up," to use Barton's expression. In this condition they are more nearly like basophilic granulations. The illustrations by Galli-Vallerio[4] are entirely unlike the appearance of *x*-bodies when they first appear in the erythrocytes in verruga. Those of Basset-Smith,[5] while much too coarse, approach more nearly in two instances to the exact morphology. The general impression received from Mayer's figures[6] is that of cell degeneration, the rod forms being relatively too small and not in such relatively great numbers as they are in the early stage of the disease or during a recrudescence.

The *x*-bodies of Barton appear in the blood in the "severe wart fever" and disappear about the time of the appearance of the eruption. They are always seen first as slender rod-like forms with rounded free ends. They are situated within the erythrocytes but, according to Barton, cannot be detected in the fresh blood; consequently their refractive index must coincide with that of the erythrocyte. They are stained best with Giemsa stain, but not quite so well with other stains of this class when stained by the ordinary methods. One or both ends may take the stain a little more deeply than the rest, or a deeply staining swollen dot may sometimes be seen between ends. The rods are occasionally single, though oftener two or more, up to six or eight, may be seen, frequently grouped in parallel series, or in such manner as suggests, according to Barton, a process of reproduction. This, however, may be otherwise interpreted, for I have frequently found that rods of melanin in malarial zygotes of infected mosquitoes have exactly the same grouping. Filaments or irregularly disposed branched or pseudo-branched forms are seen. The rods are generally slightly curved, and when the erythrocyte containing them is torn, while making the smear, the bodies can be seen to preserve their morphology and staining characters outside the cell. They stain a dark blue or purple; never faintly blue, with sharply differentiated chromatin substances. In this respect they differ from protozoa and give the impression of being more like spirochetes than any other known type of microorganism. After a few days they are seen to lose their slender rod-like shape and become more irregularly swollen, distorted and fragmented. At this time they usually take the stain more deeply.

When the disease progresses favorably, the bodies disappear and the eruption comes out. If the bodies are seen to reappear in their slender rod-like form, it can be noted at the same time that the patient's symptoms have become more grave, and if the thin rod-like elements continue in large numbers in the peripheral blood, the patient dies. In these instances nearly every erythrocyte is invaded.

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[2] Barton, A. L.: Descripcion de elementos endoglobulares hallados en los enfermos de fiebre verrucosa, Cron. méd., 1909, xxvi, 7.

[3] Gastiaburú and Rebagliati: Sobre la hematologia y etiologia de la Enfermedad de Carrion, Cronica Medica, Nov. 15, 1909.

[4] Galli-Vallerio: Centralbl f. Bakteriol., I, ab. orig., lviii, 228.

[5] Basset-Smith: Brit. Med. Jour., Sept. 18, 1909.

[6] Mayer: Centralbl. f. Bakteriol., I, ab. orig., lvi, 309.

Barton states that the longest period the bodies have remained in the peripheral blood is twenty days.

If one examines blood of verruca patients after the x-bodies have undergone involution and become pyknotic and polymorphous, the impression of a peculiar basophilia of the erythrocytes would no doubt be entertained, but if one watches the rod-like forms from day to day in a malignant case during which there is a period of amelioration of symptoms followed by recrudescence of the disease, one is very strongly impressed with the opinion that the x-bodies represent microorganisms of some kind.

According to Barton, the recovery of the patient coincides with the disappearance of x-bodies from the peripheral blood.

What is the nature of the x-bodies? 1. Are they some form of basophilia or degenerative change of the erythrocytes or are they nuclear remnants? 2. Are they localized spots of degeneration of the erythrocyte, surrounding and obscuring a very minute or ultramicroscopic microorganism? 3. Are they bacilliform *Babesia*? 4. Are they bacilliform bodies invading the erythrocyte, such as have been described by Laveran and Carini[7] in lizards? 5. Are they related to the endocorpuscular bodies described by Graham-Smith[8] in the red corpuscles of moles? 6. Are they some representative of the sporozoa?

Without going into a detailed discussion of this phase of the subject, I will merely state that the slender rod-like x-bodies seem to me to represent some unique type of microorganism, for there is nothing exactly like them in the annals of parasitology or hematology.

BLOOD-CHANGES

In the malignant form of the disease very remarkable changes are noted. Briefly, the chief characters are basophilia of the red cells, the presence of many nucleated red cells, x-bodies in various stages, and numerous marrow-cells, all rapidly escaping from the marrow before they have reached the mature type seen in the peripheral blood during health.

The red cells show much basophilia, blue basophilic punctations and red nuclear remnants. There are crises in which enormous numbers of nucleated reds, chiefly normoblasts, are seen. There is much basophilic punctation of those nucleated reds which show a polymorphous or budding nucleus. Many microcytes and macrocytes are seen and there is some agglutination of the red cells.

With regard to the leukocytes, there is a leukocytosis from time to time, with the appearance of marrow-cells of various types, such as myeloblasts, neutrophilic and mast myelocytes, transitional leukocytes, and polymorphonuclear leukocytes with bluish-green granules. There is a diminished number of eosinophils.

The blood-platelets are notably diminished in number and have lost to a considerable degree their power of agglutination.

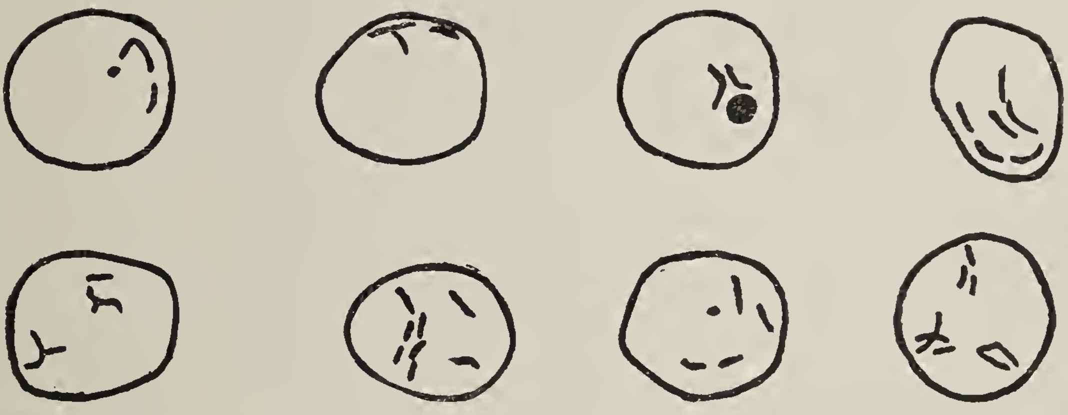
REPORT OF AUTOPSY

Patient, A. L. O., male, aged about 25, native of Pennsylvania, U. S. A., bridge worker, contracted verruca while at work on the Oroya Railroad. During convalescence and while returning to the United States, he died on the steamer in Panama Bay, Sept. 18, 1908. The body was packed in ice and next morning, through the kindness of the chief quarantine officer, Surgeon J. C. Perry, U. S. P. H. and M.-H. S., I had an opportunity to make a post-mortem examination of the body.

Sparsely scattered over the body, particularly about the ankles, were circular reddish-brown raised papules and some few pigmented spots of a dusky reddish-brown color. One of these latter in Scarpa's triangle in the left groin, 6 mm. in diameter, had broken down and contained necrotic material. These represent the "verrugas," some of which were still present, though of small size. Others had evidently undergone the process of involution mentioned above and a few had ulcerated.

There was generalized tuberculosis of the lungs, pleuræ, lymph-nodes, spleen, kidneys, and liver, internal hydrocephalus, hydroperitoneum and hydrothorax. The femur marrow was not definitely hyperplastic.

Smears from the spleen contained a little melanin, not positively malarial. No malarial plasmodia were detected. Smears from other viscera showed no x-bodies, save those from the rib-marrow which contained a few rod-like bodies, not definitely in the erythrocytes.



Erythrocytes showing x-bodies in a fatal case of verruca peruana two days before death.

Microscopic Examination.—Skin. The epithelium was flattened out and the papillæ had disappeared. The lymph-spaces of the corium were filled with large, phagocytic cells, distended with reddish-yellow refractile granules of different sizes, evidently red blood-cells in various stages of decline. The deeper connective tissue, particularly around the sweat-glands, was infiltrated by round cells, and cells of the connective tissue type. In this section the arterioles were not at all distended, numerous nor conspicuous, and this area evidently represented a small verruca which had undergone involution.

Another section of skin showed the epithelium thrown into folds without atrophy or obliteration of the papillæ. Deep in the subcutaneous tissue there was a large area of necrosis containing fragmented nuclei and eosin-staining débris. On the margins of this area there were numerous giant cells with mural nuclei, epithelioid and plasma-like cells and still more peripherally a number of round cells; but interspersed with these proliferated cells were many arterioles and capillaries with thin attenuated walls, with their lumens stuffed with red blood-cells. In some instances an arteriole might be seen immediately beside a giant cell. The section was very vascular and represented a tuberculous process, superimposed on a vascular verruca.

The kidney, spleen and lymph-nodes showed nothing of note but disseminated tuberculosis.

In the striated muscle a number of the fibers were swollen, the cross-striations obliterated, and represented a hyaline change.

These meager notes from the autopsy and from the examination of tissue are of interest, for they suggest very strongly that the acid-fast bacilli in verruca tissue described by various writers are really tubercle bacilli, and that those who have merely examined tissue without seeing the autopsy, and who have described necroses in verruca tissue, which very closely resemble those of tuberculosis, have been describing tuberculosis of various viscera which has existed as a complication of verruca and which do not represent any specific change due to verruca *per se.*

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[7] Laveran and Carini: Ann. de l'Inst. Pasteur, xxiv, 152.
[8] Graham-Smith: Jour. Hyg., Cambridge, v, 453.

PROPHYLAXIS

As the disease is limited to certain endemic regions, and is generally contracted at night, it may be prevented, of course, by keeping out of the danger zone. During 1909 an American bridge company undertook the construction of several bridges on the Oroya Railroad. The engineers and workmen engaged in putting up the first of these structures encamped within a verruca zone, and suffered much from the disease. At the suggestion of Dr. Barton, it was arranged that the men should sleep in a place a few kilometers distant, out of the endemic district, while they continued their work in the day time as usual. From that date there were no new cases. Peruvian physicians are quite alive to the economic importance of this disease and we may expect them to determine in due time the mode of infection, the true pathogenic agent, and thus establish a means of preventing the ravages of this tropical scourge.

In conclusion it should be stated that whatever the final opinion with regard to the x-bodies may be, the disease in all its aspects will amply repay careful study and research into the mode of transmission, relation of the x-bodies to the different clinical phases of the disease, the pathology and treatment.

I am under special obligations to Dr. A. L. Barton of Lima, Peru, for his kindness in furnishing me with clinical notes and consecutive blood-films from several cases of verruca.

Ancon Hospital.

VERRUCA PERUANA OR CARRION'S DISEASE *

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HISTORY AND DISTRIBUTION

Verruca peruana, or Carrion's disease, is an infectious disease endemic in certain districts in Peru. It is characterized by fever, rheumatoid pains, anemia and an eruption which develops into bleeding, warty tumors. Verrugas, to use the Spanish term, caused many deaths among the ancient Peruvians and among the followers of Pizarro during the conquest of Peru.

Various writers of that country, since 1730, have described the disease, but it was brought into greatest prominence in 1870 during the construction of the Oroya Railroad over the Andes mountains. Many of the foreign laborers were attacked by a strange and fatal disease which was given the name of Oroya fever and the connection of this fever with the external eruption, previously known as "verrugas," was established during this period. Their unity was illustrated by the case of Wilson, a mining engineer, who after an attack of Oroya fever returned to the United States and afterward developed a typical case of verrugas.

Carrion, a Peruvian medical student, inoculated himself, Aug. 27, 1885, on each arm with blood from a tumor of a case of verrugas; initial symptoms appeared September 17 and his death occurred October 5, the thirty-ninth day after inoculation, having passed through all the stages of Oroya fever. This experiment established still more fully the relation of Oroya fever and verruca and showed the infectious nature of the disease.

While verruca was formerly endemic in several countries of South America, it is now limited to Peru, being found in three departments, Ancachs, Libertad and Lima; and the infected areas are confined to certain deep river valleys of high altitude. Any person is liable to infection, regardless of age or sex, although organic debility seems to be a predisposing cause. Natives of the infected districts are immune, but all others are liable to contract the disease, even when merely passing through the country. Intra-uterine infection occurs, children being born with the disease.

The lower animals are liable to infection and present the same symptoms as human beings, but the external lesions grow much larger.

No authentic case of infection by personal contact has been known to occur outside of infected districts. Verruca, in common with many other diseases, has been confused with malaria, to which the character of the fever bears a close resemblance. In many ways it closely resembles yaws, but there are so many distinctive points of difference that it hardly seems probable that it is a form of that disease, as is claimed by some authorities.

BACTERIOLOGY AND PATHOLOGY

But little animal experimentation has been done, consequently the etiology has not been shown conclusively and the method of transmission is unknown, but it is very probable that it is conveyed by some form of insect life. An organism, apparently a bacillus, is found in the red blood-cells during the febrile period and in the tissues of the local lesions. It presents two forms, found in different stages of the disease, one closely resembling, morphologically, the tubercle bacillus, the other much thicker and apparently an involution form. This organism is 2 to 6 microns in length, has rounded ends, is motile, contains two or three granules resembling spores and is gram-negative, but stains well with methylene-blue. It grows readily on bouillon at a temperature of 98.6 F., cloudiness appearing on the second day. The organism from this culture is from 10 to 12 microns in length, and stains well with gram and carbol-fuchsin. Much careful investigation will be necessary to prove definitely whether this organism is really the specific cause of verruca as it now appears to be.

On autopsy, all organs are found pale and bloodless, the liver and spleen are frequently enlarged and there is constant enlargement of the lymphatic glands—a diagnostic point. There is hyperplasia of Peyer's patches and congestion of the intestinal mucous membrane.

SYMPTOMS

The period of incubation is not sharply defined; in Carrion's case transmitted by inoculation, it was twenty-one days, but if contracted in the natural way it may be from fifteen to forty days. The invasion is slow, beginning with headache, pains in the lower extremities, chills followed by fever, thirst, anorexia and insomnia. The digestive system presents the symptoms of an acute fever, the liver, spleen and lymphatics are engorged and petechiæ frequently appear.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

The fever follows a remittent or intermittent type and during the fastigium varies from 100 F. in the morning to 104 F. or higher in the evening, extending over a period of twenty-five or thirty days.

Anemia is the predominating symptom, coming on very rapidly, and much resembles that following hemorrhage. The red blood-cells are reduced to 1,000,000 or 500,000 and there is marked leukocytosis with a great increase of polynuclears.

The skin is white and wax-like, the lips, tongue, gums and nostrils blanched and the nails discolored. Icterus is visible in the conjunctiva, the respiration is rapid, often with dyspnea, the pulse from 120 to 140 and systolic murmurs are heard at the base of the heart extending into the vessels of the neck, the latter symptom being very annoying to the patient. Epistaxis is frequent and serious, but hemorrhage from the bowels occurs less often. Edema is often present in the lower extremities, rarely becoming general.

Vertigo is so severe that the patient cannot sit up for fear of syncope. Mild delirium occurs in the evening and hiccough is frequent.

Many patients succumb within twenty-five or thirty days, but if the patient survives the febrile period the symptoms gradually decline until the appearance of the eruption, when they recur. In most instances the eruption is not noticed until after the decline of the fever, but in some cases it appears simultaneously, although in the former instance it is quite possible that the eruption escapes notice, or may be located internally.

It was formerly thought that Oroya fever was a distinct stage of verruca, but later studies show that no sharp line can be drawn between the fever and the eruption and the division is made only for convenience of study.

In some cases there is a sudden onset of high fever, all other symptoms are very severe, and death occurs in a few days showing the eruption on the skin, small, discrete and with no tendency to multiply, or the disease may prove fatal without the appearance of the external eruption.

In a majority of cases there is an intermediate period of from forty days to four or five months before the eruption is seen. When it does appear, the digestive and nervous symptoms are increased in severity, and the anemia is more marked, being identical with that of the initial fever, but it develops more slowly. The fever of the eruption also follows a remittent or intermittent type, rising to 104 F. or higher and varies with the amount and form of the eruption. Edema is more constant than during the early stages, it is often limited to the lower extremities and is due to the induration caused by the eruption with the consequent compression of the venous circulation. The muscular and articular pains recur, the joints being tender and often tumefied.

There are two distinct forms of the eruption, miliary and globular, often difficult to classify, as there are all grades between the two extremes. The miliary form, the smaller, occurs both externally and in the deeper tissues.

Externally, this form is located above the true skin and may originate in three ways: a petechia beneath the Malpighian layer, as a sort of rosy drop more or less transparent, or as a slight elevation of a dead white tint resembling hypertrophied papilla. In whatever manner it first appears it grows gradually and develops into an elevated papule, dark, glossy and slightly pointed. In this form the papule varies in size from the head of a pin to that of a small pea, the smaller ones sessile, the larger tending to pediculate. Exfoliation and bleeding occur, the larger ones ulcerating and discharging a yellowish liquid which forms a crust. A retrograde process follows and the growth disappears, leaving a slight stained appearance of the skin, which is transient.

The miliary eruption may be localized or general, discrete or confluent, and is located especially on the extremities and about the face, the palms, soles and body being usually exempt. The lesions occur on all the mucous surfaces of the body, on the peritoneum, in the liver, spleen, kidneys, lungs, pancreas, testicles, periosteum, bones and brain. Those on the conjunctiva form small, flat elevations the size of a millet-seed; in the nose they are larger and are the cause of the epistaxis. The brain lesions are the size of a pin-head, and located at the base, in the chorioid plexus and on the arachnoid membrane. It is a notable fact that the eruption always begins in the connective tissues and never in the parenchyma.

The globular form is found only externally and consists at first of a small subcutaneous elevation, tender and resistant to the touch, and like the miliary has a predilection for the extremities, the face and especially the ears. As the tumor grows, the overlying skin becomes purple, painful on pressure and in appearance and consistency resembles a furuncle. It finally becomes conical, the skin grows thinner and is pierced by the growth, which now assumes a globular form and shows a tendency to pediculate. Fissures form and ulceration with hemorrhage are subsequent symptoms. This form varies from the size of a hazelnut to that of an orange.

In those of medium size, subinvolution begins, the growth becomes pale and shriveled, falls off and cicatrization takes place; but when they are large, gangrene, secondary infection and extensive suppuration are common. Both forms may be found in the same case, or they may alternate, the period of eruption being from six months to two years. In the section, a verruca tumor somewhat resembles a sarcoma, having a stroma similar to embryonic tissue, and a circumscribed adherent wall. It is highly vascular, the blood-vessels having the appearance of sinuses.

Pneumonia, enteritis and paratyphoid are common complications, and secondary infection of the eruptive lesions may result in septicemia.

DIAGNOSIS AND PROGNOSIS

The diagnosis is not always easy, but in a person who gives a history of having been in the infected districts, showing the symptoms of fever, anemia, vertigo, rheumatoid pains and enlargement of the lymphatic glands, verruca should be strongly suspected. When the eruption appears it is easily recognized.

The enlarged liver and spleen are not so constant as in malaria; in the latter the anemia comes on more slowly, prostration is not so severe, lymphatic enlargement is absent, the action of quinin is positive and the plasmodium is found in the blood.

Yaws, apparently a very similar disease, is not congenital; the yaws appear on the body as well as on the extremities, the general health is little affected, there are no visceral changes, the mortality is low, and the *Treponema pertenue* is found in the eruptive lesions.

The prognosis is grave, the mortality, according to some authorities, being as high as 90 per cent. Most of the deaths occur prior to the appearance of the eruption, and when it appears the outlook is more favorable, especially if it comes out rapidly and becomes general, but when it is partial or pale and atrophies without the general condition improving, it is not so good.

PROPHYLAXIS AND TREATMENT

Until the manner of infection is known, the only prophylactic measure to be recommended is to remain outside the districts known to be infected.

It is not considered necessary to isolate the patient, as there is no danger from personal contact. The patients whom I have seen were being cared for in the medical wards of Dos de Mayo Hospital, Lima, where they are received and treated without fear of infection.

The therapeutic resources are limited and consist principally of symptomatic and supportive treatment. Quinin is indicated if malaria exists as a complication, but it has no effect on verruca itself. The digestive system should be put at rest, the food being light and digestible, and when vomiting is constant, rectal feeding is necessary. Tonics and reconstructives are very useful when they can be borne. Saline solution by rectum and intravenously is used to great advantage during the critical part of the febrile period.

In presenting this paper, I do not wish to be taken as an authority on verruca, but merely give the impressions gained by a rather limited study of the disease while on a recent visit to Peru, together with information gleaned from literature which it is believed is but little known to the profession of the United States.

Verruca has not been widely investigated as yet, and it is believed that a further study of this interesting disease will prove it to be insect-borne and perhaps throw some light on other diseases, the etiology and transmission of which are not yet understood.

It is desired to render proper credit to Dr. Ernesto Odriozola of Lima, Peru, whose excellent monograph on verruca has been freely consulted in the preparation of this paper, and to extend thanks to Dr. Julian Arce, Director of Health of Peru, for presenting me with a copy of this work. Finally, I would acknowledge my obligation to my wife for the translation from the French of the above monograph.

THE RELATION OF PELVIC DISEASE TO EXOPHTHALMIC GOITER *

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The exophthalmic syndrome is now generally conceded to be due to excessive secretion of the thyroid gland, and as a result of this view recent therapeutic measures have been directed toward removal of a portion of the secreting tissue. In connection with this I desire to express my suspicion that too much emphasis has been placed on a merely excessive secretion. The histopathology of the exophthalmic thyroid should make us suspect that the secretion is not only excessive, but also is changed in character, for the reason that whenever gland-cells depart from the usual as markedly as is indicated by tinctorial chemistry in these glands, there is likely to be some change in their product. I desire to question emphatically the entire correctness of the minor premise before beginning my argument.

From time to time inquiries as to the relation of the thyroid to other organs have been conducted. It is my purpose to offer a contribution to this phase of the subject, in so far as it relates to the genital organs. This paper will be confined to clinical observations, including the result of therapeutic tests in cases in which a relation of this kind was believed to exist.

There are a number of phenomena both physiologic and pathologic which call attention to the relation between the genital organs and the thyroid. The most familiar phenomenon, and one which is known even to the painters, is the slight congestive enlargement of the thyroid incident to menstruation. This enlargement when associated with menstruation is worthy of note, as it is often attended by a nervous irritability and a quickened pulse and a slight rise of temperature. Equally well known is the genital aplasia in cretins and the suspension of genital function in myxedematous patients, which returns, however, when the myxedema is relieved by thyroid therapy. Suggestive, also, is the disposition to obesity after the menopause or after ovarian atrophy and the temporary reduction of fat by the exhibition of thyroid extract. In vomiting of pregnancy Siegmund and others report beneficial results from the administration of thyroid extract. It has long been recognized that in exophthalmic goiter the uterine function is frequently disturbed. This has usually been considered as a secondary result, though the opinion that the sequence of events is direct, has existed without, however, any attempt at proof. Some exophthalmic patients are much benefited by pregnancy while others are made worse. These and many other phenomena show the relation between the thyroid and the genital organs.

Unfortunately, we have little information of the pathology of these coexistent conditions. I have sought to contribute something to this question by careful clinical observation together with examination of pathologic material whenever such became available. My plan has been to treat the associated lesion as if the goiter did not exist, whenever it was clear from the history that the former began before the goiter. I have operated on five patients who presented gross gynecologic lesions such as are amenable to ordinary surgical treatment; in whom the pelvic disease certainly existed many years before the first symptoms of thyroid intoxication. Only patients operated on more than three years ago will be reported.

Case 1.—*History.*—Mrs. S. A., patient of exceptional intelligence, 36 years of age, has had no children; she gives a history of pelvic inflammation soon after marriage twelve years before, and has not been strong since, being subject to periodic pain and bladder irritation. Menstruation was variable, but not painful; in fact the pelvic disturbance was often less marked during this time. She was nervous and slept badly. Eighteen months before examination, while going past an excavation on a dark night, she fell into an incompleted cellar. The bruises sustained were not severe but she suffered greatly from fright. She never overcame her nervousness and soon her heart became rapid and irritable. She noticed that her eyes were becoming prominent. This caused her to consult an oculist, who prescribed 5 grains of thyroid extract four times a day. She grew worse.

Examination.—The pulse was 136, quick and jerky. The thyroid gland was noticeably enlarged. Exophthalmos and von Graefe's sign were well marked. Tremor and irritability were especially prominent. Pelvic examination showed a uterus very tender and immovable with resistance on each side. No definite mass could be outlined.

Operation.—Laparotomy, done in 1904, showed chronic pus tubes, the tubes and ovaries being imbedded in masses of fibrous tissue. Both tubes and the left ovary were removed.

Postoperative History.—The operative recovery was uneventful. Three months after operation the pulse was 80 and soft, the thyroid enlargement much less and exophthalmos was still discernible. Two years later she writes that she is well and adds that her heart palpitates easily, particularly at the menstrual periods. The condition of the thyroid and exophthalmos could not be determined by correspondence. The results in this case are symptomatically very satisfactory.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Case 2.—*Patient.*—Mrs. B., aged 42, has had two children and has suffered from backache since the birth of the first. Menstruation is often profuse and digestive disturbance and constipation have been constant. She has gradually become more irritable and sleepless. One year ago the diagnosis of exophthalmic goiter was made and thyroidectomy advised by her physician.

Examination.—Her pulse was 120-136, jerky and small. Exophthalmos was well marked. There was no diarrhea and the tremor was inconstant. The uterus was large, very tender and low; the cervix was lacerated and eroded. The fundus was in the cul-de-sac and was too tender to be elevated.

Operation.—Amputation of the cervix, shortening of the broad ligaments through the vagina and repair of the perineum were performed and the round ligaments shortened in 1905. The ovaries were normal.

Postoperative History.—Operative recovery was uneventful. The general improvement was very marked before she left the hospital, at the end of three weeks. At the end of a year the goiter had disappeared and the exophthalmos could not be detected with certainty. The pulse was 78. This was one of my early operations on the broad ligament and the cervix was still low but not so low as before the operation, and some bladder symptoms remained. The patient was anatomically and practically well and symptomatically entirely so.

Case 3.—*Patient.*—Mrs. B. had exophthalmos and goiter; the pulse was variable from 79 to 90 when she entered the hospital. She complained of nervousness and pelvic pain, the nervousness being the more distressing. Endometritis and retroflexion were diagnosed.

Operation.—At operation (1906) tubal adhesions were discovered. Curettage and the Gilliam operation were performed.

Postoperative History.—The pulse became rapid during convalescence, reaching 120, and was still 100 when the patient left the hospital.

Two years afterward she reported by letter she was perfectly well. Examination, however, made a year later showed the pulse to be 86 and the tension a little high. The goiter has disappeared but there is a suggestion of exophthalmos. The patient's own estimate was that of unqualified recovery.

Case 4.—*History.*—Mrs. D., whose only child was 4 years old, had exophthalmic goiter of several years' duration. In 1907 abortion was induced at eight weeks for uncontrollable vomiting of pregnancy, with marked exacerbation of the Basedow symptoms and rise of temperature to 103.5 and intermittent delirium.

Examination.—In June, 1907, she entered the hospital, with a pulse of 110. Exophthalmos was pronounced and the goiter was large. Tremor was marked, insomnia very distressing and the general nervousness extreme. There was marked loss of weight, dysmenorrhea and constant pelvic pain. Retroflexion, lacerated cervix and perineum with a large and tender uterus was diagnosed on examination.

Operation.—The lacerations were corrected and the Gilliam operation for the retroflexion was performed.

Postoperative History.—The patient regained her weight promptly after operation and ten months after there was great improvement in her general condition, particularly in the nervousness. Exophthalmos was still marked but the goiter was much reduced. The exophthalmos is still present but von Graefe's sign has disappeared and, save for excitability, the patient is symptomatically well.

Case 5.—*History.*—Mrs. S. has had one child and has had pelvic disturbance since its birth four years ago. She had albuminuria of pregnancy and convulsions and spontaneous labor at a subsequent pregnancy. Pulse 120, exophthalmos and goiter well marked and nervousness extreme. At examination the cervix and perineum were found to be lacerated, and there was extreme pelvic tenderness.

Treatment.—The treatment was correction of pelvic lesions as in the previous case in 1908. Improvement was very marked but the pulse is still rapid at times, particularly when surprised, as by the unexpected arrival of visitors, but she regards herself as well.

In each of these cases there was a well-defined exophthalmic goiter associated with a distinct surgical disease of the pelvis. Each patient was treated as though no hyperthyroidism existed. All but one were markedly improved before dismissal from the hospital, and in each of these the history of pelvic disease antedated many years the advent of the exophthalmic goiter. It is worthy of note that the most persistent symptom was the nervousness and in two cases an associated tachycardia when excited. Except in Case 3, there was improvement before the hospital period was over.

In addition to these patients I have been able to follow a series of others who were not operated on for some reason, but each of whom possessed a pelvic lesion long before the beginning of the hyperthyroidism.

Case 6.—Mrs. H., patient, when first seen in 1895 was 18 years of age. She had had dysmenorrhea compelling a period of rest in bed at each period since the age of 14. At the time of examination there was well-marked tachycardia, goiter and exophthalmos and great nervousness, and there was a rise in temperature for a period of weeks and some delirium.

Rest in bed and sedatives produced favorable results after several months. A year later, while the Graves' symptoms were still well marked, the patient married against my advice. Contrary to my predictions she was much improved in pregnancy and her condition was that of a symptomatic cure after delivery. The patient has been free from symptoms since that time, now fourteen years, and the tachycardia and goiter have been permanently relieved. Her dysmenorrhea also was relieved by the first pregnancy. There is still a trace of exophthalmos, though none of the other signs of hyperthyroidism can be detected. She has since given birth to five children, and apparently not content with this expression of derision of her medical adviser she recently emphasized it by giving birth to twins.

Cases improved by pregnancy are numerous in the literature, but unfortunately in these cases there is no evidence as to the condition of the pelvic organs before pregnancy and it would be interesting to know if these cases were coincident with an improved hyperthyroidism.

Case 7.—Mrs. A., aged 46, mother of four children, after the birth of her first child suffered much from pelvic disturbance and was afflicted by a chronic eczema. At the age of 44 she began suddenly to manifest severe evidence of menopausal disturbance after a sudden cessation of the menses. She had cold sweats and sleeplessness in a marked degree. These symptoms were treated with sedatives. The nervousness increased, however, and suddenly after six weeks of this treatment the pulse-rate rose to 120. These conditions became worse and after a further course of three weeks, goiter was well marked and the von Grafe sign was pronounced. Rise of temperature and delirium set in and she died in this condition, ten weeks after the beginning of the disease.

Case 8.—Mrs. H., aged 36, has been very nervous for several years, especially at the menstrual periods, and has had pelvic pain whenever she was on her feet. Pulse 120, von Graefe's sign present and thyroid easily palpable. Uterus was large and tender and cervix eroded. Cervical amputation was advised, which was done by another surgeon. A report was received four years later, saying she was much improved in every way. No details were obtainable.

Case 9.—Miss F., aged 40, has moderately severe goiter, tachycardia and exophthalmos and has had dysmenorrhea since childhood. The pelvis was not examined. She was given bromids and hydrastis. After three years she sometimes is nervous but is "well enough." The dysmenorrhea has disappeared.

Case 10.—*History.*—Mr. B., aged 32, came with diagnosis of aortic regurgitation. His pulse was 132, goiter well marked, exophthalmos moderate and tremor was pronounced. His chief complaint was sleeplessness and loss of appetite. He had given himself to excessive venery, indulging in intercourse nightly and frequently more than once. The prostate was very tender, slightly enlarged and softer than normal. There was tenderness and hyperesthesia of the deep urethra, but the seminal vesicles were free. Under bromid treatment the pulse remains below 80, sleep and appetite are good but the patient is still nervous at times. He now does without his bromid for long periods. He returns at times for medicine, stating that he has difficulty in controlling his sexual appetite, and that this presages an increase of the Graves' symptoms.

Case 11.—*History.*—Mrs. K., aged 44, has three children, the youngest being 14. She has been nervous many years and has had dysmenorrhea. I was called for opinion as to uterine cancer. There was no evidence of cancer but the uterus was large, tender and very hard, though symmetrical in shape. The cervix lies just within the introitus. She had lost 50 pounds in weight. Menstruation had ceased at the time of the advent of the hyperthyroidism. Rest in bed, with bromids, checked the loss of weight, but there was little general improvement. After four months hydrastis in full doses was added. Six weeks later improvement was marked and the weight increased amounting in all to 39 pounds. In another month menstruation was reestablished, which signalized marked improvement in the pulse-rate. The improvement has been progressive but the patient is still a semi-invalid.

In this entire series of cases there has been a definite pelvic disease which from the history clearly antedated the hyperthyroidism for many years. Each has improved by treatment directed solely to the pelvic disorder. That exophthalmic goiter is associated in some way with reflexes is suggested by the fact that Jonnesco's operation is attended by a measure of success. It has been suggested that in the ligation of the thyroid vessels the improvement is in part due to the breaking of the nervous connections.

These results, together with the fact that many patients with exophthalmic goiter improve under sedative treatment and rest, when no attempt to discover a primary source of irritation is made, have caused me seriously to consider whether or not this disease should ever be treated by the removal of the thyroid without a careful study of the patient. The mortality rate of thyroid operations is high. The vast majority of fatal cases are not reported. The after-results of the operations are not given with sufficient detail or after a long enough period of time to permit of any judgment as to the degree and permanency of improvement. Rest in bed may account for some of the improvement noted after thyroidectomy. That the chief dangers of operation are caused by fright, as Crile believes, is not supported by the experience of the operations here reported. In Case 3 only was there a temporary increase in the symptoms of hyperthyroidism. In Case 4 there was uncontrollable vomiting in pregnancy occurring after the appearance of the hyperthyroidism. A case was recently related to me in which an acute exophthalmic goiter developed after the beginning of uncontrollable vomiting of pregnancy. We have then the apparent paradox that pregnancy may cause or cure exophthalmic goiter. Unfortunately, we are not, as previously mentioned, possessed of sufficient detailed information to permit a conclusion. We must determine in those instances in which pregnancy was followed by improvement, whether or not the patients were possessed of such pelvic diseases as are ordinarily relieved by pregnancy. The cure of the pelvic disease by pregnancy may be the cause of the improvement in the hyperthyroidism. On the other hand, we do not know the cause of the vomiting of pregnancy or of its exaggerated state, hyperemesis. We ascribe it, probably correctly, to a reflex. If we knew the causes which exaggerate the reflex and thus produce hyperemesis, we might predict which cases of hyperthyroidism associated with a pelvic lesion would be made worse by pregnancy.

The evidence here presented seems to suggest that the pelvic reflexes should be more carefully studied before resorting to thyroidectomy in hyperthyroidism. It is not enough to be satisfied with the history of pelvic disease, but pelvic disease should be sought for. The history may fail to give evidence of a pelvic lesion when one exists. I have repeatedly discovered a pelvic lesion when the history failed to give evidence of such a disease. I have recently operated on a patient with early hyperthyroidism who had been treated for some years for tuberculosis of the lungs, because a persistent loss of weight could not be otherwise accounted for. A retroflexion, extensive laceration of the cervix with erosions existed, though the history gave no suspicion of a pelvic lesion and the discovery was made only because a routine examination of the entire patient has become with me a rule when hyperthyroidism is diagnosed.

A similar case is as follows:

Case 12.—Miss F., aged 30, had been suffering from exophthalmic goiter of moderate degree for one year. She had been under able medical supervision and thyroidectomy was advised. She denied absolutely any pelvic lesion, but pelvic examination was insisted on and a retroflexed uterus was found, which was excessively tender. Examination was without anesthesia and tubes and ovaries could not be palpated. She subsequently stated that she had had pain at the menstrual periods for a period of years and in the intervals when much on her feet. She noted that nervousness and tachycardia were increased at the menstrual periods. She explained her previous denial of pelvic disturbance by stating that she had been told that the pelvic disturbance was the result of the hyperthyroidism. The medical adviser who made this statement had made no pelvic examination. Recent operation disclosed extensive pelvic adhesions. In the four weeks following operation the pulse declined from 130 to 80; the operation is of a too recent date to permit a judgment as to the ultimate results.

Lesser degrees of pelvic or, more broadly speaking, sexual abnormalities such as seminal vesiculitis, or sexual psychoses manifest in masturbation, both physical and psychic, often exist which antedate the exophthalmic goiter. These studies lead me to believe that our conception of hyperthyroidism is too narrow. If the exophthalmic goiter syndrome is due to a hyperthyroidism, to what is the hyperthyroidism due? Perhaps, if all exophthalmic cases are thoroughly examined with reference to pelvic lesions and other diseases, we may gain additional light on the nature and cure of the disease. I am reminded of a remark made by Dr. Howard Hill in discussing this phase of the subject that "if we did not have sense enough to give soda in gastric hyperacidity, we would be cutting out half the stomach to lessen the secretion."

CONCLUSIONS

1. That there is some relation of the thyroid gland and the pelvic organs is generally recognized.
2. Exophthalmic goiter and pelvic lesions frequently coexist. In such instances the pelvic lesion existed before the advent of the hyperthyroidism. Secondary genital atrophy may be the beginning of terminal stage of myxedema.
3. The relief of the pelvic lesion is in certain cases followed by the amelioration of the exophthalmic goiter.
4. It seems highly probable that in certain instances the pelvic lesion stands in a causal relationship to the exophthalmic goiter.

5. The possibility that reflex irritation may exert an influence in producing an increased or perverted secretion of the thyroid makes it desirable that, when the diagnosis of exophthalmic goiter is made, search should be made for some possible source of irritation. The physiologic relationship between the thyroid and the pelvic organs suggests that the latter are particularly liable to be the source of such irritation and deserve particular attention.

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ABSTRACT OF DISCUSSION

Dr. E. M. Lazard, Los Angeles: Dr. Hertzler asks what was the apparent cause of the hyperthyroidism in the case which I reported. There was no pelvic disease, so far as I could determine, previous to her pregnancy; but the patient was of a very neurotic family and a few years ago in the Iroquois Theater fire in Chicago lost two sisters and I believe her condition dated from that time. She had been under the care of a physician the previous year and had had tachycardia at that time and during pregnancy besides enlargement of the thyroid gland, which increased considerably from the time I first saw her until after delivery. After the delivery she had very decided von Graefe sign. The muscular weakness and tachycardia kept up and I have seen her a number of times but her circumstances were such that she could not take proper care of herself. She had the care of her baby and the household and being a neurotic individual it was almost impossible to do anything with her. I heard two weeks ago that she had consulted Dr. Babcock in Chicago, who found much the same condition. She has still her tachycardia and other evidences of exophthalmic goiter.

THE RECOGNITION OF THE PRE-NEURASTHENIC AND PRE-INSANE CONDITION IN THE YOUNG

A STUDY FOR THE GENERAL PRACTITIONER *

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Education is a response of the race to an environment. Elaboration of civilization creates a demand for longer periods of preparation for life-work. This preparation is necessarily irregular and its results are ragged. The ungraded rooms in the public schools and the constantly increasing number of private schools for subnormal children indicate an awakened consciousness concerning a certain group of these ragged results. There are other groups to which the attention of the home and school has hardly been called. I might add that the ordinary physician pays little more attention to these other groups than do the home and school authorities. I refer to the children who develop insanity or neurasthenia in after years.

This double problem may be stated as follows: First, does neurasthenia develop on a neural soil which should be recognized as such in early life? Second, are there certain types of children that furnish victims of insanities, of the dementia præcox, or manic-depressive and hysterical, groups which are clear enough to be described and recognized?

DeMoor defines abnormal children as "those afflicted with anything whatever that unfavorably affects their lives in relation to the social medium in which they live." This is, apparently, a broad enough definition and has furnished a basis on which special school-work has been instituted for the blind, deaf and crippled, the idiots, imbeciles and infantiles, those mentally subnormal or retarded, and the morally abnormal. It takes into account and provides for practically every kind of abnormality which is found present in children. Simple and efficient tests are at the hand of the investigator, by which he may locate easily the grade of deficiency in any given case. From none of the above-named classes come the inmates of our asylums, who suffer from such mental troubles as dementia præcox, mania, melancholia and hysterical insanity. These future sufferers spend their childhood among normal people and are generally considered normal.

In this discussion the Mendelian law of heredity will be laid aside.

It is tenable to believe, as a theory, that nerve stress is the only cause outside heredity for these and some other psychoses. Stress is removable when understood, or at least is theoretically removable. Insanity prevention fails because the stresses do not crop out until the disease is inevitable. This paper is an attempt to determine what young persons are of such types as will develop mental and nervous disease under later stress.

As I have worked over the literature and case histories, three rather distinct types have formed themselves in my mind. None of them are queer enough to be classed as abnormal at home or in school. All of them pass puberty with a definite handicap. They may be called the pre-neurasthenics, the pre-emotionals, and the pre-dements.

The neurasthenic adult is the result of a neurasthenic child or of a normal child plus exhausting illness. Natural juvenile neurasthenia is clear-cut. Its symptoms are as follows: On the physical side a general droopiness, poor standing balance, diminished expression in face, fulness under eyes indicating fatigue, other fatigue signs, as when arms are extended one is lower than the other and thumbs droop, twitching fingers, abdomen thrown forward when trying to stand erect; on the nerve side, marked inability to accomplish, due to mental, not physical fatigue, a mental apathy more apparent than real, abnormal sensibility to external impressions, such as sudden noises, etc.

The pre-emotional type shades into and is often combined with the neurasthenic type. Children of the latter type are usually well-formed physically, while those of the pre-emotional type may show various physical stigmata of degeneracy.

The general distinguishing features between the emotional and neurasthenic types are to be found in a study of the stimuli to which each type responds most readily. The young neurasthenic is seldom introspective. His stimuli are largely external. The future sufferer from mania, melancholia, hysteria, etc., responds to internal more than external stimuli. Fear, ambition, love, hate, sorrow, all provide internal reasons for outward reactions, which at times become so prominent as to be labeled "unnatural." His existence is sthenic, not asthenic. He has a large range of interests and he keeps them all going. He is versatile and capable, intense in what he does and thinks and vigorous in joy or sorrow.

The pre-dements are the mental shut-ins, physically well built and admirable while mentally un-understood. Apparently happy and care-free they often carry a hazy and terrifying knowledge of their own apartness from their associates. They are further characterized by a power to follow out their natural aptitudes with brilliancy, thereby covering up defects in their reasoning power and intellect, which may be immense.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Not easily fatigued, not emotional in the usual way, seized by fundamental emotions and held by them because of inability to react to further stimuli; unable to correct ideas by reason and observation, unable either to understand or to explain themselves, because of this massive bent or tendency of intellect which makes impossible the exercise of sound judgment; consciously, uncomprehendingly handicapped; kicking against the pricks of an intangible hindrance—these are the predements.

Here are three pictures of neural and mental types that are very different from each other, and I believe them to be fairly accurate pictures. The key to the preneurasthenic type is fatigue. The key to the pre-emotional type is instability. The key to the pre-dement type is internal strife. Do these types develop the future troubles named above in this paper? I do not know, but I believe so. The literature at my command tells me of none who do know. Can these types be studied and clarified so that teachers and family physicians may learn to recognize them as easily as they do now the abnormal child? I believe so.

Studying mosquitoes prevented yellow fever; eugenics seeks to prevent the production of abnormals in the future. A study of these types may lead to the saving of a little child in the present.

Exchange Building.

ABSTRACT OF DISCUSSION

Dr. T. J. Orbison, Los Angeles, Cal.: The point that Dr. Moore makes is apt and appeals to anyone who goes into the previous history and family history of any of these patients who come to us as dements or as neurasthenics or as psychasthenics. We can see them after they have developed, as Dr. Graves says in his paper, but it is getting at the earliest symptoms, when we can prevent them from having the cardinal symptoms, which is no doubt the important thing. I should like to speak of the work that is being done by Professor Witmer, who instituted the laboratory of experimental psychology at the University of Pennsylvania. They started the work six years ago; they have a complete laboratory and are taking these children and making tests which they will publish, no doubt, when they have sufficient data on hand. I believe that the education of the parents is one of the main things in this particular, and I believe that that education is being started. I recall two instances in which the mothers of the children referred to were the ones to take the lead in the attempt to find out what they could do for their children. One I know was willing to give up her only son into the care of a young woman who had been educated along the lines of child education. The other is likewise willing, and, in fact, she herself suggested that inasmuch as she was a particularly nervous person, as was her mother before her, it was better for her and the children to be apart. It is important that the parents shall take that view, and it seems to be up to us to direct them along those lines. I would like also to emphasize one other point, and that is the curability of certain types of dementia præcox. Five out of eight of my cases were cured and one remains almost normal. Two were acute. One was an acute dement with cyclical relapses. One was a hebephrenic. Those cases were taken early, and they have maintained their cure for several years. Others, of course, we cannot cure, as we all know; but the idea of the incurability of these patients, it seems to me, is not borne out when we can get them early, as we should do.

Dr. G. Wilse Robinson, Kansas City, Mo.: When we take into consideration the fact that dementia præcox, next to manic depressive insanity, is the most common psychosis with which we have to deal, and when we also take into consideration the further fact that practically every case of dementia præcox, before the dementia develops, shows manifestations and symptoms that should at least cause us to suspect that such a condition will develop, it certainly behooves us to get busy.

As regards the personality and the characteristic symptoms that are manifested previous to the development of dementia præcox, I believe that the personality as described by Hoch as the "shut-in personality" is perhaps the most common. Such children live much to themselves. They are children who are hard to penetrate. It is a hard matter to get into their internal lives. They are children whom their parents and relatives do not understand. They are children who often are brilliant in a way, but they are unstable. Their nervous organization is unstable, perhaps in a nutritional way. They cannot stand long concentration. Many of them do not follow any particular occupation or any particular line of study with any perseverance. They jump from subject to subject, and these children, I believe, could be ferreted out and many of them could be saved if we had proper supervision of them. We have, in many of our cities, municipal school inspection, and we should have state-wide school inspection. These children that are peculiar, and children that are unusually brilliant should be investigated so that we may learn wherein they are defective, and then we should have the power of forcing parents to educate them or have them educated in a manner that will, in so far as possible, prevent the development of these psychoses and neuroses.

I believe such children ought not to deal much with abstract problems; they should deal more with the concrete. Instead of studying psychology, they ought to study pigs and chickens and work in wood and iron and things of that character. Some children cannot stand higher education. Many of them are educated into a hopeless state of dementia; and we should advise the children, and the parents should be advised, and if they will not follow the advice there ought to be some power whereby the state could force these children to take up the proper line of work. I have often said that there ought to be some law whereby insane patients could be protected from their fool relatives; and children that are predisposed to insanity ought to be protected from their foolish parents.

In regard to curing dementia præcox, I do not believe that any true case can be cured; allied conditions can be cured, I believe that such patients as are cured have not true cases of dementia præcox.

Dr. C. L. Allen, Los Angeles, Cal.: I do not think we can exaggerate the importance of the subject which Dr. Moore has introduced. However, a great deal of caution is necessary, in interpreting these signs in children. We know that the so-called stigmata of degeneration are unreliable. Many people have one or more of them. The investigations of which Dr. Orbison spoke which in a psychologic way seek to estimate the mental make-up of children, are bound in time, I think, to prove of the greatest value. However, we also need a great deal of caution in their interpretation, and it will probably be a number of years before we are able to make up our minds on any definite standard.

As to the matter of education, of which Dr. Robinson has spoken, it seems to me that while all the laws of hygiene with regard to a child should be observed, the question of overwork should never enter into it. The child, as he suggests, should be out in the air a great part of the time and should be interested in things at hand; nevertheless, I cannot help but think that in some cases, at least, a properly directed education instead of being a disadvantage would be a benefit.

I have in mind the case of a young woman who, as a child, presented a great many neurotic symptoms, was hysterical, and showed certain traits which caused her parents considerable anxiety. Her father was a physician. It was noticed that this child was always better balanced and more contented when engaged in school work. She was never allowed to overwork, but she has been kept steadily at school, has since graduated at college, and the effect of the work has seemed only beneficial. I am of the impression that a continuance of this work cannot but redound to her benefit. The parents are very largely relieved now, and I bring the case forward as an instance of the fact that I think properly chosen work may be an advantage and a discipline rather than a disadvantage.

Dr. C. R. Woodson, St. Joseph, Mo.: The teacher, perhaps, should be instructed along these lines, and the parents should be instructed along the lines of trying to lead the child to bear disappointment well. The environment cannot be too good. The habits should be exceedingly regular. As their carrying capacity is not great, they should never be overloaded. The object or idea of rote learning should be condemned in unmeasured terms. The prodigy or the child disposed along those lines should be held back. The child who is defective should never be encouraged in the lines in which it shows great proficiency; in other words, the centers that are disposed to develop quickly should be held back, and an effort made to bring up the centers which develop slowly. The habit of parents and teachers of being abrupt with patients like these is very injurious. At the same time too much stress cannot be placed on the necessity of teaching the individual to bear disappointment well. I think that much more good is to come from the schools along these lines than from the medical profession. However, the profession and the school, as has been said, should be closely associated.

Dr. William J. G. Dawson, Eldridge, Cal.: At the Glen Ellen Home in Sonoma County we have now 944 inmates of all grades. We have five school departments, but I believe in educating these people through their hands and their feet. It is the only way they can be developed to any extent. The parents do not think so. They want their children to learn to read and write, but there is very little progress made in reading and writing, comparatively speaking,. We ought to start in early with the children in the public schools and find out the "defects" and the backward children. We have both in the Home. There should be a separate and distinct treatment for these backward children. They should not be mingled with the feeble-minded to the same degree that we have them up there; and it is a very important matter that the school teacher should early detect the trouble in the child.

Dr. Daniel Crosby, Fruitvale, Cal.: Dr. Orbison is fortunate in the cooperation which he obtained in his cases. But the average parent will be found to be a stone wall, when you seek cooperation about a defective child. Unless the child is almost a fit subject for an institution for the care of defectives, the average parent will not acknowledge the necessity for special care and observation and teaching. In the schooling of the child, it is the teacher who has priority with the pupil, and it is in the psychologic and pedagogic departments of our normal schools and universities that the greatest effort must be made, looking to the training of teachers to recognize the exceptional child, and to the enlightening of the boards of education in the matter of the care and mental development of the mental irregular. It is a modification of the present plan, classification and training which must be accomplished by you neurologists through the boards of education and the teaching force of the state.

Dr. David S. Booth, St. Louis: There was one expression used by the author of the paper which I think is very misleading, although it is a common one, viz., "mental and physical fatigue," thus disassociating mind from matter. It is an expression generally used by the profession, and though well understood by the neurologist, it is misleading to the laity (if not to the average practitioner), who do not recognize the fact that general physical fatigue leads to "mental" fatigue; and that "mental" fatigue is an evidence of physical fatigue. In the treatment of these diseases, the error is often made of adding physical fatigue to the already present "mental" fatigue, which, instead of aiding the reparative process, only aggravates the original trouble.

Dr. Louise Patterson, Vineland, N. J.: What we need is an enlightenment of the teacher along these lines. The teacher needs to have an opportunity to observe the grades of children, so that she may weed out those who are suffering from these conditions, and that they may be put where they should be; if they are feeble-minded, in an institution for the feeble-minded; if they are backward, in classes for the backward; and if they are neurotic, they may be sent to the physician. We also need physicians and medical inspectors who know something of the work and who go into it much more deeply than just finding out if the child has measles, or looking at its throat, or looking into its eye, or seeing if it has a discharging otitis media. We need physicians who will go deeply into this subject, and we need men and women who will care for these children and have them trained in the way they should be trained. We have a training school in our institution for both physicians and teachers. This has been going on for a number of years. It is not probable that many of you have ever heard of it.

Dr. Bernard Oettinger, Denver: The point that we must reach in investigating these conditions is to feel the necessity of putting these children in a place where they will feel at home. We are probably learning to recognize earlier than heretofore, abnormal mentality of childhood, but when done, there are few suitable places for these children. We have an occasional home for the feeble-minded, but even in these care is not individualized. Workers who are constrained by their daily labor to do their physical utmost cannot well recognize an unusual condition in their children. Amongst another class, the father and mother are so busy looking after business and home that they do not recognize abnormality, while amongst the very rich, little personal attention is paid to boy and girl. The protection of those mentally inadequate has much to do with economic conditions, and with that comes the need for recognition and care by authority outside the family. They should live in colonies where mental stress can be removed by education suitable to mental development and absence of uneven family discipline and sentimentality. Unless I am mistaken, I did not hear from Dr. Moore whether he had any hopes of recognizing a preneurasthenic or a preinsane condition. I have never felt that I could, and I think after all this is for to-day merely a hope.

Dr. Ross Moore, Los Angeles: We are establishing a school laboratory in Los Angeles along the lines of the Philadelphia laboratory for the study of children from the standpoint of their nerve and mental makeup, particularly the latter. The object of this paper was to make concrete three juvenile types of mentality who may be so brilliant as to seem normal and who in the future may become ill from preventable conditions. I hope to see in the future a series of questions or a mode of examination developed which will lead to an accurate knowledge of these types. There is one thing that goes back of the remarks made with regard to the education of the general public—the education of the general practitioner. These potentially substandard children slip through our examining rooms unrecognized. This is because the types of childhood on which mental or nervous disease engrafts itself are not concretely in the minds of the examiners as are the types of physical defect. It is my belief that if we neurologists will study to elaborate such types as have been hinted at in this paper we will do a great service to future generations by making possible the prevention of much mental and nervous disease.

A CASE OF ASCENDING PARALYSIS WITH RECOVERY

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DETROIT

Patient.—The subject is a soldier in the infantry service U. S. A., aged 24. with negative family and personal history, who had had an army service of four years ten months and had served in the Philippines two years three months. There is no history of venereal disease or of venereal or alcoholic excesses.

Examination.—He was first seen by me in consultation with Major F. M. Hartsock, U. S. A., July 30, 1910, and had first reported at sick-call July 27, when he appeared rather dull, sallow in color and with a temperature of 100 F. and pulse 76. He was constipated, his tongue heavily coated, marked anorexia, and he presented the appearance of the onset of an acute infection. The spleen and liver were not enlarged. July 28, the Widal test was negative as also the urinalysis; on July 29 the patient had to be catheterized.

History.—He told me that July 22 he had noticed the first symptoms, feeling chilly and having some headache and he thought he had some fever. During the last three days (July 27 to 30) his temperature had ranged from 99.8 F. to 102 F. and was at this time 100.2 F. with a pulse of 72, full, soft and regular. He had been vaccinated against typhoid some months previously. Two weeks before the onset of the illness he had been on a "hike" across country but had not been in contact with the sick and had been in no house where either child or adult was sick or paralyzed. He spoke of much backache, "in the small of the back," as among his first symptoms but complained of no other pains. He was examined in bed in the post hospital and seemed mentally clear. He could move one foot slightly and could move a little the toes of both feet but otherwise could not move his lower extremities at all. Though he said he had evacuated his bladder the day before, he was now totally unable to do so. There had been no bowel action on July 30, though good until then.

Course.—The knee-jerks were entirely abolished; the arm-reflexes were present and a trifle more quick than normal. There were no sensory changes.

August 3: The patient seemed comfortable but motor paralysis had distinctly advanced and extended to the trapezius muscle. The deltoids were involved but he still used hands and forearms. Electrical response of muscles was reported as very sluggish. The speech was fairly clear yet sounded a bit thick. Respiration is affected; has been as high as 36 per minute and there have been periods of quite typical Cheyne-Stokes respiration and also quite a degree of opisthotonos. The patient is able to raise the right arm somewhat but can use only the left forearm. His temperature came to normal August 2, and is practically normal to-day. He takes food pretty well; but some saliva escapes from the mouth.

August 5: The pupils are somewhat contracted. The bladder is still paralyzed and the patient has passed urine involuntarily. There has been a mild delirium and the infectious process seems to have involved the knee-joints which are slightly enlarged and quite tender.

August 7: The patient assures me that his knees are not the same as those I tackled before and that he has three now. When asked to show me the third, he recognizes that he has wandered mentally and corrects his error. Temperature is normal, pulse 68 and of good quality. There is some difficulty in swallowing.

August 10: For ten days a bedsore has been imminent but has been averted by care. To-day there are points of threatened trophic disturbance over heels and malleoli and these are carefully protected. He says he feels "as if all in" in his upper extremities and there is some retraction of the upper lip.

August 14: Patient can hardly use his hands at all or lift his wrists from the bed; there is twitching of the muscles of the face.

August 18: Patient is seen with Dr. Flintermann to-day; he has greatly improved in twenty-four hours; he raises his right arm very well, the left not so well and he also moves toes and feet better. The triceps reflex is absent, those of forearm and fingers present. There is still entire absence of the reflexes of the lower extremity. From this time on, there was gradual improvement, this being more marked in the upper extremities, though that in the right arm and left leg was especially noticeable.

September 11: There was a slightly spastic condition of the left arm and extension beyond an angle of 60° was painful, the bladder had resumed its functions and the bowels moved without aid.

October 7: A distinct thrill of the left quadriceps extensor is felt on tapping the left patellar tendon, though this is not discernible on the right side. The patient now uses the right hand and arm quite freely and normally, the left with more difficulty. The abdominal reflex is still absent. He moves the feet a little better but cannot draw up either leg or flex the knee.

November 17: The patient has improved much more in the upper than in the lower extremities. His hand-grasps are (relatively) right 40, left 30. Cremasteric response is prompt on both sides.

Jan. 3, 1911: There is still some rigidity of left arm. The activities of the lower extremities are still but slight, though improvement has been marked.

January 25: The left knee-jerk showed a positive, though faint return. The patient now flexes the left knee to about 60°, the right less.

He passed from direct observation and was discharged from the service February 22, but on March 17 he wrote that he had improved wonderfully, having about half the use of left leg. June 20: He wrote that the left leg would support about two-thirds of his weight and that he had been out for a ride.

In other words, this man's problem is the same as that of the patient slowly recovering from acute poliomyelitis, the restoration of the power of individual muscles or how best to make other muscles assume the burden of deficient muscles or muscle-groups, and this raises naturally the query as to diagnosis.

Obviously, here is a case of acute ascending paralysis, without true atrophy, with slight sensory phenomena and resembling in many respects the fatal case described by Landry in 1859. Is the case here reported a case of Landry's paralysis or is it merely an acute ascending paralysis, with improvement of muscle-groups involved taking place in reverse order and its ultimate status presenting the problems commonly seen in recovering cases of poliomyelitis? Is it not probable that many of the cases which have served to confuse the pathology of Landry's paralysis are only cases of acute poliomyelitis, in which the spinal cords, could they be examined, would reveal lesions of a distinctly inflammatory character, presenting quite a different pathologic picture from that in which Landry was unable to demonstrate any definite changes?

LARGE MULTIPLE PROSTATIC CALCULI AS A LATE RESULT OF PERINEAL PROSTATECTOMY

WALTER D. WEBB, M.D.
WASHINGTON, D. C.

History.—The patient, J. N., white, aged 68, with an unimportant family history, states that seventeen years ago (1894) he was operated on by Dr. Samuel Alexander in New York City, a perineal prostatectomy being performed. This was probably one of the first perineal prostatectomies performed in this country. For several years he was relieved of his symptoms with the exception of some incontinence, but for thirteen or fourteen years he has suffered wtih a return of the incontinence equal in extent to before the operation and frequent desire to urinate. For ten years he has had to wear a rubber urinal during the day and sleep with a glass urinal between his legs at night. He has never resorted to catheter life owing to the difficulty of its introduction. There is a marked alcoholic history. No erection since the operation in 1894.

Examination.—On admission to hospital, Sept. 20, 1911, examination showed an emaciated old man with large bony frame; arteries markedly sclerotic, beady, senile type; heart and lungs negative; temperature was elevated and pulse accelerated. His urine was alkaline, full of pus and mucus and a few red cells were present; there was a heavy trace of albumin and a few hyaline and granular casts. He complained of pain at the end of his penis, which was swollen and inflamed, from a balanitis set up by the irritation attending constant dribbling of alkaline urine. Residual urine 250 c.c., bladder capacity only 360 c.c. Urethra admitted a filiform sound with the greatest difficulty; attempts to introduce large sounds were resisted by obstruction in the usual site of the prostatic urethra. Roughness could be felt at this point, by moving the filiform. A follower was passed (No. 17 French) into bladder and a click could be felt which was interpreted to be due to a stone in the bladder. Followers (to include No. 24 French) were introduced; the urethra was found to be very tortuous.

A radiograph was taken which showed a large oval mass apparently in the bladder. There was a perineal scar and also a scar over the prevesical space above the pubes, accounted for by the fact that Dr. Alexander made a suprapubic opening in his early prostatectomies and depressed the prostate gland from above, pressing it into the perineal incision through which it was enucleated. Rectal examination revealed a hard, smooth, insensitive mass in the site of the prostate; median furrow and notch obliterated; no periprostatic induration; pelvic glands, not palpable. This led to the belief that the patient's statement about the prostate being removed was incorrect.

Operation.—Sept. 29, 1911, I opened the bladder by the suprapubic route expecting to find a vesical calculus, but much to our surprise the bladder did not contain a stone. Cystoscopy was not performed as a suprapubic opening was decided on after discovery of the stone by means of the *x*-rays. Projecting upward around the internal urinary meatus was a mass which, on palpation, felt precisely like an enlarged prostate with both lateral lobes symmetrically enlarged; this mass was hard but not more so than some malignant prostates. The interior of the bladder was smooth, free from concretions, no diverticula present. The internal urinary orifice was encroached on and had its longest diameter placed transversely.

A suprapubic prostatectomy was decided on and the usual incision was made through the capsule, which was found to be about one-fourth of an inch in thickness; the mass was then found to be composed of thirteen hard, faceted stones, the polished surfaces of which fitted accurately so as to form an oval mass. They were of phosphates, weighed 24 gm. and were in the site of the old prostate which had been removed by Dr. Alexander, by the perineal route, years ago.

Course.—As much of the capsule which contained the stones was removed as could be safely done and the patient has progressed uneventfully to an excellent recovery. One month later he was discharged from the hospital, passing a large free stream without obstruction; slight incontinence, free from cystitis and great improvement in general health.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

CIOSE.—Ciose is stated to be a dry, completely soluble protein product of beef, separated from extractives and containing 83 per cent. to 85 per cent. actual protein.

In the preparation of Ciose the minced washed fiber of fresh raw beef is subjected to digestion under the action of an extract of the fresh gastric gland and under conditions of time, temperature and reactions approximating to those of bodily digestion; the solution thereby obtained is sterilized by boiling and then filtered, and by this means the solution is freed from enzymes and from coagulable substances, and reduced to dryness in vacuo.

Ciose occurs in light, yellowish-white scales. It is easily soluble in water, forming a solution having a faintly acid reaction.

Actions and Uses.—The nutritive value of 500 Gm. of ciose corresponds approximately to 2,500 calories. The same quantity of milk represents 360 calories, of which 84 are due to protein and 89.4 to carbohydrates. Ciose is especially designed as a means of augmenting the protein of any desired diet. It may be added to soups and broths of beef, chicken, cereals, vegetables, etc. at the moment of taking; it may also be added to any prepared food, the protein of which it is desired to raise; or given in wine. It may be taken in hot water with the addition of salt, pepper, celery or any condiment.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 47,774. Not patented in U. S.

ENEMOSE.—Enemose is stated to be a sterile liquid containing approximately: the nitrogenous substances from beef and wheat, 12 per cent.; carbohydrates from wheat, 46 per cent.; ash (phosphates, etc.) 4.5 per cent.; in a non-coagulable, diffusible and assimilable form. Enemose is stated to contain the ingredients of normal salt solution, in amounts such that when diluted for use it has the composition of physiologic salt solution; also 1 part salicylic acid in 1,000 parts, or about ½ grain per fluidounce.

Enemose is stated to be free from fat, sucrose and alcohol.

In the preparation of enemose, lean beef and whole wheat are said to be subjected to the action of the gastric, pancreatic and intestinal mucosa extracts, the solution sterilized, clarified and concentrated. The carbohydrates thus obtained are said to consist of maltose and dextrins; the proteins present the entire group of derivatives of enzymic digestion beyond albumose.

Actions and Uses.—Enemose is a nutrient especially designed for colonic alimentation. The nutritive value of 500 Gm. of enemose corresponds approximately to 1,230 calories, of which 250 are due to proteins and 980 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—Enemose is made ready for injection by simply dissolving in warm water at the moment required for use—1 volume (1 ounce vial) of enemose to 4 volumes (ounces) of water gives a solution of the following composition: solids, 12 per cent.; proteins, 2.40 per cent.; maltose and dextrins, 9 per cent.; ash, 0.9 per cent.

Enemose may be dissolved in hot water and allowed to cool to the proper temperature for injection.

Enemose is put up in vials, each containing 1 ounce, which should not be opened until required.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark applied for. Not patented in U. S.

PHARMACEUTICAL PREPARATION ACCEPTED FOR N. N. R.

The following dosage form of an accepted proprietary article has been accepted for N. N. R.

Digalen Tablets.—Each tablet contains Digalen ½ Cc. (8 minims).

Prepared by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York).

Therapeutics

BACILLARY DYSENTERY

One or two decades ago dysentery was recognized as a rather common disease characterized by frequent movements of the bowels, containing mucus mixed with blood, and accompanied by griping pains and rectal tenesmus, the pathologic lesion on which these symptoms depend being situated chiefly in the large intestine, the disease being regarded chiefly as the result of cold, and the treatment consisting of the administration of a laxative followed by astringents and sedatives.

Investigations made during comparatively recent years have demonstrated that some of these attacks of dysentery are caused by the presence in the intestine of a protozoon to which the name *Amœba coli*, or *Amœba dysenteriæ*, has been given. The disease caused by this ameba has been given the distinguishing title of "amebic dysentery." These cases have been observed principally in tropical climates, but recently they have been observed with increasing frequency even in cities of the temperate zone, due in part to the more careful examinations of the feces in cases accompanied by intestinal disorder, and in part to the presence in these cities of patients who have returned from the tropics incompletely cured, and who therefore act as foci of infection for the disease.

Other cases have been found to be due to a bacillus called *Bacillus dysenteriæ*, a term which at present seems to be applied to a number of different bacilli, which are distinguished as different strains, but, however, have close resemblances. The affection produced by this bacillus is known as bacillary dysentery, and is the form of the disease most often seen in temperate climates. In the *Interstate Medical Journal*, September, 1911, appeared an exhaustive article by Dr. Frank S. Meara, of New York, on the treatment of this affection. The treatment that he finds most satisfactory is as follows:

Absolute rest is of the first importance, and should always be insisted on as soon as the diagnosis is made, no matter how mild the disease is. Rest is necessary for several reasons. It diminishes the metabolism which is needed to meet the demands of the body, which demands are increased by exercise. It also diminishes the activity of the bowels, as peristalsis is increased when the intestines are pressed on by the surrounding organs, on account of the contraction of the abdominal muscles during the upright position and walking.

A patient with dysentery demands as active and careful management by the nurse as one with typhoid fever. Therefore it is preferable that the bed which the patient occupies should be narrow and high, and that the springs should be stiff. The mattress should not be too hard, and should be covered by a folded blanket, if it is not smooth. Over this is placed the lower sheet, which is well tucked under the mattress. Over this sheet should be spread a rubber sheet wide enough to extend from the pillow to the patient's knees and long enough to be tucked under the mattress at either side. Over this should be placed a draw-sheet, which is folded lengthwise and placed across the bed so as to cover the rubber sheet. This may be readily exchanged for a clean sheet as often as deemed necessary. The patient lies on this sheet, and over him should be placed a sheet and one or two blankets.

The room occupied by the patient should be large, well aired, and should receive some sunlight, although, as this disease frequently occurs in summer, a room having the sunlight during the entire day is sometimes objectionable. The patient should receive a daily warm sponge bath, the water at a temperature of 110 F. One part of the body should be bathed after another so as not to uncover the entire body at once, and so that the patient may not become unnecessarily fatigued. Following the bath, a gentle alcohol rub should be given, and the back should be dusted with a bland powder. The mouth should be cleansed frequently, and often it is best to use some mild alkaline solution, like Dobell's solution (liquor sodii boratis compositus, N. F.). If there is considerable stomatitis, diluted hydrogen peroxid solution or a potassium chlorate solution may be used. If dryness of the mouth is very troublesome, equal parts of a pure mineral oil and a 2 per cent. boric acid solution, with a little lemon juice, will be found useful.

Unless the illness is very mild, the patient should not be allowed to leave the bed when his bowels move, but the bedpan should be used whenever necessary. It should be warmed before being placed under the patient; a towel should be placed between it and the draw-sheet, and the patient should be assisted in raising his body by the hand of the nurse placed under his back. After the bedpan has been used the patient should be locally bathed, dried, rubbed with alcohol, and powdered.

The patient's body should not be allowed to become chilled, but should be kept constantly warm. An extra piece of flannel may be placed over the abdomen, and if the feet are cold, a hot-water bottle should be placed between the sheets at the foot of the bed

The diet is of great importance. During the early days of the illness the amount of food should be rather limited. Meara believes there is nothing better for patients with this disease than milk. It is bland, non-irritating, and non-stimulating to the intestinal tract, is readily assimilable, and leaves but little residue. The patient should receive a glassful every two hours, of which he may drink as much as he is able. The milk may be given raw or boiled. Many patients seem to do better if the milk is boiled; but some patients cannot take it readily when prepared in this way, and these may be allowed to take it raw. At the beginning of the disease, especially if there is fever, the milk may be diluted with one-fourth or one-third of the quantity of plain boiled water or rice water. The effect of the milk on the patient should be carefully watched, and if, on account of distress or flatulence, it seems to be not well borne, the possibility that the fat is not well digested should be borne in mind, and if this seems probable, the milk should be skimmed before it is administered. After the fever has gone and the stools have improved, the patient may take barley jelly and thoroughly boiled rice; later toast and egg, a chop, and, finally, the usual diet. It is better that everything the patient takes should be warm, for cold foods or drinks, or very hot drinks increase peristalsis. Water may be given frequently and in small amounts, but not too cold. To the few patients who cannot, or think they cannot take milk, barley water, rice water, egg albumin and thin chicken broth may be given. Milk-sugar may be added to suitable foods in order to increase the caloric value. If there is much gastric disturbance, it may be necessary to suspend all food temporarily.

It is an almost universal rule to commence the treatment of dysentery by the administration of a cathartic. Three drugs are in common use for this purpose: calomel, castor oil and salines. It is the belief of some physicians that calomel tends to increase the amount of blood in the stools. Salines and castor oil do not do this. Meara prefers castor oil, which he advises should be given in the following way: A teaspoonful of brandy, whisky, wine, lemon juice, orange juice, or peppermint water is placed in a small glass and the entire inner surface of the glass is moistened with this fluid. The castor oil is then measured into a spoon previously wet with hot water and added to the glass. Another teaspoonful of the menstruum is poured over the oil, and the patient is instructed to drink it quickly and wipe the lips, and then take the juice of a piece of orange or lemon. The dose of the oil should be half an ounce to an ounce. The oil should not be mixed with milk on account of the danger of the patient acquiring a distaste for milk.

The serum prepared by Shiga and also that of Flexner have not, up to the present time, given very satisfactory practical results.

Meara considers castor oil the most useful drug in the treatment of this kind of dysentery. He uses the prescription advised by Dr. Francis Delafield, of New York:

℞	Gm. or c.c.			
Olei ricini	10	50	or	fl. ʒiiss
Phenylis salicylatis	2			gr. xxviiss
Tincturæ opii deodorati	1			♏ xv

M. et fac capsulas 15.
Sig.: One capsule every two hours.

In ordinary cases little medicine will be required in addition to these capsules. They should be given every two hours until the movements diminish in frequency; then every three hours; and with further improvement, every four hours. Meara believes that the improvement is due to the small doses of oil rather than to the opium, because he has found that very satisfactory results may be obtained many times without opium. Besides these regular administrations of small doses of castor oil, a large dose should be given every second or third day, as at the beginning.

Of the saline treatment, consisting of the administration of sodium sulphate or magnesium sulphate in doses of half an ounce or an ounce, followed by dram doses every two, three, or four hours as improvement occurs, he speaks with somewhat less approval.

Large doses of ipecac he has rarely seen used, and believes that good results are not frequently seen in temperate climates. This may be due to the fact that very severe cases are not common, so that heroic treatment is not often demanded, and perhaps in part also to the fact that our physicians do not acquire skill in employing this treatment.

Among the most important symptoms which demand consideration are the griping, colicky pains and the incessant, nagging tenesmus. These may be relieved by local applications or by drugs. For local application nothing is more efficient than heat. It may be applied in the form of hot fomentations, turpentine stupes, or thin poultices. Squares of flannel wrung out of hot water may be applied to the abdomen and covered with dry flannel. Turpentine stupes are prepared by adding a teaspoonful of turpentine to the hot water from which the flannels are wrung, or the turpentine may be sprinkled on the flannel after it has been wrung out of the hot water; or, a bit of absorbent cotton wet with turpentine may be rubbed lightly over the abdomen. If the turpentine is carelessly applied, it may cause burning of the skin.

Warm rectal irrigations at a temperature of 100 to 105 F., either of plain water or of physiologic saline solution, are recommended, but they should generally be avoided in mild cases, on account of the danger of increasing peristaltic action and exciting movements.

For the tenesmus nothing is equal in value to the local application of opium or morphin. Opium may be combined with belladonna as in the following suppositories:

℞	Gm. or c.c.		
Opii pulveris	|065		gr. i
Extracti belladonnæ foliorum	|015	or	gr. ¼
Olei theobromatis	2|		gr. xxx

M. et fac talia suppositoria 10.
Sig.: Use as directed.

Or the opium may be used in the form of laudanum combined with starch mucilage, 1 c.c. (15 minims) being added to an ounce or two of the starch preparation.

If the pain and tenesmus are not removed by these methods of administration, morphin may be given hypodermatically. When this is resorted to, caution must be exercised lest the drug habit be acquired. As in giving castor oil, so in giving opium or morphin, it is better not to tell the patient the drugs he is receiving.

Numerous drugs have been advised for the diarrhea. They may be classified as astringents, local sedatives, and opium. Astringents are objectionable, Meara believes, because of their effect on the protoplasmic substance of the cells, which action threatens their integrity. Of the sedatives, bismuth is most largely used. Whether it acts as an astringent or by coating over the mucous membrane seems to be undetermined, but that in large doses it does real good cannot be doubted. As much as 2 gm. (30 grains) should be given every two hours. It should not be given continuously without giving an occasional dose of castor oil or salts, for large masses of bismuth may collect in the bowel and cause obstinate constipation, even if it does no further harm.

Opium is most useful. It diminishes peristalsis, pain and tenesmus. As a result the frequency of the stools is diminished, the patient gets relief from pain, and sleeps. It should never be used until the bowels have been emptied by a cathartic. It should be used in small doses, and, as above stated, the patient should not know what he is taking.

While most patients recover in from a few days to a week, or a little more, a certain number continue for several weeks, and then they either recover or the disease becomes chronic. In the chronic form opium should be given with great caution. In these cases the use of irrigation is more valuable than in the acute cases; yet at the same time care must be used that the local treatment by irrigation is not continued too long so as to perpetuate the trouble by the treatment. For irrigation simple warm water may be used, or better, a mild saline solution prepared by adding a level teaspoonful of salt to a pint of water of a temperature of 100 F. About two quarts of water may be used at a time.

The irrigation may be followed by an astringent, of which the best is nitrate of silver. Meara advises its use in increasing strengths, commencing with 1 in 2,000 and increasing up to 1 in 500 or 300. Of this one or two pints may be used. If the salt solution has been first used, it must be all removed from the rectum, or the silver will be neutralized by it. If the silver solution causes pain, it is too strong, and should be quickly neutralized by the injection of salt solution. If the whole of the nitrate of silver solution does not seem to have again passed out of the tube after it has been retained in the bowel as long as the operator decides, viz., a few minutes, saline solution should be injected into the bowel to neutralize and render the silver salt harmless. Nitrate of silver treatment should be given at first daily in gradually decreasing strength, and then only intermittently, perhaps every three or four days for a few times.

This daily use of nitrate of silver as recommended by Meara seems rather strenuous. The use of nitrate of silver once in three or four days will often be found sufficient.

Protracted dysentery is often due to ulcers in the rectum. In these cases the proctoscope or sigmoidoscope should be used in order, if possible, to locate the ulcer and to treat it locally either by a 25 per cent. solution of nitrate of silver or by the solid stick.

Patients who have chronic dysentery often improve with change of air and environment. In these cases the diet is of great importance. The patient loses flesh and strength, due partly to pyrexia, partly to toxemia and partly to starvation. Two quarts of milk is hardly sufficient for prolonged feeding of an average-sized man. It is necessary to add to it. Eggs or chopped meat may be offered; a little sugar or milk sugar is often a useful addition; and cereals may often be used with benefit, such as barley, rice, farina, bread and butter and cereal soups. Later a small chop will be found to be easily digested. Beef, mutton, chicken and potatoes leave little residue and often prove beneficial. Still later some of the green vegetables, such as peas, or small string beans may be added. These additions should of course be made tentatively, and should not be continued, if they do not seem to benefit the patient.

As this disease, like typhoid fever, is water-borne, the same caution in regard to the care of the stools and of bedding soiled by the discharges should be used as is advised in typhoid fever.

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[*For other information see second page following reading matter*]

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THE ISLET THEORY OF DIABETES

It is now over ten years since the theory of the dependence of human diabetes on functional insufficiency of the islands of Langerhans was brought forward, but, attractive as the hypothesis is, there is not yet unanimity of opinion as to its validity. Even the fundamental matter of the independence, anatomically and functionally, of the islets has been doubted by some who have found reasons for believing that the islets may merely represent pancreatic tissue in certain stages of functional activity, development or regeneration. Pathologists also have observed that lesions of the islands of Langerhans might exist without the presence of glycosuria. In many cases of fatal diabetes no lesions of the islands could be found. While such findings have led some to the belief that these structures had nothing whatever to do with diabetes, they have led more to take the middle ground that, though in many cases diabetes depends on lesions of the islets, yet there probably are other cases in which true diabetes occurs independently of islet lesions. From review of the recent literature, however, the impression is obtained that the case in favor of the islet theory is steadily growing stronger.

In an elaborate study of the islet tissue in the pancreas of the guinea-pig, in which new histologic methods play an important part, Bensley[1] entirely demolishes the theory that the islets are mere transitory structures derived from or changing into acinous tissue according to conditions of general nutrition or pancreatic activity. He also shows that much, if not all, of the study of the number of islands in either normal or diabetic pancreases recorded in the literature is entirely valueless, for it is based on the assumption that the number of islets in corresponding parts of different glands is approximately the same, which is entirely contrary to the fact. By special staining methods it was found that the total number of islands in the entire pancreas of a guinea-pig may vary between 15,000 and 45,000, and the average number per milligram of pancreas averaged in different animals from 9.5 to 189. An equally great variation in the number of islets exists between corresponding areas in different glands.

On the experimental side we have the important observations of MacCallum,[2] who ligated off a portion of the pancreas of a dog and let it atrophy until nothing was left except islet tissue. On removal of all the rest of the pancreas no diabetes resulted, but subsequent removal of the atrophied remnant was at once followed by severe glycosuria. Granting the correct identification of the residual tissue as islet tissue, nothing could more conclusively demonstrate the dependence of carbohydrate metabolism on the islands of Langerhans than this experiment. The only objection is the lack of identification, by means of specific staining reactions, of the residual tissue as being exclusively islet tissue. Now that we have such specific stains worked out and their value established, according to Bensley, it would seem possible to perform this experiment in a manner leaving no room for doubt or dispute.

On the pathologic side the most positive statement yet made comes from Weichselbaum,[3] as the mature conclusion based on many years of study, including the examination of the pancreas in 183 cases of diabetes. In every one of this great series Weichselbaum found distinct and characteristic lesions in the islets, while in an even larger series of control cases, representing many different diseases, no corresponding changes were found. The lesions which he finds are of three chief types. Hydropic degeneration is of these the most frequent, and it is observed especially in diabetes in young persons, usually of the type associated with emaciation and other severe manifestations. This sort of lesion is easily overlooked, especially if the tissue has not been properly preserved and prepared, which probably accounts for the cases in which the islands have been said to be normal in fatal diabetes. Next in frequency is the sclerotic and atrophic type of islet, which is often associated with the third type of lesion, hyaline degeneration. Both these forms are usually associated with arteriosclerosis, and are found especially in old persons, oftenest in those whose diabetes is of the "fat" type. In some cases a considerable degree of compensatory hypertrophy or regeneration of islet tissue is also observed, but apparently in the diabetics this has not been sufficient to compensate fully for the loss of the original islet tissue. In view of the constancy of his findings, the abundance of controls and the repeated observation that even extreme atrophy of the acinous structures of the pancreas is not associated with diabetes when the islets are intact, Weichselbaum's work would seem to be almost conclusive in establishing the islet theory of the etiology of diabetes. As to the cause of the islet lesions themselves, in the sclerotic and hyaline types of islets the lesions are in most cases secondary to arteriosclerosis, and sometimes the result of an interstitial pancreatitis from occlusion or infection of the ducts; but Weichselbaum is unable to explain the more important hydropic degeneration, beyond offering the suggestion that hereditary developmental deficiency may render the islets abnormally susceptible to toxic influences.

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[1] Bensley: Am. Jour. Anat., 1911, xii, 298.

[2] MacCallum: Johns Hopkins Hosp. Bull., 1909, xx, 265.

[3] Weichselbaum: Wien. klin. Wchnschr., 1911, xxiv, 153; abstr. in The Journal, March 11, 1911, p. 785.

THE FIFTEENTH INTERNATIONAL CONGRESS ON HYGIENE AND DEMOGRAPHY

For nearly half a century international sanitary congresses have been held in foreign countries and have been instrumental in furthering comity among nations and in the prevention of disease. By authority of a joint resolution of Congress, the President of the United States in 1907 invited the International Congress on Hygiene and Demography, then holding its fourteenth session in Berlin, to hold its next session in this country. The invitation was accepted, and the fifteenth international congress will meet in Washington, D. C., next September. Invitations to participate in the congress have been extended by the President to foreign countries and to the several states of the Union. Thirty-five states, so far, have accepted the invitation.

In connection with the congress it is proposed to hold an exhibition illustrating the present status of public health and vital statistics in this country and its territorial dependencies. In view of the great strides made in preventive medicine, the awakening of public interest in hygienic measures, the increase effected in the habitable area of the earth by the sanitary measures instituted by the federal government in the Canal Zone and the territorial dependencies of the United States, together with the imperative need for cooperation in public health matters, the holding of this congress and exhibition must be regarded as an important event in the history of sanitation in this country. The success of the recent hygiene exhibition at Dresden is the subject of current comment. Unfortunately, this country was not represented at the Dresden exhibition; but an opportunity now presents itself for repairing this omission.

In a country such as ours, the rôle of popular education in molding public opinion is of special importance. No exhibition dealing with the general field of hygiene and vital statistics has ever been held in the United States, and yet there are momentous questions of public health on which concerted action is imperatively required.

The problems of the extension of birth and death registration, the prevention of infant mortality and of industrial diseases and accidents, tuberculosis, typhoid fever and hookworm disease, the pollution of interstate waters, and many others of national interest, at once suggest themselves whenever the subject of public health is mentioned. Moreover, the results of efficient sanitary supervision in the territorial dependencies of the United States and the Canal Zone have been so striking, and the lesson of what can be accomplished under climatically adverse conditions is so forcible, that the exposition of these methods cannot but lend powerful emphasis to the propaganda for greater uniformity and the extension of preventive measures against disease. All these and kindred topics are to be illustrated at the contemplated exhibition.

In view of the great good that this congress and exhibition may be expected to accomplish, it becomes the manifest duty of states, cities and unofficial agencies engaged in the promotion of some phase of the public health to cooperate heartily in the furtherance of this project.

PROPRIETARIES—FRAUDULENT AND OTHERWISE

Do the members of the Association really understand the distinction that exists between proprietary remedies which have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies and those which have not been so accepted? This question is prompted, in a general way, by letters received at various times from physicians who seem to have more or less hazy notions on this point. Specifically it is prompted by a letter from the editor of a high-class medical journal discussing the question of admitting or rejecting advertisements of proprietary remedies to medical journals in general. In his letter, the editor stated, in effect, that he was unable to see that there was any difference between the proprietary preparations advertised in The Journal of the American Medical Association and those advertised in two or three other high-class journals that admit to their pages such nostrums as Antikamnia, Phenalgine, Ammonol, Anasarcin, Campho-Phenique, Papine, *et hoc genus omne*.

Such an evident ignorance of fundamental principles governing the propaganda for reform in proprietary medicines is, coming from such a source, as remarkable as it is discouraging. For the enlightenment of those who, similarly, are unable to distinguish between the two classes of proprietary remedies referred to, the following brief explanation may prove of value: All proprietary preparations approved by the Council on Pharmacy and Chemistry and eligible to inclusion in New and Nonofficial Remedies have been carefully investigated and found to have some presumable value and to be advertised and sold to the profession under truthful claims; most proprietaries that have not been thus accepted are those which, on investigation, have been found to be either fraudulent, worthless or exploited under false and exaggerated claims—in many cases all three. There are a few proprietaries which, while eligible for inclusion in New and Nonofficial Remedies, are not to be found listed, because their manufacturers are opposed to the work of the Council and have not submitted the products—and, incidentally, will not until the medical profession compels them to. The number of such preparations is so small as to be negligible. It is plain then, that the distinction between the products listed in New and Nonofficial Remedies and those not so listed is fundamental and vital, and is one in which is involved not only the question of scientific therapeutics, but, what is of greater moment, the safety of the public.

The fact is that medical journalism is ten years behind the procession. A few medical journals—three or four independent publications, nine or ten state journals and The Journal of the American Medical Association—have taken an attitude with reference to proprietary medicine advertising that lay journals of the better class have long taken with regard to general advertising, namely, to exclude from their advertising columns things that are in themselves against public interest or that are, directly or indirectly, harmful to their readers. On the subject of proprietary medicines it requires no argument to demonstrate that remedies which are exploited under false claims and whose composition physicians have no means of knowing, are not only harmful to the readers of medical journals—physicians—but are also, through physicians, a menace to the public.

The enormous business in worthless and fraudulent proprietary medicines is an artificial one. It has not been a healthy growth of products that are worthy and which fill an actual need, but it has been forced by hothouse methods to its present rank growth. By subsidizing medical journals through the purchase of advertising space, thus making it practically impossible to give general publicity to the worthlessness of the products and the heartlessness of their exploitation, by the lavish distribution of free samples—by these, and other devious methods, a spurious value has been given to things that in themselves have neither merit nor honesty.

When the truth—and only the truth—is told about proprietary medicines the evils now connected with that business will disappear. But the truth will never be told so long as the bulk of the medical press is under the blighting influence of proprietary interests. And the press will remain under that influence until the medical profession asserts itself and demands that the advertising pages of those journals that are devoted to their professional specialty shall be as clean and free from fraud as are the lay magazines for which they subscribe. The whole question, therefore, resolves itself into one of responsibility on the part of individual physicians. So long as physicians will support medical journals that, to all intents and purposes, are subsidized by the exploiters of fraudulent proprietary medicines, so long will fraudulent proprietaries flourish — and no longer.

THE QUESTION OF THE MULTIPLICITY OF ANTIBODIES IN THE BLOOD

The various antibodies of the blood are commonly supposed to be separate and distinct substances. The reasons usually given for this view are: (1) the great variation in their manifestations such as precipitation, agglutination, lysis, complement deviation, anaphylaxis, etc.; (2) a lack of correspondence in the so-called antibody curves in disease and in artificial immunization; (3) differences in concentration in the body fluids, as exudates, serum, lymph and cerebrospinal fluid; (4) presence of one or more antibodies in the blood with absence of others; and (5) the differences in susceptibility to light, heat, standing, etc.

The view that at least certain of the immune reactions are only different manifestations of the same antibody has not lacked adherents. As early as 1891, Elfstrand noted that crotin was hemolytic for rabbit blood, but caused only agglutination of the blood of the pig. In this case a difference in the two kinds of blood is a more natural assumption than that of different substances in crotin. Again such phenomena as agglutination and precipitation may be due to simple adsorption and neutralization of electrical charges of particles in suspension or colloidal solution with resulting precipitation, while further action, such as lysis and protein splitting, would take place only in case of further chemical action.

While it is true that the antibody curves show certain serums to vary in their power of lysis, agglutination, etc., still, in general there is a marked similarity in their course and it is possible that further work on the physical chemistry of ferment activity will result in another explanation for these differences as well as for the other facts given above. There is a growing analogy between certain immune reactions and ferment activity. Recently Friedberger[1] has produced evidence to show that even the action of tetanus antitoxin is due to its protein-splitting power. In the light of the present conception of ferments as dissociable electrolytes governed in their action by the conditions of the medium containing them,[2] it is not unreasonable to assume that a single immune body might vary in its manifestations in different mediums.

We must conclude, therefore, that while there is much evidence in favor of the separate identity of antibodies, the question cannot be settled definitely at present.

FEDERAL AND STATE COOPERATION CONCERNING FOOD AND DRUGS

At the New Orleans meeting of the Association of State and National Food and Dairy Departments, in 1910, a committee on cooperation was appointed for the purpose of devising a practicable and workable plan of cooperation between the states and the federal government, and between the states themselves, for the enforcement of the national and state food and drugs laws. This committee, after much deliberation, made its report at the Duluth meeting of the association in August of this year. This report was unanimously accepted and now awaits the final ratification of the secretary of the United States Department of Agriculture.

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1. Berl. klin. Wchnschr., 1911, xlii, 1880.
2. Michaelis: Biochem. Ztschr., 1909, xvii, 231; 1911, xxxv, 386; 1911, xxxvi, 280.

As indicated by resolutions adopted, the committee believes that concerted action will advance drug control throughout the country and render the sale of fraudulent and fake medicinal preparations increasingly difficult, if not impossible. It recommends that commissioners be urged to prepare circulars of confidential information concerning illegal products and medicinal preparations and send them to officials in other states, and to the federal authorities. The Secretary of Agriculture is also requested to send to all collaborating officials confidential information concerning matters affecting the enforcement of the national Food and Drugs Act.

The report further recommends collaboration between state and federal bacteriologists and microscopists on the same basis as the existing collaboration among the state and federal chemists, which has brought about a uniformity of standards, methods and technic in the examination of foods and drugs. A permanent committee on cooperation is provided for, and the committee's report ends with a recommendation of a simplified method for collaborating officials to bring about the enforcement of the national Food and Drugs Act, with the elimination of much red tape that has hitherto hindered and obstructed the state officials in acting under the national act.

It is believed that adoption of the committee's plan for effective cooperation between each state and the federal government and between the several states will result in real food and drug control, making it increasingly difficult for the adulterators and sophisticators of foods and the fakers and swindlers in drugs and nostrums to find a market for their illegal wares, and thus not only the pocketbook, but also the health of the public will be correspondingly conserved. The committee has notified the commissioners of the various states that the proposed cooperation between the states should be immediately effective, and already confidential circulars of information have been passed between the various state departments, the first one coming from Kansas conveying information of vital importance and interest to the food and drug control officials. This is real, human conservation.

The action of the federal government in respect to uniting with the states in this progressive movement for better food and drug control is awaited with interest.

THE METABOLISM OF CERTAIN MICROORGANISMS

The microorganisms, under which we include bacteria, yeasts and molds, form a group of living forms that are important to the physician not alone in their direct association with disease, but also and equally on account of their relations to numerous processes, deleterious or beneficial, connected with every-day life. The word "fermentation" recalls disturbances of alimentation, the decay or spoiling of food-products, the production of familiar alcoholic beverages and distilled liquors, and the raising of bread—to cite only a few diverse illustrations. But aside from such considerations, apart from the fact that these lower living forms are incessantly concerned in the intestinal digestive functions, a knowledge of the nutritive phenomena of the microorganisms is important because it is likely to throw light on comparable reactions in higher types. Indeed, the late Sir Michael Foster remarked not long ago that "the frog and the myograph, the dog and the kymograph are no longer the alpha and omega of physiology."

One of the salient features of this newer knowledge is the fact that those now well-known ultimate cleavage products of the proteins, the amino-acids, form the natural nitrogenous food-supply of the microorganisms. For the higher animals it has lately been assumed that the amino-acids formed in digestion are resynthesized, according to Emil Fischer's scheme, into complex polypeptids and thus reproduce the specific proteins of the species involved. Such a theory will not, however, hold for the microorganisms; for they manage to build new protein and meet their nitrogen requirement on a *single* amino-acid. Abderhalden and Rona[1] have shown that certain molds produce normal tissue protein when grown on media containing quite different amino-acids. From this we may conclude that the amino-acids themselves experience a further disintegration by the microorganisms, and that protein synthesis by them is accomplished from still simpler nitrogenous fragments.

Conclusive evidence in favor of the cleavage of amino-acids incident to assimilation of nitrogen in these lower plants has been furnished by the investigations of Felix Ehrlich.[2] In the case of the fermenting yeast, for example, ammonia is liberated from amino-acids, leaving a non-nitrogenous complex in the surrounding medium. Thus for the first time such products as amyl alcohol and other "fusel oils," succinic acid, etc., which were long vaguely regarded as "side-products" in the decomposition of the fermented sugars, have in reality been recognized as typical direct derivatives of proteins in fermentation. Amyl alcohol thus is the fermentation product of leucin, as ethyl alcohol is the comparable representative of sugar. The list of these characteristic compounds is rapidly being enlarged. The underlying feature is the construction by microorganisms of typical protein from ammonia and sugar as the primary sources of organic nutriment, fusel oil and its companions being the unutilized chemical débris, so to speak, of the denitrogenized amino-acid fragments. The nature of the ultimate synthetic process, i. e., how ammonia and sugar unite for protein construction, is still unsolved; but products long involved in obscurity at length appear in a new light, and we can now speak of an actual "fermentation" of amino-acids by yeasts and molds in a new sense.

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[1] Abderhalden and Rona: Die Zusammensetzung des "Eiweiss" von Aspergillus niger bei verschiedener Stickstoffquelle, Ztschr. f. physiol. Chem., 1905, xlvi, 179.

[2] Ehrlich: Ueber die Bildung des Plasmaeiweisses bei Hefen und Schimmelpilzen, Biochem. Ztschr., 1911, xxxvi, 477. References to earlier work will be found in this paper.

ENGLAND ADOPTS INDUSTRIAL INSURANCE

After months of debate in Parliament and of discussion, often growing into acrimonious controversy in the public press and the medical journals, Lloyd-George's industrial insurance bill has passed both houses of Parliament. This measure, probably the most important single piece of British legislation in the last half century, was introduced by the Chancellor of the Exchequer in May of the present year. Its progress has been marked by protracted debate, frequent conferences and numerous amendments. It has been the endeavor of its promoters so to modify it as to make it acceptable to as many interests as possible, although it has been recognized that so revolutionary a law could hardly receive unanimous support. The proposed amendments were so numerous that it is impossible, at present, without a copy of the bill as passed, to discuss its exact provisions.

Medical interest centers principally around the six cardinal principles, formulated at the special meeting of the representative body of the British Medical Association, which body, with its branches, has naturally taken an active part in the discussion. On the most important point, viz., the income limit, the bill, as it passed on third reading in the House of Commons, evaded the point, but authorized the local insurance committee in each district to fix the limit. This is apparently a recognition of the fact that $10 (2 pounds) a week income in one part of the British Isles may entitle a workman to the privileges of the bill, while the same income in another locality may indicate a much greater degree of material prosperity. While economically more just than an arbitrary limit, there would seem to be, in this provision, abundant opportunity for differences of opinion between physicians and local committees. The second requirement of the Association, that the medical benefit should be administered by a local committee and not by the friendly societies, was also observed, in effect. Free choice of doctors by patients, the third condition, is also secured. The three remaining principles, the settling of the method of remuneration for physicians in accordance with the preference of the majority of physicians in each locality, the fixing of the rate in a similar manner, and the adequate representation of physicians in the administration of the law, are all left largely to the discretion of the insurance committees, subject to some general restrictions.

Probably it was far wiser, and will, in the end be more effective, to make the law as elastic as possible. The future will determine what is best, as well as what effect this measure will have on the medical profession—the question to the discussion of which, naturally, much space has been given in British medical journals. This bill and its future workings are deserving of careful study by American physicians, economists, sociologists and legislators. We are far removed from the industrial condition now existing in England, of which a recent writer said: "In London to-day, able-bodied men stand all day in the streets selling flowers for a few pennies, strong men sweep crossings, run errands, do anything to earn a few coppers." Yet we, too, are beginning to realize that the conservation of human life and energy, through the elimination of preventable illness, is a social and not an individual task, and that the protection of its citizens from waste and loss due to disease is as much a duty of the state as is protection against an armed foe from without. In England, the state is beginning to care for the working man or woman who is ill or injured. In this country, our efforts, so far, have been in the direction of the prevention of disease and industrial accidents. Which plan will give the better results in the end remains to be seen. Prevention is, without doubt, more rational than enforced treatment, but it also requires a greater amount of popular education. The results of the administration of this law will be watched with keen interest by all students of social conditions on this side of the Atlantic.

Current Comment

THE CANAL ZONE AN IDEAL HEALTH RESORT

Again the report of the Department of Sanitation of the Isthmian Canal Commission leads one to marvel at the almost incredible result of trained, scientific effort to control disease, as well as at the dense stupidity of a people who, with such an object-lesson before them, will not profit by it to save their own lives and those of their wives and children. Cold figures in official reports are inadequate. One must visualize the facts and clothe them with flesh and blood in order to realize their meaning. The report of the Department of Sanitation for October, 1911, shows that during that month there were 37,496 colored and 12,316 white employees at work on the canal and railroad. Thirty-three colored employees died of disease and six from violence, a total of thirty-nine deaths, or an average annual rate per thousand of 12.48. This is the death-rate for October for nearly thirty-eight thousand negro laborers, working in what was, a few years ago, the pest-hole of the tropics. The death-rate for the United States for 1910, for all classes and climates, was 16.1, nearly 4 deaths per thousand higher than the death-rate for the poorest class of laborers in the Canal Zone. Among the white employees, numbering 12,316, five died from disease and two from violence, a total annual death-rate of 6.82 per thousand. Returns from the 1910 federal census show that the American city having the lowest death-rate in 1910 was West Orange, N. J., where the death-rate was 8.5, while the highest death-rate, that of Charleston, S. C., was 29.7, or over four times the rate among white employees on the Isthmus. It is true that in any city infants and the aged, not to speak of the chronically diseased, help to swell the death-rate, whereas the employees on the Isthmus are men in the working period of life; yet this comparison only shows the progress that has been made since the Isthmus came under control of American sanitary officers. A survey of the death-rate among the white American population, including women and children, gives even more conclusive proof of this achievement. Of the seven white employees who died in October, only one was an American, a man aged 44, who died of chronic nephritis. The only other death among white American men, women and children in the Canal Zone during the month of October was that of a child, aged 15 months, who died of peritonitis. Think what this means! Nearly twelve thousand white men, women and children from the United States—11,839, to be exact, these figures including about four thousand of the white employees previously mentioned—are living happily, comfortably and safely in what was, a few years ago, a hot-bed of disease —and the annual death-rate among them, as indicated by the deaths for October, was 2.03 per thousand. And yet the League for Medical Freedom, headed by Senator Works, demands that the President revoke his order limiting the right to treat disease on the Isthmus to properly educated persons, and that the wonderful results secured by the toil and sacrifice of devoted, clear-headed scientific men be surrendered at the behest of deluded and uninformed religious enthusiasts. Truly, the physicians who have made possible such results in the Canal Zone would have a far better right to call themselves "Christian Scientists" than have the persons who masquerade before the public under this name, since the life-saving work of Colonel Gorgas and his assistants is, in the highest sense, both Christian and scientific.

SENATOR OWEN AMENDS HIS BILL

Objections to Senator Owen's bill for a national department of health (Senate Bill No. 1) have come largely from followers of various sects and cults who feared that their business of treating the sick might be interfered with. Many of the more sincere opponents of this much-needed law are evidently too ignorant to understand that Congress can exercise only those powers which have been delegated to it by the states, that the regulation of the practice of medicine stands on the same basis as the regulation of other occupations and trades, which is not a function of Congress, and that any federal law attempting to regulate the practice of medicine in the states would be void. Repeated explanations have been made that Congress has no authority to regulate the practice of medicine or any other profession or calling in any state, and that the object of the Owen bill was the prevention and not the treatment of disease. Apparently, these explanations have not been convincing —perhaps some people have never heard of them. To reassure those who are honestly opposing the Owen bill on account of such a misconception, Senator Owen last week introduced the following amendment to his bill:

> "That the Department of Health established by this act shall have no power to regulate the practice of medicine or the practice of healing, or to interfere with the right of a citizen to employ the practitioner of his choice, within any state of the Union, and all appointments within the department shall be made without discrimination against any school of medicine or of healing."

It is to be hoped that this amendment will be retained as a part of the bill, although it is entirely unnecessary from a legal standpoint, since it declares that it is not the purpose of Congress to do what it has no right to do. This fact is undoubtedly recognized by Senator Owen, so that the amendment must be intended to remove any possibility of honest objection to the bill. This amendment will doubtless quiet the fears of honest but misguided opponents of the measure, since, after the incorporation of this statement, the only persons who can oppose the measure will be those who have a selfish and mercenary objection to its passage.

SOME OFFICERS OF THE NATIONAL LEAGUE FOR MEDICAL FREEDOM

So many inquiries have been received for information regarding the National League for Medical Freedom that it has seemed worth while to collect such matter as has appeared in The Journal and issue it in pamphlet form.[1] As a preface to this reprint, some biographic information is given regarding certain officers of the league. We reproduce this matter herewith, as it may help explain one of the many reasons for the opposition shown by this organization to the American Medical Association and its activities:

B. O. Flower, Boston: President and one of the founders of the National League for Medical Freedom. Flower is ex-president of the R. C. Flower Medicine Co., a mail-order medical fake, founded by the notorious quack and swindler, R. C. Flower. R. C. Flower is a "graduate" of the notorious American Health College recently exposed in The Journal in connection with Carson, the Kansas City quack. While B. O. Flower was owner and proprietor of the *Arena,* that magazine carried advertisements of such frauds as the J. L. Stephens morphin cure (exposed in "The Great American Fraud"), the New York Institute of Physicians and Surgeons (put out of business by the government and exposed in "Nostrums and Quackery"), Welch's Magic Tea, Trilene Tablets, Clark's Rheumatism Cure, etc. His later magazine, the *Twentieth Century,* advertised that preposterous fraud, the "Oxydonor," exposed in The Journal and in "Nostrums and Quackery."

C. W. Miller, Waverly, Ia.: Second vice-president of the National League for Medical Freedom. Miller publishes a newspaper that carries advertisements of such nostrums as Winslow's Soothing Syrup, Doan's Kidney Pills, Lydia Pinkham's Vegetable Compound, Pierce's Favorite Prescription—all of which have been exposed by the American Medical Association. While in the Iowa legislature, Miller is said to have voted *against* (1) a pure food bill, (2) a bill that made the law relating to the sale of poison more rigid, (3) an act to regulate the sale of "patent medicines," (4) a bill to prevent the depositing of samples of "patent medicines" in private or public places—a bill that was formulated largely because of the deaths of children who had taken the sample packages left in yards and on porches. Miller is also alleged to have opposed bills that required the use of pure ingredients in ice-cream.

Reynold E. Blight, Los Angeles: Chairman, Southern California Branch of the National League for Medical Freedom. Blight's name appears in connection with the "NaturAID Health Utilities Company," which does a mail-order business in curing "rupture, fallen womb, all deformities, malformation, floating kidney, large abdomen, constipation, all stomach troubles and all male and female weaknesses." Blight's name is also used by this concern in its attempts to sell its stock to the public.

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[1] The pamphlet will be sent on receipt of a 2-cent stamp.

Charles Wentworth Littlefield, M.D., Seattle, Wash.: Chairman of the Washington branch of the National League for Medical Freedom. Littlefield exploits the "Twelve Devitalized Tissue Builders," which are to be used "in curing all mental and nervous diseases." He advertises that "any organ or tissue of the body can be reconstructed and its functions reestablished by the use of Twelve Devitalized Tissue Builders. So also can any disease be cured by their use." He gives mail-order "treatments."

Frederick Wallace Abbott, M.D. (F.S.Sc., Lond.), Taunton, Mass.: Member of the Advisory Board of the National League for Medical Freedom. The letters, "F.S.Sc., London," after a person's name, indicate that the individual is a "fellow" of the "Society of Science, Letters and Art" of London. This so-called society is a serio-comic fake which issues "fellowships," with an elaborate "diploma of merit" thrown in, at $5 apiece. The "diplomas" seem to be much sought after by "patent medicine" fakers. (See The Journal, May 29, 1909, and the book "Nostrums and Quackery," published by the American Medical Association, for further details concerning this fake "society.")

C. S. Carr, M.D., Columbus, O.: Member of the Advisory Board of the National League for Medical Freedom. Carr has been in the employ of the Peruna concern for years. He is editor of a pseudo-medical sheet in which some of the worst medical frauds in the country have been advertised. Many of these frauds have been exposed in The Journal. Carr does a mail-order medical business of his own, selling what he calls "tissue remedies." (See "The Great American Fraud," published by the American Medical Association, for further data on Peruna; also see The Journal, Dec. 9, 1911.)

George P. Englehard, Chicago: Member of the Advisory Board of the National League for Medical Freedom. Englehard publishes two journals which have long defended the "patent-medicine" interests and which have carried advertisements of some of the worst frauds in the nostrum business. Both of these publications have been exposed in "The Great American Fraud" and in The Journal.

Charles Huhn, Minneapolis: Member of the Advisory Board of the National League for Medical Freedom. Huhn was president of a cooperative "patent-medicine" concern, known as the American Druggists Syndicate, whose methods have been repeatedly exposed in The Journal.

A. F. Stephens, M.D., St. Louis: Member of the Advisory Board of the National League for Medical Freedom. Stephens was second vice-president of the Converse Chemical Company, a St. Louis nostrum concern which, a few years ago, tried to get advertising space in exchange for its treasury stock and offered to give away one share of stock with every bottle of its nostrum. This concern was exposed in The Journal, Jan. 12, 1907, p. 144.

Medical News

ILLINOIS

Personal.—Dr. Carl Bernhardi, Rock Island, was operated on at the Presbyterian Hospital, Chicago, December 11, and is reported to be making favorable progress.——Dr. Leon H. Tombaugh, Waukegan, who has been seriously ill, is reported to be improving.——Dr. Walter H. Watterson, Waukegan, treasurer of the Lake County Tuberculosis Institute, has resigned.

Auxiliary Antituberculosis Associations.—Unusual activity is being shown throughout the state in the organized fight against tuberculosis. In the last few days auxiliaries to the State Association for the Prevention of Tuberculosis have been formed at Rockford, Joliet, Elgin, East St. Louis, Pontiac and Alton.——The United Church Society of Chicago Heights has become an active auxiliary of the state association and the Women's Club of Mount Carmel is looking after the organization of Wabash County.

Chicago

The Fight Against Tuberculosis.—The Chicago sale of Red Cross seals, inaugurated by the Illinois State Association for the Prevention of Tuberculosis, is going on with vigor. Chicago is expected to dispose of 2,000,000 of these seals.

Personal.—Dr. William E. Quine, Chicago, has given $200,000 in memory of his wife, to be used in the erection of four schools for women in China.——Dr. Robert Sonnenschein was run down by an automobile, December 4, and seriously injured. Both legs were fractured, and he also received internal injuries.

Needs of Health Department.—Dr. George B. Young, health commissioner, Dr. Frank Billings and Chief Inspector Charles B. Ball spoke before the City Club, December 15, on "The Need of an Increased Appropriation for the Health Department." The object of the meeting was to make known the increasing demands on the city health department and the need for a greatly increased appropriation to meet these demands.

Chicago Will Continue to Supply Antitoxin.—The Secretary of the State Board of Health announces, under date of December 12, that the board will be unable to furnish further supplies of diphtheria antitoxin to the city of Chicago until July 1, 1912, as the appropriation of $8,000 for that purpose for the year is entirely exhausted. The city of Chicago, however, will continue to supply antitoxin as required and at the meeting of the City Council, December 18, an appropriation of $500, asked for by Dr. George B. Young, Commissioner of Health, was made to cover the present needs in this direction.

IOWA

Warns of Plague.—A bulletin issued by the secretary of the State Board of Health, December 4, urges the citizens of the state to assist in exterminating squirrels, rats and mice, which are known to be carriers of leprosy and bubonic plague. This bulletin is based on official notice from the secretary of the California State Board of Health, stating that the plague situation has not changed materially since last June.

Personal.—Dr. George H. Crane, Holstein, announces the opening of the new Holstein Hospital.——Dr. Henry H. Nichols has succeeded Dr. Norman E. Mighell as local surgeon of the Iowa Central Railroad at Marshalltown.——Drs. Margaret V. and G. Hardy Clark, Waterloo, sailed for Europe, December 12.——Dr. Willard G. Jeffries and family, Leon, started for Europe, December 5.——Dr. Aaron A. Noyes, Mason City, has retired from practice and will live with his daughter in Wauwatosa, Wis.——Assistant Superintendent Herbert V. Scarborough, Grand Junction, is in charge of the State Tuberculosis Sanatorium, Oakdale, taking the place of Superintendent Harry E. Kirschner, who has gone to California.——Dr. George P. Hanawalt, Des Moines, has moved from the house at Twelfth and Walnut streets, which he occupied for forty years, to his new home at Forty-First and Ingersoll streets, Des Moines.——Dr. Henry A. Leipziger and family, Burlington, have started for Europe.

MARYLAND

Hospital Opened.—The new hospital building connected with the National Training School for Boys, near Hyattsville, was formally opened, December 13.

Society Meetings.—Calvert County Medical Society held its annual meeting at Prince Frederick, December 12, and elected the following officers: president, Dr. Isaac N. King, Barstow; vice-president, Dr. Oliver D. Simmons; secretary-treasurer, Dr. John W. Leitch, Huntington, and delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Philip Briscoe.——At the annual meeting of Dorchester County Medical Society held at Cambridge last week, a resolution was adopted urging on the governor-elect the importance of health work in the state. Dr. William H. Welch, Baltimore, president of the State Board of Health, and Dr. Hugh H. Young, Baltimore, president of the Medical and Chirurgical Faculty of Maryland and of the State Lunacy Commission, announced that it was the design to establish in every county of the state a medical laboratory with a trained pathologist who would act as health officer, make analyses of water and milk and assist the members of the local profession in making diagnoses. The governor-elect pledged his support to all forward movements.

Baltimore

Hospital Addition Opened.—The new addition to Mercy Hospital, under charge of the Sisters of Mercy and affiliated with the College of Physicians and Surgeons, was opened December 18.

Personal.—Dr. Howard A. Kelly is reported to be ill at his sanatorium, and typhoid fever is suspected.——Dr. Robert C. Keyser has been appointed coroner of the Eastern District, vice Dr. Thomas H. Sudler, deceased.

Member of Chemical Firm Dies.—Mr. Charles Emil Dohme, formerly vice-president of the firm of Sharp & Dohme, sometime president of the American Pharmaceutical Society and president of the Maryland College of Pharmacy, died at his home, December 7, from heart disease, aged 68.

MINNESOTA

Personal.—Dr. Charles H. Mayo, Rochester, was operated on for appendicitis, December 16, in New York City, and is progressing favorably toward recovery.——Dr. Archibald MacLaren, for twenty-six years acting assistant surgeon U. S. P. H. and M.-H. Service at St. Paul, has resigned.——Dr. Myron W. Smith has been elected president, Dr. Alvah W. Jones, vice-president, and Dr. John V. Anderson, secretary of the medical staff of Red Wing Hospital.——Dr. George F. Roberts, Minneapolis, a member of the Minnesota State Tuberculosis Sanatorium Commission, has resigned.——Dr. George H. Barksdale, Eveleth, has resigned from the staff of the Fabilo Hospital.

MISSOURI

Tag Day in St. Joseph.—As result of the third annual tag day in St. Joseph, $5,239.23 was realized for the benefit of local charities.

Personal.—Drs. John L. Short and Isaiah M. Owens, Rolla, have been appointed local surgeons to the Missouri, Arkansas and Gulf Railroad.——Drs. Harry W. Tull, Ethan E. Brunner, Richard F. Cook and Marshall W. Craton have leased a residence in Carrollton and have converted it into a hospital to be known as the Carroll County General Hospital.

State Antituberculosis Association.—A meeting of the board of directors of the Missouri Association for the Relief and Control of Tuberculosis was held at Jefferson City, November 13, and Dr. George Dock, St. Louis, was elected president; Dr. Walter McN. Miller, Columbia, secretary, and Mr. Saunders Norvell, St. Louis, treasurer, to fill vacancies. The president was authorized to appoint a special committee on finance, and it was agreed that the association undertake the organization of county societies with the ultimate hope that a visiting nurse, under the direction of local physicians, may be employed in each county.

St. Louis

Personal.—Dr. Charles E. Baur, superintendent of the City Hospital, has resigned to become superintendent of the Washington University Hospital, vice Dr. Wayne Smith, who has been appointed superintendent of the City Hospital.——Drs. Ernest H. Mueller and Robert Burns have been appointed assistant physicians at the Koch Hospital for Tuberculosis.——Dr. Horatio Nelson Spencer has been reelected governor of the Society of Colonial Wars in the State of Missouri.

City Medical Society Election.—At the annual meeting of the St. Louis Medical Society, November 25, the following officers were elected: president, Dr. J. Henry Amerland; secretary, Dr. Frederick C. E. Kuhlmann (reelected); councilors, Drs. Robert E. Schlueter, Frank Hinchey, Philip Hoffmann and Edmund A. Babler, and delegates to the state association, Drs. Joseph Grindon, Louis H. Behrens, Louis H. Hempelmann, Oscar H. Elbrecht, Robert E. Schlueter, Percy H. Schwahlen, Louis Rassieur and Thomas A. Hopkins. The society at its annual meeting, December 9, adopted resolutions presented by the public health and legislation committee upholding Health Commissioner Max C. Starkloff in his crusade against irregular medical practitioners.

NEBRASKA

Personal.—Dr. A. E. Bartoo, Arcadia, is about to locate in Brazil, South America.——Dr. Charles H. Newell, Omaha, underwent operation for appendicitis at Omaha General Hospital, November 22, and is reported to be doing well.——Dr. J. G. Neely, Diller, who was operated on a few weeks ago at the United Brethren Hospital, Beatrice, returned there November 14 for further treatment.——Dr. Emma E. Robbins, Hastings, has started for China. Dr. Robbins was tendered a farewell reception at Hastings by physicians of that city, November 7, and was presented with a gold signet ring.

Typhoid Fever Investigation.—Surgeon Lester L. Lumsden, U. S. P. H. and M.-H. Service, who was detailed to investigate into and report on the typhoid fever epidemics at the State Institute for the Feeble-Minded in Beatrice and in Lincoln, reports that contamination of water from impure pipes is probably the cause of the continuation of the epidemic in Beatrice. He suggests the removal of the old plumbing and the installation of new pipes. He also reports that he has made investigations in Lincoln, but without satisfactory results, as he was not called in until the epidemic had practically subsided.

NEW JERSEY

To Found New Hospital.—Mrs. Peter F. Collier, widow of the publisher of *Collier's Weekly*, has given $60,000 for the foundation of a new hospital to be built at Red Bank, N. J., and to be named the Peter Fenelon Collier Memorial Hospital.

Personal.—Dr. James A. Eaton, Arlington, has been elected secretary of the New Jersey State Sanitary Association.——Dr. Wm. L. Wilbur, Trenton, has succeeded George M. Wyckoff, resigned, as a member of the Hightstown Board of Education.

Must Provide Drinking-Cups.—The State Public Utilities Commission has issued an order compelling all roads in New Jersey to put drinking-cups in all trains at no expense to passengers, and at the same time of such a type as will meet the requirements of the law.

PENNSYLVANIA

Reading Hospital Annex.—The fireproof building, erected by the Reading Hospital as an annex, is completed and will soon be ready to receive patients.

Medical Licensure Bureau Organized.—On December 12, the new State Bureau of Medical Licensure organized by electing Dr. John M. Baldy, Philadelphia, president, and Nathan C. Schaeffer, Harrisburg, secretary. The new bureau will take over the duties of the State Medical Council and Examining Boards on January I and will meet in Harrisburg, January 22. Its members are determined that medical schools must obey the laws, that the standard of the profession may be elevated.

Probe Institutions Receiving State Aid.—The State Board of Education has started an investigation of all institutions in the state which receive appropriations from the commonwealth for the maintenance of educational departments or training schools. The institutions, which come in for their share of state aid, on the ground that they maintain educational departments, include the University of Pennsylvania, Temple University, The Glens Mills House of Refuge and nearly 100 homes, schools, asylums and orphanages. The purpose of the investigation is not to make any drastic or unfair changes in the management of educational institutions, but to hold in check the expenditure of state money.

Flood Relief Statement.—Statements of the expenditures of the relief work following the flood at Austin, on September 30, show that the state expended $23,952.82, and in addition paid to the Austin Relief Fund Commission the full amount of all subscriptions. The total contributed for the relief work through the Commissioner of Health, Dr. Samuel G. Dixon, amounted to $11,982.54, while $562.66, donated by newspapers, associations and individuals, passed through the hands of Governor Tener. The disbursements of Dr. Dixon are summarized as follows: laborers' wages, $13,371.17; foodstuffs, $4,677.81; expenses of employees of departments, $1,434.71; transportation, $431.02; drugs and disinfectants, $38.75; blankets and mattresses, $1,300.08; miscellaneous, $1.545.79

Philadelphia

To Do Away with Fraudulent Advertisements.—The Medico-Legal Society at its October meeting appointed a committee consisting of the following members: Drs. William D. Robinson and Samuel P. Gerhard, Benjamin H. Schwartz, Joseph Savidge and Samuel Scoville, chairman, to investigate and devise plans of doing away with fraudulent advertisements.

Gift to Dr. Neff.—On December 13, about one hundred friends of Dr. Joseph S. Neff, Director of Public Health and Charities, met and presented him with a gold chronometer watch. The following is inscribed on the time piece: "Presented to Dr. Joseph S. Neff by his fellow citizens in recognition of distinguished services as Director of the Department of Health and Charities of the City of Philadelphia, December 13, 1911."

Personal.—Mayor Blankenburg reappointed Dr. Joseph S. Neff, as head of the Department of Public Health and Charities, December 14, and the appointment received immediately the unanimous confirmation of Select Council.——Dr. Samuel W. Gadd was acquitted in the court of Oyer and Terminer, December 12, of responsibility for the death of a boy who was killed by Dr. Gadd's automobile.——Dr. Wilbur F. Litch was the guest of honor at a dinner at the Hotel Walton, December 16, given by the Philadelphia Dental and Stomatologic clubs.——Dr. Wilfred T. Grenfell, medical missionary in

Labrador, spoke at the University of Pennsylvánia, December 17.——Dr. Thomas C. Stellwagen has been operated on recently for appendicitis.

To Prevent Abuse of Free Hospital.—At the meeting of the Philadelphia County Medical Society held at the College of Physicians, December 13, a recommendation that it should be made a misdemeanor under state law for any hospital or dispensary receiving state financial aid to treat as free patients those able to pay medical fees, was made by the committee appointed by the society to study the abuse of the free hospital dispensary services. This committee is composed of Drs. Howard S. Anders, chairman, G. Morton Illman, Edward J. G. Beardsley, Joseph D. Farrar and William D. Robinson. It was also recommended that a social service department should be established in connection with each institutional dispensary, to ascertain those patients, who are or are not able to pay; and, further, as in the Charity Organization Society, to follow up the cases. It was recommended that the county society delegates to the next state medical convention should be instructed to induce the committee on legislation of that body to take up the matter of formulating the law suggested, to prohibit or diminish the dispensary abuse.

TEXAS

Society Wants Hospital in Central Location.—By a vote of 44 to 26, the Dallas County Medical Society at its meeting December 2, indorsed a resolution asking the city commission to locate the new city hospital at some central point in the City. A committee of five was appointed from the Dallas Physicians' Lunch Club to confer with the Dallas City and County medical society's committee regarding the location of the hospital. This committee is composed of Drs. John O. McReynolds, Edward H. Carey, John S. Turner, Henry B. Dechard and Elbert Dunlap.

Physicians' Building Proposed.—Propositions have been made to the Dallas County Medical Society for a building to be erected in the city, which is to be devoted exclusively to offices for physicians who are members in good standing of the society.

Personal.—Dr. Joseph H. McCracken, Mineral Wells, has been elected president of the State Medical Association of Texas to succeed the late Dr. David R. Fly.——Dr. James R. Nichols, San Antonio, has been appointed physician to the State School for Deaf and Dumb, Greenville.——Dr. Christopher C. Nash, Mineral Wells, has been appointed assistant chief surgeon of the International and Great Northern Railroad.——Dr. Manton M. Carrick, Dallas, has been appointed chairman of the local committee for the sale of Christmas seals.——Dr. John D. Bedford, Amarillo, who has been ill in Dallas, is reported to be improving.——The life of Dr. James H. Bindley, San Antonio, was attempted December 2, a traveling representative of an insurance company being the assailant.

District Society Meetings.—The semiannual meeting of the Fifth District Medical Association was held in San Antonio, November 23, and the following officers were elected: Dr. William T. Dawe, Gonzales, president; Drs. Malone Duggan, San Antonio; Robert L. Fulcher, Blanco; C. Williamson, Seguin; William T. Dawe, Gonzales; David G. Wilborn, Runge; John W. Merritt, Harper; Ralph Redditt, Pearsoll; Benjamin R. Bradley, Hondo; G. S. Battey, Uvalde; Horace B. Ross, Del Rio, and William M. Clark, Floresville, vice-presidents; Dr. H. H. Ogilvie, San Antonio, secretary, and Dr. W. C. Williams, Staples, treasurer.——The Big Springs-El Paso District Medical Society met in Midland, November 22, and elected the following officers: Dr. John W. Overton, Sweet Water, president; Dr. Shirley C. Gage, Abilene, vice-president, and Dr. G. T. Hall, Big Springs, secretary-treasurer.

UTAH

County Society Meeting.—At the annual meeting of the Salt Lake County Medical Society, December 11, in Salt Lake City, the following officers were elected: president, Dr. Fred Stauffer; vice-president, Dr. Lashbrook B. Laker; secretary, Dr. Thomas A. Flood; treasurer, Dr. Robert R. Hampton, and censor, Dr. Robert C. Smedley.

Staff Reorganized.—Announcement is made of the reorganization of the staff of the Judge Morey Hospital, Salt Lake City. The staff is now made up as follows: chief of staff, Dr. Archibald A. Kerr and Drs. Ernest D. Hammond, William M. Thome, Alney N. Minear, Hans C. Jorgenson, Payson Henry S. Scott, Robert E. Steele, Clarence J. Albaugh, William D. Donoher, David H. Lewis, Eindred Viko, James C. Hanchett and Charles P. Harvieville Robinson.

FOREIGN

Sanitation in Tokio.—United States Consul-General Sammons, at Yokohama, reports that the city of Tokio will construct a modern sewerage system in that city modeled on the plans of systems of modern cities, probably following closely that of Berlin. This is to be done in preparation for the world exposition that is to be held in Tokio in commemoration of the fiftieth anniversary of the crowning of the Mikado. Tokio is one of the largest cities in the world and covers a great area. It is stated that approximately $17,000,000 to $20,000,000 will be spent on this improvement.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 9, 1911.

The National Insurance Bill

The national insurance bill has passed its third reading in the House of Commons by an enormous majority. The conservative or opposition party, while voting for an amendment expressing dissatisfaction with the shortening of discussion of the bill by the use of the guillotine, did not vote in the final division. They declined the responsibility of voting for, as well as against, the measure. "Willing to wound and yet afraid to strike" best describes their attitude. When the bill was introduced they vied with the supporters of the government in expressing approval of its principle—compulsory insurance of workmen against illness defrayed by contributions from three sources, the workman, the employer and the state. But, like every scheme which involves new taxation and affects vested interests, the bill is exceedingly unpopular with certain classes, notably the medical profession. As explained in previous letters to The Journal there are good reasons for believing that it may prove not only injurious to the profession, but also detrimental to the practice of medicine. Many employers object to a new tax which they maintain will render competition with other nations in the markets of the world more difficult. The insurance of domestic servants has aroused great opposition among both mistresses and servants, as it is maintained that during illness it is the rule for servants to be cared for by their employers and that, therefore, the measure is for them unnecessary. It is also true, however, that the poorer mistresses, such as lodging-house keepers, often do not and cannot provide for a servant in illness, and further, the bill provides many benefits, such as an allowance for permanent invalidity, which would practically never be granted by any mistress. The existence of these various currents of hostility encouraged the opposition to attack the details of the bill and aroused a fierce press campaign against it, characterized more by misrepresentation and vituperation than by argument. But the fact that the bill is popular with the working classes and is approved by most persons who are interested in "social reform," including even a section of the conservative party, has prevented the opposition from incurring the odium of voting against it, while at the same time professing great dissatisfaction with its details. But during its passage through the House of Commons, they offered no effective criticisms and confined themselves to attempts to show that it would be injurious to the working classes by imposing burdens and to the friendly societies by competing with them. This, of course, cannot be true, whatever its demerits, for the contributions per annum from the employers and the state amount to about $75,000,000, which is practically presented to the working classes.

Great surprise has been produced by the appointment of Mr. J. Smith Whitaker, medical secretary of the British Medical Association, as deputy-chairman of the insurance commissioners. The British Medical Association is very hostile to the bill, as it does not embody some of the most important of the six points (described in previous letters to The Journal), which it regards as essential, and has declared the bill in its present form to be unworkable. Mr. Smith Whitaker has since the beginning been the chief organizer and spokesman of the professional agitation against the bill and has an unrivaled knowledge of its details. He has accepted the appointment with the consent of the council of the British Medical Association. But as the association is so hostile to the bill, this has given rise to considerable discontent in the profession. One well-known consultant has gone so far as to describe, in the medical press, the appointment as a betrayal of the association. Probably the reason that the council agreed to the acceptance of the appointment was that they thought it was to the interests of the profession that such an important position should be filled by some one intimately acquainted with the medical aspects of the problem and so representative of the profession's views. At present there are two camps in the association, as in the profession generally—those unreservedly hostile to the bill and in favor of declining to work it at all, and those who seek to work it by some compromise and hope to get those of the six points which are not inserted in the bill by arrangements with the local committees. It is the former who denounce the appointment. Before accepting it, Mr. Smith Whitaker placed himself unreservedly in the hands of the council of the association, asking that his personal interest should be placed entirely on one side, and that in coming to a judgment on the question the interests of the profession and of the association alone should weigh. Several branches of the association have passed resolutions condemning the appointment. Mr. Smith Whitaker is a physician, who, after practicing for ten years, showed such a talent for medical politics and the organizing of the profession, that he was, in 1902, appointed medical secretary of the British Medical Association, an appointment which was created for him. Previously he had been a business secretary.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 1, 1911.

Fees for an Operation Performed in a Hospital

Sometime ago the wife of a notary went to Mende, the capital of the department of Lozère, to consult Dr. Bardol, a member of the city hospital staff. Dr. Bardol, believing an operation necessary, advised the patient to enter the hospital, saying that he would be unable to undertake the operation with chances of success outside of the hospital. The patient did so and was operated on successfully by Drs. Bardol and Bessières, the latter also belonging to the staff of the establishment. Three bills were rendered to the patient: one for her hospital expenses and the two others for the fees of the physicians who had operated. The husband of the patient paid the first bill but refused the two others on the ground that his wife had entered the hospital on the advice of Dr. Bardol and that since Drs. Bardol and Bessières were members of the staff and received a salary from the hospital, their fees should be included in the bills from the hospital itself. The case being carried to the courts, the physicians won both in the lower courts and in the court of appeal, the judge deciding that Drs. Bardol and Bessières had acted not as members of the hospital staff but as practicing physicians in advising that the patient enter the hospital and that under these conditions they had a right to ask the patient fees which could not be put in the hospital account. Recognizing, moreover, that the refusal by the notary to pay the bill had been prejudicial to the interests of Drs. Bardol and Bessières, the courts awarded them each $10 (50 francs) damages.

The Suppression of the Illegal Practice of Medicine

During the last general assembly of the Syndicat des médecins de la Seine, Dr. Levassort, director of the syndicat service for the suppression of illegal practice of medicine, stated the various reasons which rendered his task more difficult: (1) the increasing adroitness of the irregulars in leading the *syndicat* into legal entanglements; (2) the slowness of judicial proceedings, one of which in an important case has lasted three years; (3) the judicial tendency to multiply expert evidence, the cost of which, sometimes very great, is not always reimbursed to the *syndicat*.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Nov. 30, 1911.

Personal

In place of the deceased Professor Pavy of London, Professor Waldeyer has been chosen as president of the international committee for medical congresses.

Professor Finklenburg of Bonn has assumed the direction of the hydrotherapeutic institute as successor of Professor Strasburger.

Professor Menge of Heidelberg has, contrary to all expectations, declined at the last moment the call to Bonn as successor of Fritsch; it is reported that the long delay of the Prussian Kultusministerium (department of education) in replying led him to this decision.

Professor Umber, formerly director of the department of internal medicine in the municipal hospital at Altona, has been selected as the successor of the deceased Prof. E. Grawitz as director of the internal department of the municipal West End Hospital.

The president of the Dresden international hygiene exposition, Mr. Lingner, has received a new honor, having been given the honorary title of doctor by the medical faculty of Bern. While this distinction is not undeserved, yet it is partly explained by the fact that the well-known hygienist of the Bern university, Professor Kolle, has received the post of director of the serum laboratory founded by Lingner, and the conferring of the honor may be well attributed to these relations.

The Proposed Antiquackery Law Dropped

The committee appointed by the Reichstag for discussion of the bill for an antiquackery law has discontinued its labors, as there is no prospect of success resulting from their continuance. Without doubt, the result of the inquiry instituted by the government among the medical profession at the suggestion of the committee contributed to this result. The inquiry referred to the question, how the introduction of legislation for compulsory medical treatment of those diseases which were withdrawn from the activity of the quacks would be regarded. Naturally, all of the Aerztekammer (medical councils) decidedly disapproved. No regret will be felt at the committee discontinuing its labors. Aside from the fact that a passage of the law by the present Reichstag, whose term is now to be measured by weeks only, was not to be expected, we have from the unfortunate discussion in the committee no reason to desire a discussion of the law by the entire Reichstag. Whether the bill will be presented by the government to the next Reichstag may depend on the composition. The new elections will take place at the beginning of the next year.

Prize Claimed for Cancer Cure

The prize offered some time ago by a Roman legislator has been applied for by Dr. Schmidt, the Cologne investigator of cancer, as we learn from the newspapers. He bases his claim on forty patients whom he asserts that he has cured with his "antimeristem" serum. That Schmidt will be successful in his competition, if the granting of the prize is made dependent on the vote of a critical committee of experts, is not to be expected, for hitherto no case in which antimeristem treatment has been applied has stood the test of time. The cure of cancer still remains a task for the future.

Social Discrimination Against Army Medical Officers in Germany

Heretofore only the line and staff officers in the German army have had the right to appear at the general festivities at court. The continued efforts of the German *Sanitätsoffiziere*, the army medical corps, for equality in rank and position with the other officers have met with some success, as the Bavarian government has now conceded them *Hoffähigkeit*, that is, all general social court privileges.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Dec. 6, 1911.

New Universities for Hungary

The minister of education has laid before the Hungarian Parliament a bill which has been received with great patriotic enthusiasm, as it stipulates the erection of two new universities in Hungary, in the cities of Pressburg and Debreczin. Only the Pressburg institution will include a medical school, the conditions for such a school being very favorable just there. That city has a large hospital (the largest of all provincial hospitals), a school for midwives and a children's hospital. Very little expenditure will be needed, therefore, for theoretical teaching and for the completion and enlargement of the already existing institutions. The other two medical schools in Hungary (one in Budapest and one in Koloszvar) are very well attended, and a third university will be none too many, for the northern and western parts of the country are dominated in this respect by Vienna. These districts will in the future find their intellectual center in Pressburg, and this will, no doubt, bring forth a closer connection with Hungarian scientists. Pasteur said that "science is international; the scientists act in patriotic manner by promoting knowledge;" it will be only natural that Vienna's old university will have some influence on the new Hungarian university. It would be irrational patriotism on the Hungarian side to object to such an influence, for the expenditure involved in the adaptation of the old buildings and erection of the new a sum of $400,000 (2,000,000 kronen) will be granted by the state annually during the next ten years.

Thirty Years of the Vienna "First Aid" (Rettungsgesellschaft)

Thirty years ago a fierce fire broke out in the Vienna City Theater and 800 lives were lost, owing to the complete absence of any organization for first aid and to the irresponsibility of the officials. Under the fearful impression of this overwhelming disaster, a non-medical man, Count Mundy, quickly called into life a first-aid ambulance organization (freiwillige Rettungsgesellschaft) with a view to rendering help in an organized and methodical way, in public disasters, accidents and the like. During these three decades this organization has become an indispensable factor in public welfare; it has served as a model for numerous similar organizations in other cities, and its daily calls number over a hundred. Occupation at this Rettungsgesellschaft is considered a special privilege for a physician, and the organization is highly esteemed by all medical and charitable bodies, as well as by the public authorities. It has been placed on such a financial footing by generous donations and by grateful persons that it is self-supporting and able to erect two branch stations in the outlying districts of Vienna. The medical profession is justly proud of this eminently humanitarian organization, to which all congratulations are due.

Marriages

GRACE MABEL MORRIS, M.D., Richfield Springs, N. Y., and Major Robert Ashton of London, England, in New York City, November 16.

GEORGE EMMETT KNAPPENBERGER, M.D., Kingman, Kan., to Miss Gertrude Johnson of Norton, Kan., December 2.

RICHARD WALKER BOLLING, M.D., New York City, to Miss Florence Easton of La Crosse, Wis., December 7.

LANG ALLEN MITCHELL, M.D., Frederick, Okla., to Miss Cornelia O. Boyd of Nashville, Tenn., October 18.

HERBERT L. KELLY, M.D., U. S. Navy, to Miss Emily Simons of St. Helena, Cal., December 16.

DUDLEY WILLIAMS, M.D., Baltimore, to Mrs. Florence Levering Jenkins, at Baltimore, December 6.

JOSEPH T. MARTIN, M.D., to Miss Margareta E. Burke, both of Oklahoma City, Okla., November 14.

J. SAMUEL BROWN, M.D., to Miss Lura Lee Bond, both of Ghent, Ky., at Louisville, October 24.

JOHN A. BROADFIELD, M.D., to Miss Edith Mitchell, both of Philadelphia, November 30.

ABE MARK NEWTON, M.D., Chicago, to Miss Parsons of Pontiac, Ill., November 19.

ERIC J. DANEK, M.D., to Miss Pauline Smith, both of Chicago, December 20.

CHARLES MOORE, M.D., Advance, Mo., to Miss Emma Prather, November 30.

Deaths

John Porter Davidson, M.D. University of Virginia, Charlottesville, 1893; a member of the American Medical Association; a member of the staff of the Memorial Hospital, Richmond; professor of ophthalmology and otology in the Medical College of Virginia, Richmond, since 1898; widely known throughout the South as a specialist in diseases of the eye and ear; died at his home in Richmond, November 28, from heart disease, aged 42. The faculty of the Medical College of Virginia and the Memorial Hospital acted as honorary pallbearers at his funeral.

Maurice P. Hunt, M.D. Cleveland University of Medicine and Surgery, 1879; surgeon to the Sixth Avenue Private Hospital, Columbus; formerly an instructor in the University of Michigan; died at the home of his brother in Santa Monica, Cal., November 20, from cerebral hemorrhage, aged 58

Judd Goodrich, M.D. University of Minnesota, Minneapolis, 1895; a member of the Minnesota State Medical Association; surgeon to the St. Paul Free dispensary; assistant in [illegible] on the staff of St. Luke's Hospital, St. Paul, and a men[illegible] the genito-urinary staff of the City and County H[illegible] died at his home in St. Paul, November 30, from he[illegible] ease, aged 42.

Orville Evans Evans, M.D. College of Physicians a[illegible] geons, Keokuk, Ia., 1878; a member of the American [illegible] Association and a practitioner of Gowrie, Ia., since [illegible] veteran of the Civil War; died at his home, Novem[illegible] from cerebral hemorrhage, aged 65.

Robert Denison Dashiell, M.D. Hahnemann Medical [illegible] Philadelphia, 1875; a practitioner of Fairmount. Md., a[illegible] connected with the *Marylander* and *Herald*, Princess [illegible] died in the Peninsula General Hospital, Salisbury, Md., [illegible]ber 10, aged 61.

Joseph W. Robb, M.D. University of Louisville, Ky., [illegible]62; for twenty years a practitioner of Russell, Kan., but since 1904 a resident of Shelbyville, Ky.; died at the King's Daughters' Hospital in that city, October 19, from pneumonia, aged 74.

Pierre George Dausch, M.D. University of Maryland, Baltimore, 1868; formerly a member of the American Medical Association; died suddenly at his home in Baltimore, November 26, from cerebral hemorrhage, aged 65.

William A. Burdick, M.D. Cincinnati College of Medicine and Surgery, 1885; an honorary member of the Kalamazoo Academy of Medicine; died at his home in Galesburg, November 15, from chronic nephritis, aged 78.

Frederick Clinton Graves, M.D. New York Homeopathic Medical College, 1899; surgeon of the Fire Department of New Bedford, Mass.; died at his home in that city, November 22, from pneumonia, aged 37.

James Andrew Leet, M.D. Dartmouth Medical School, Hanover, N. H., 1884; of Enfield; a member of the New Hampshire Medical Society; died in the Hanover Hospital, November 12, from typhoid fever, aged 56.

Morris M. Hale, M.D. University of Michigan, Ann Arbor, 1864; Jefferson Medical College, 1870; one of the oldest practitioners of Hot Springs, Ark.; died at his home, November 18, from acute gastritis, aged 74.

Elmer Lewis Fletcher, M.D. Albany (N. Y.) Medical College, 1887; a specialist on diseases of the eye, ear, nose and throat, of Eugene, Ore.; died at his home, November 10, from heart disease, aged 49.

Leland T. Bohannon, M.D. Louisville Medical College, 1870; physician of the Buckner Orphans' Home, Dallas, Tex.; died at his home in Orphans Home Station, November 27, aged 63.

Addison McNeill Grizzard, M.D. Vanderbilt University, Nashville, 1892; of Huntingdon, Tenn.; died in Altura, Tex., November 8, from tuberculosis, aged 42.

James Turner Clarke, M.D. Jefferson Medical College, 1857; a member of the Medical Society of Virginia; died at his home in Mount Solon, Va., December 1, aged 91.

Oscar Albert Bemis (license, Massachusetts); a member of the board of health of Whitman; died suddenly from heart disease, November 22, aged 66.

William Wallace Evans, M.D. Michigan College of Medicine and Surgery, Detroit, 1898; died at his home in Dayton, O., November 20, aged 61.

Zachariah D. Emerson, M.D. Kentucky School of Medicine, Louisville, 1880; died at his home in Van Alstyne, Tex., November 28, aged 64.

Charles John Creighton, M.D. Rush Medical College, 1879; formerly of Chicago; died at his home in Redlands, Cal., November 27, aged 69.

John Hendee Breeden, a practitioner of Fulton, Ill., since 1856; died at his home in Ipava, October 25, from arteriosclerosis, aged 76.

Jacob Hull, M.D. Bennett Medical College, Chicago, 1876; died at his home in Hicksville, O., November 14, from heart disease, aged 68.

John R. Dorroh, M.D. Miami Medical College, Cincinnati, 1884; died at his home in Angels Camp, Cal., November 9, aged 50.

Isaac N. Hill, a practitioner of Missouri for about seventy years; died at his home in Harwood, October 28, aged 92.

Philo Henry Clark, M.D. University of Buffalo, N. Y., 1862; died at his home in Ashland, O., November 28, aged 91.

The Propaganda for Reform

THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION BORATORY, TOGETHER WITH OTHER MATTER TENDING AID INTELLIGENT PRESCRIBING AND TO OPPOSE DICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

GOOD WORK IN NORTH DAKOTA

Widely Advertised Nostrums Exposed by the State Chemists

ave at different times commended the work of Prof. add, Food and Drug Commissioner of North Dakota. lletin issued by the North Dakota Agriculture Experi- tation is looked forward to each month because it alwa contains information of definite and positive value to the public—and, incidentally, to the medical profession. North Dakota is one of the few states that enforce their food and drug laws fearlessly. There is nothing "mealy-mouthed" about the bulletins regarding infractions of the food and drug law; no glittering or innocuous generalities but statements of fact dealt straight from the shoulder with the one object in view of protecting the public. The November *Bulletin*, besides containing the names of a number of food products that have been examined by the state authorities, also has some analyses of widely advertised nostrums. Here are some of them:

TORIS COMPOUND

This nostrum, put out by the Globe Medical Company, Chicago, comes under the "prescription fake" class. That is to say, it is advertised as one of the ingredients in an apparently bona-fide prescription that is recommended for the treatment of rheumatism. The prescription calls for 1 ounce of compound sarsaparilla, ½ ounce of whiskey and 1 ounce of Toris Compound. The results of an analysis of the nostrum were given as follows:

Sugar	74.1 per cent.
Sodium salicylate	15.8 per cent.
Saltpeter [potassium nitrate]	10.0 per cent.

This means that the individual who pays 50 cents for an ounce of Toris Compound gets ⅛ of an ounce of sodium salicylate, ⅛ of an ounce of saltpeter and ¾ of an ounce of sugar—a mixture which would cost about 1 cent.

DR. GREENE'S IMPROVED COMPOUND OF SARSAPARILLA

This nostrum is one of the cure-all type and is put out by the F. R. Greene Medicine Company, Chicago. It is "guaranteed to cure" about forty diseases and is said to be a purely vegetable product. As a result of an examination of this nostrum, the analyst reported:

> "This preparation has more of the characteristics of a weak aqueous infusion of gentian than we should expect to find in a concentrated preparation of sarsaparilla. The total extractive is very low and about 37 per cent. of this is in the form of dextrose."

In commenting on the findings of the chemists, Prof. Ladd characterized this nostrum as follows: "The writer cannot do other than class the sample which was examined in this laboratory as strictly of the fake class, the sale of which product is illegal in North Dakota. The claims made for this product are absurd, misleading and false. It does not contain the products which are purported to be present in sufficient quantity so that they may even be detected. Instead of containing 1/6400 per cent. of formaldehyd, it contains 0.36 per cent., and instead of containing approximately 15 per cent. of alcohol it contains but a small fraction of 1 per cent.; and the information conveyed with this product bears all the earmarks of a fake preparation."

PAPE'S COLD COMPOUND

This nostrum is extensively advertised by the "reading notice" method. That is to say, the advertisements are not set in display but are run as news matter. The assertion is made that the compound is the result of three years' research which cost $50,000 and much stress is laid on the fact that it contains no quinin. It is called a "harmless" compound and the statement is made that "there is no other medicine made anywhere else in the world which will cure your cold or end grippe misery as promptly" as will Pape's Cold Compound. This wonderful $50,000, "harmless" mixture was analyzed and found to contain, as the three essential constituents, acetanilid, phenolphthalein (a purgative) and ordinary sugar. According to the state chemists the composition of each tablet of Pape's Cold Compound is essentially as follows:

Acetanilid	1.6 grs.
Phenolphthalein	1.8 grs.
Sugar	8.0 grs.

From this we see that the claim that it is harmless and the further claim that it will cure a cold are both fraudulent.

CALOCIDE COMPOUND

This preparation is made by the Medical Formula Company, Chicago. Calocide is advertised as the "quickest and surest cure known for corns, callouses, bunions, frost bites, sweaty and aching feet" and is designated as "a remarkable home treatment for all foot troubles." Analyzed by the state chemists, it was found to be a first cousin to a similar nostrum—Tiz—exposed in THE JOURNAL, December 2. The results of the examination were as follows:

Borax	13.5 per cent.
Salt	24.0 per cent.
Alum	38.0 per cent.
Tannic acid	0.1 per cent.

EILERT'S EXTRACT OF TAR AND WILD CHERRY

This nostrum, which contains 15 per cent. alcohol, is put out by the Emmert Proprietary Company, Chicago, as a "sure cure for consumption, asthma," etc. Some other assertions that appeared on the carton are:

> "Cures consumption, catarrh, bronchitis, asthma, coughs, colds, spitting of blood, pains in breast and side."
>
> "Relief will be found in Eilert's Extract of Tar and Wild Cherry even in advanced stages of this disease [consumption] and a positive cure is almost certain in the incipient stage."

While these lying assertions are not forbidden under the federal Food and Drugs Act (thanks to the Supreme Court's decision on the subject), they are forbidden under the North Dakota Drug Law, which declares a medicine misbranded "if it bear any design which shall deceive or tend to deceive."

Analysis indicated that this preparation was essentially a syrup containing extract of tar and wild cherry and glycyrrhiza (licorice) with slight amounts of potassium, sodium and iron as chlorids, sulphates and phosphates. To sell a very ordinary cough mixture as a cure for one of the most deadly diseases known is a piece of commercial heartlessness as cruel as it is mendacious.

RED RAVEN

This widely advertised aperient water put out by the Red Raven corporation of Harnerville, Pa., is recommended for "chronic constipation, dyspepsia, liver and stomach disorders, congestion, obesity and gall-stones." Analysis of the water disclosed the following solids in each 100 c.c.:

Sodium chlorid (common salt)	.0085 grams
Magnesium sulphate (Epsom salts)	.1004 grams
Sodium phosphate	3.5806 grams

The abuse of saline cathartics is so wide-spread and fraught with such serious results that the public cannot be warned too often on this point. It is perfectly evident from the analyses of this and various other so-called aperient waters that they possess no other properties than those common to saline purgatives.

Correspondence

Vasotonin and Dr. Fellner Again

To the Editor:—Being constantly annoyed by letters and requests to make the injections of vasotonin in cases of arteriosclerosis, as a result of the article in the New York *Times*, I ask your kind help to set me right in the eyes of the profession. The article which appeared in the Sunday edition of the New York *Times*, November 26, was entitled "Can Dreaded Hardening of Arteries now be Cured?" It referred to Dr. Bruno Fellner, Jr., of Franzensbad, Austria, who believes he has found an effective remedy against arteriosclerosis.

At the end of this article I find my name without any logical connection whatsoever, the writer of the article having copied a part of my paper on this subject.

In justice to myself I beg to state that I never heard of Dr. Fellner or his work before, and that my permission to copy a part of my article was never asked.

Willy Meyer, New York.

[Comment.—This matter was referred to in The Journal, Dec. 9, 1911, page 1936.—Editor.]

The Hospital Service in the American Revolution

To the Editor:—In searching for a revolutionary fact I recently came across the following order of June 4, 1777, by Dr. W. Shippen, Jr., director general of the American Hospitals, and John Cochran, physician and surgeon general of army in the middle department, making certain historic appointments:

> The liberal provision made by Congress in the new medicinal arrangements, joined with a humane desire to prevent the repetition of the distresses which afflicted the brave American soldiers in the last campaign, have drawn men of the first abilities into the field, to watch over the health and preserve the lives of the soldiers, many of them from very (exhaustive?) and profitable practice, and every species of domestic happiness. Dr. William Brown of Virginia, Dr. James Clark of Maryland and Dr. Thomas Bond, jun., of Philadelphia, are appointed Assistant Directors General. Dr. Walter Jones of Virginia and Dr. Benjamin Rush of Philadelphia, Physician and Surgeon generals of the hospitals of the middle department. Under these none (?) but gentlemen of the best education, and well qualified, are employed as senior physicians, surgeons, &c. The eastern and northern departments are filled with gentlemen of the first characters in these countries; and the public may depend on it, that the greatest exertions of skill and industry shall be constantly made, and no cost spared, to make the sick and wounded soldiery comfortable and happy. As a consequence of the above liberal arrangement of the Honorable Congress, we do, with great pleasure, and equal truth, assure the public (notwithstanding the many false and wicked reports propagated by the enemies of American liberty, and only calculated to retard the recruiting service) that all the military hospitals of the United States are in excellent order, and that the army enjoy a degree of health seldom to be seen or read of.
>
> W. Shippen, Jun., Director General of the American Hospitals.
>
> John Cochran, Physician and Surgeon General of Army in the Middle Department.
>
> Head Quarters, Middle Breek, June 4, 1777.
>
> ** It is requested that the above may be published in all the newspapers on the continent.
>
> —*Connecticut Courant and Weekly and Hartford Intelligencer*, July 7, 1777.

Believing that the above may be of interest to some of the profession, I suggest that The Journal publish it and make it accessible.

G. M. Brumbaugh, Washington, D. C.

Active Sympathy with the Propaganda

To the Editor:—Your article on "The Mote and the Beam" is to the point. I wrote to two medical journals published in New York telling them to strike my name from their list of subscribers because they carried a Postum Cereal advertisement. Just as soon as a medical journal has a falling off of its paid subscribers, it will then "take notice and be good." Religious journals are dreadfully hungry for the "thirty pieces of silver." Their pseudomedical advertisements have the brazen face of the prostitute. Unfortunately, a number of these gullible readers accept every advertisement that appears in a religious journal as if it had the seal of Heaven stamped thereon. A Chicago gambler made the remark that a "sucker was born every minute." From a close range study of some doctors, during a practice of seventeen years, I am forced to believe that the Chicago gambler had the medical profession in mind when he coined his famous epigram.

E. T. Milligan, M.D., Detroit.

[Comment.—If many physicians show the same active sympathy with the propaganda work as that shown by our correspondent, the proprietary evil will receive the severest blow yet dealt. Without appearing hypercritical, we feel, nevertheless, that Dr. Milligan would have done more for the cause of scientific medicine had he told the publishers of the two journals to whom he wrote that he was cancelling his subscriptions because of the vicious medical advertisements that these journals carry—if this was his reason, as we believe it was. The readers of The Journal need not be told that it holds no brief for the Postum Cereal concern. It must be confessed, however, that the Postum Cereal advertisements do not compare in objectionableness with the advertisements of many of the nostrums carried by the two journals to which Dr. Milligan wrote. Advertisements of humbugs such as Antikamnia, Papine, Ammonal, Phenalgin, etc., are infinitely more dangerous to the public and more harmful to scientific medicine than all of the breakfast foods or coffee substitute advertisements that were ever published. Yet we find all of them and many more exploited in the pages of the two journals for which our correspondent no longer subscribes—two journals, by the way, that rank high so far as their reading pages are concerned, and journals that are supported by the leading members of the profession.—Editor.]

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ANIMAL LIFE IN THE HUMAN STOMACH

To the Editor:—Can you refer me to any authentic cases in which lizards or other form of animals foreign to the human stomach or intestines, have ever been found? Recently a female patient came under my observation with symptoms of some worm or other form of animal life in the stomach, which, she says, chokes her at times. Observation of stools does not reveal any signs of tapeworm. Treatment for tapeworm gave no results.

A. F. Stotts, Galesburg, Ill.

Answer.—Roundworms have been vomited, but how long they have remained in the stomach is uncertain. So far as we know, there is no reliable evidence that the human stomach has harbored any animals higher in the zoologic scale than the worm. The conditions are such as to render this impossible or at least highly improbable. Patients come to believe that they harbor such animals because they experience sensations in the stomach, which are interpreted to mean that something is moving there and these sensations may give rise to a fixed insane idea that an animal is present in the stomach.

TEST FOR ACETONE IN URINE

To the Editor:—Kindly give a simple and accurate test for acetone in urine. All I find in text-books are complicated and I am not sure of their preciseness.

F. B. M.

Answer.—The tests given in the ordinary text-books can hardly be regarded as complicated, although some of them are less reliable than others. One of the simplest and the most reliable is that of Gunning. Gunning's test may be applied to the native urine but is more reliable if used with the distillate of the urine. It is made by adding to the urine or distillate a small amount of Lugol's solution and then treating with ammonia until a black precipitate of nitrogen iodid is produced. This disappears on standing and in the presence of acetone is replaced by iodoform, which may be recognized by its odor and by its characteristic crystals.

RADIUM TEAS

To the Editor:—The newspapers are giving space to an account received by cablegram from Paris of what they call "radium teas"; that is, exposure to radium emanations for a number of hours, during which time the patients play cards or read and take tea. Is this pure guff or is it an actual scientific process?

C. H.

Answer.—This purports to be a scientific procedure. A short account of it will be found in this issue of The Journal, page 2111, abstract 50.

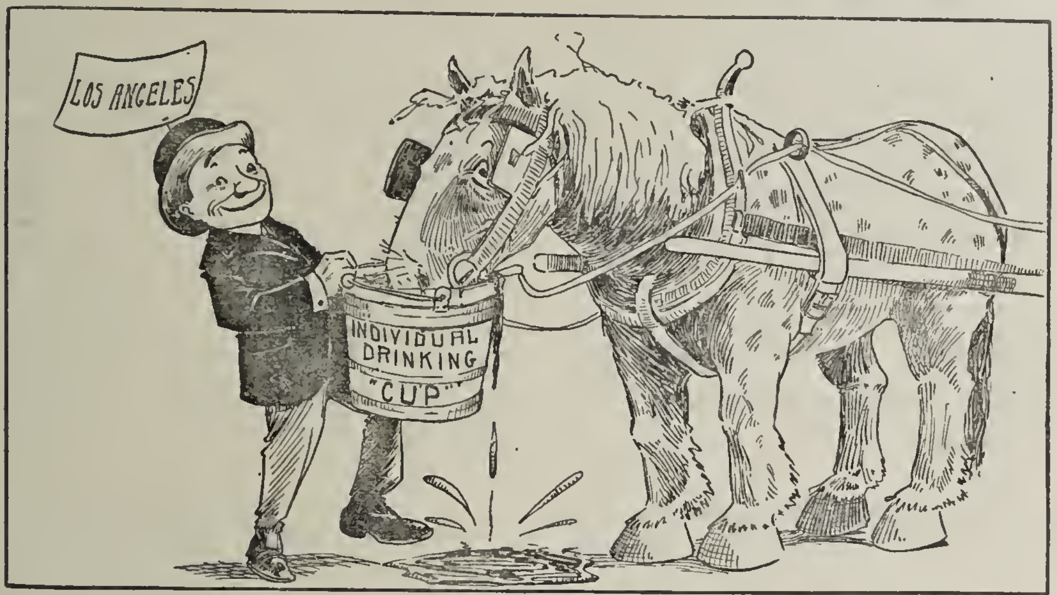
Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

A HOMEOPATHIC VIEW OF THE LEAGUE FOR MEDICAL FREEDOM

One of the leading homeopathic physicians of Boston recently received a letter from a professional friend, also a homeopathic physician, asking him to join the League for Medical Freedom. In his reply, given below, he states his reason for declining this opportunity. He also discusses the proposed national department of health in a way that does credit to his breadth of view and his freedom from sectarian prejudices. His position is that of every broad-minded scientific physician and his statement of his position will, we hope, lead many of his professional associates to consider the question of national health legislation without bias, and to ask themselves whether they are willing to stand before the public as opposed, for purely sectarian reasons, to a needed reform.

WHO WOULDN'T RATHER BE A HORSE IN LOS ANGELES



NEWS ITEM.—Individual drinking "cups" for horses will be a reality if a recommendation by the Los Angeles board of veterinary surgeons is carried out. Watering troughs are breeding places for glanders germs, say the veterinarians. The report urges each driver to provide himself with a bucket, from which his horses, and no others, may drink.

PUBLIC DRINKING FOUNTAIN
I WANT A DRINK!
YES. WHEN THAT MAN GETS THROUGH
AMERICAN MEDICAL ASSOCIATION CARTOON SERIES

THAN A CHILD IN SOME OF OUR CITIES?

BOSTON, Nov. 27, 1911

"*My Dear Doctor:*—Your letter of the first has remained unanswered in order that I might have ample time to consider your request and also to inform myself as thoroughly as possible concerning the 'League for Medical Freedom.' I read Flower's article when it first appeared in the *Twentieth Century* of June, 1910, and I have read much that he has written since. I have read pretty much everything *Collier's* has had to say about the league, and what THE JOURNAL of the American Medical Association has said, and, as a climax read every word of Senator Works' long speech before Congress on the Owen bill. Hence you cannot accuse me of not attempting to inform myself whereof I speak.

"My conclusion is that the more I learn of the 'League for Medical Freedom' the less use I have for it, and the deeper is my conviction that it is at bottom a thousand times more selfish and self-seeking than the American Medical Association ever dreamed of being. I believe that the instigators and framers of the league care infinitely less for the welfare of the 'dear public' and its physical protection than any body or set of men who ever banded themselves together. I am of the opinion that the league was conceived in selfishness and born for that single purpose. It goes without saying that there are many excellent men like yourself who are members of the league, but all such have been drawn into its meshes by the sophistries and false pretenses put forth to catch the unwary. They need you good people for just one purpose, namely, to get their chestnuts out of the fire, which chestnuts—'patent medicines,' impure foods and drugs, fake methods of practice, and many other money-making humbugs—are in danger of being destroyed.

"If the Owen bill threatened one-tenth the danger to the public welfare which the real animus of the originators of the league threatened then I would say 'fight the bill to the finish.' Just consider a moment, my dear doctor, what the league stands for as represented in Senator Works' speech. It seeks to annul or belittle all the great discoveries made in medicine during the last fifty years. It practically wipes out the germ theory of disease. It would abolish all public health boards. It would not insist on quarantine of infectious diseases. It would terminate at once all public school medical inspection. It would prohibit compulsory vaccination. It scoffs at typhoid protection in the army. It would only too gladly wipe out all restrictions on pure foods, drugs and medicines. It would annihilate animal experimentation *in toto*. To be sure, Senator Works does not say all this in so many words, but it is there and easily read between the lines.

"I fail to see how any self-respecting physician can endorse that speech when the speaker heaps on the physicians that invidious opprobrium of advocating public school inspection for the sole purpose of so frightening the parents of the school children that those parents will rush madly to the doctors to have the children cured of disease, which, according to Senator Works, they probably did not have, and thus line the doctors' pockets with ill-gotten gains. Will any honest physician take that insult quietly? Yet he places the entire profession in just that sinister light.

"Is there a public school teacher in the land who has watched the effect of medical inspection in the schools who will not endorse it most enthusiastically because of the good rendered the afflicted children. It seems to me, doctor, if we of the homeopathic school are so afraid that the dominant school will legislate us out of existence that we must call to our aid the medical quacks, the 'Christian Scientists,' the poison food squad and all the other medical sore-heads, then I think it is better that we die a respectable death and have a decent burial. For my part I would rather be licked fighting honorably with honest comrades than win by the aid of the Hessians. This 'League for Medical Freedom' is not our fight; it is the sore-heads' fight. We belong to an honorable, self-respecting branch of the medical profession which has never, thus far, sullied its plumage by resorting to questionable methods of warfare. We have won our way into the hearts of the people, and gained the respect of the dominant school by our endeavors to do honest, scientific, progressive work. We have prided ourselves that we have always adopted and tried to the uttermost every new measure for the cure of disease and alleviation of suffering which medical science has brought forward. Never have we taken a backward step.

"'All that pertains to the great field of medical learning is ours by tradition, by inheritance, by right.' Are we going to repudiate that splendid record and stultify ourselves by joining forces with the deadly enemy of medical progress simply because a few in our ranks are seized with an attack of hysteria and yell, 'We will be legislated out of existence'?

"If there is not enough truth in homeopathy and stuff enough in her followers to stand such legislation as proposed in the Owen bill then she deserves just such an ignominious death. But she won't die that way. There is a fundamental truth in that old law of Hahnemann which you cannot choke, hang, stick, strangle, electrocute or kick to death, and when all those methods have been tried, it will, like the cat, come home again very much alive. Some day our brothers of the dominant school will set to work and prove the truth of that law by laboratory tests (and the shame will be on us if we do not do it first); then will that old, battered, but much-alive truth be set on a pinnacle of perpetual peace.

"The fact is, we need a national bureau of public health just as much as we need state boards of health. It may not be in just the form outlined in the Owen bill, but such a department is necessary to the physical welfare of the American people, and, being such, it will be created. It is simply in the line of progress, and when an individual or a body of individuals throw themselves in the pathway of the chariot of progress they are likely to be rendered broader and longer, but being much flattened they will not be altogether useful.

"DeWitt G. Wilcox."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Fourth Month—Fourth Weekly Meeting

Pleurisy

VARIETIES

Acute and Chronic: Acute plastic, sero-fibrinous, purulent, tuberculous, hemorrhagic. Chronic with effusion, chronic adhesive.

PATHOLOGY

Acute Plastic: Extent of lesion, surface, blood-vessels, exudate, adhesions, terminations.

Sero-fibrinous: Extent of involvement, fibrinous exudate, character and amount, serous exudate, physical, chemical and microscopic characters, location of exudate, changes in pleuræ.

Coincident pathology, mediastinum, lungs, heart, abdominal viscera.

Purulent: Character of exudate, pleuræ, microscopic and gross changes.

Hemorrhagic: Physical and microscopic character of exudate, changes in pleuræ.

SYMPTOMS

General symptoms. Physical signs. Grocco's paravertebral triangle.[1]

TREATMENT

Medicinal treatment. Indications for surgical treatment.[2]

Emphysema [3]

Compensatory Emphysema: Usual causes. Manner of its production.

Hypertrophic Emphysema: Etiology. Theories as to causation. Bearing of heredity.

Pathologic Anatomy: Changes in air cells, in bronchi, in chest walls.

Symptoms: Characteristic symptoms. Physical signs.

Gangrene of Lung

Etiology: Most prominent causative factors. Pathologic anatomy. Mechanism of production. Pathologic changes.

Symptoms. General symptoms. Diagnostic Symptoms. Course and termination.

Abscess of Lung

Etiology: Local conditions. Manner of production of pyemia.

Monthly Meeting

Prognosis in Lobar Pneumonia.

Treatment of Bronchopneumonia.

Diagnosis and Treatment of Pleurisy with Effusion.

Clinical Significance of Hemoptysis.

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[1] Progressive Med., September, 1905, p. 45, and September, 1909, p. 61. Thayer and Fabyan: Am. Jour. Med. Sci., January, 1907.

[2] The Journal A. M. A., Jan. 5, 1907.

[3] Progressive Med., September, 1908, p. 67.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 16, 1911.

McDonald, Charles E., M.R.C., granted leave of absence for two months and thirteen days, about March 1, 1912.

Dean, Elmer A., major, leave of absence extended twenty days.

Halliday, C. H., M.R.C., relieved from duty at Fort Fremont, S. C., and ordered to Fort Brady, Mich., for duty.

Etter, Harry B., lieut., granted leave of absence for one month and sixteen days.

Wing, F. F., dental surgeon, left from temporary duty at Fort Mackenzie, Wyo., on twenty-five days' leave of absence.

McCornack, C. C., lieut., granted leave of absence for one month and seven days.

Saurman, John S., M.R.C., ordered to active duty and assigned to station at Fort Monroe, Va.

Ingalls, R. E., dental surgeon, reported for temporary duty at Fort William H. Harrison, Mont.

Mauly, C. J., major, ordered to Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment.

Cutliffe, William O., M.R.C., ordered to Fort Lawton, Wash., for temporary duty.

McAlister, John A., Jr., dental surgeon, left Fort Leavenworth, Kan., en route to take station at Jefferson Barracks, Mo.

The following named officers of the Medical Corps are detailed to enter the Army Field Service and Correspondence School for Medical Officers at Fort Leavenworth, Kan., April 1, 1912: Lewis, William F., major; Clayton, Jere B., major; Dean, Elmer A., major; Bispham, William N., major; Ekwurzel, George M., major; Patterson, Robert H., major; Bevans, James L., captain; Thomason, Henry D., captain.

Medical Corps, U. S. Navy

No changes during the week ended Dec. 2, 1911.

Changes for the week ended Dec. 9, 1911.

McCullough, F. E., surgeon, detached from the *Minnesota* and ordered to the *Delaware*.

Carpenter, D. N., surgeon, orders of November 8 revoked.

Snyder, J. J., surgeon, orders of November 23 revoked.

Seaman, W., surgeon, orders of November 23 modified; ordered to the *Minnesota*.

Valz, E. V., P. A. surgeon, detached from duty at naval prison, Portsmouth, N. H., and ordered to duty at naval hospital, Mare Island, Cal.

Barker, Z. A., A. A. surgeon, ordered to duty at marine recruiting station, Detroit.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Dec. 13, 1911.

Carter, Henry R., surgeon, granted two months' leave of absence on account of sickness, from Nov. 14, 1911.

Nydegger, J. A., surgeon, granted four months' leave of absence from Dec. 1, 1911, on account of sickness.

Oakley, J. H., surgeon, granted one month's leave of absence from Dec. 15, 1911.

Grubbs, S. B., P. A. surgeon, detailed to New York quarantine station for a period of five days for study of quarantine methods in connection with vessels from cholera-infected districts.

Von Ezdorf, R. H., P. A. surgeon, detailed to represent the Service at the meeting of the Southern Medical Association to be held at Hattiesburg, Miss., Nov. 14-16, 1911.

Anderson, J. F., P. A. surgeon, directed to proceed to New York for the purpose of investigating a suspected case of typhoid fever in the Borough of Brooklyn, Nov. 27, 1911.

Billings, W. C., P. A. surgeon, granted two months' leave of absence from Dec. 16, 1911.

McLaughlin, A. J., P. A. surgeon, detailed to attend the meeting of the National Association for Preventing the Pollution of Rivers and Waterways, to be held in Baltimore, Dec. 13, 1911.

Smith, A. L., A. A. surgeon, granted thirty days' leave of absence from Dec. 1, 1911.

Thompson, W. R. P., A. A. surgeon, granted fifty-three days' leave from Nov. 1, 1911.

Book Notices

A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, A.M., M.D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Third Edition. Cloth. Price, $3 net. Pp. 655, with 112 illustrations. Philadelphia: W. B. Saunders Co., 1911.

In this edition the revision has been limited to such changes as would not increase the size of the volume. These changes consist in many minor alterations of the text, found necessary to bring it abreast with the most recent and approved researches. The book may be recommended to students and practitioners for its eminently practical consideration of the subject.

The Surgery of the Diseases of the Appendix Vermiformis and Their Complications. By William Henry Battle, F.R.C.S., Surgeon and Joint Lecturer on Surgery to St. Thomas' Hospital, and Edred M. Corner, M.A., M.B., M.C., F.R.C.S., Surgeon in Charge of Out-Patients and the Surgical Isolation Wards to St. Thomas' Hospital. Second Edition. Cloth. Price, $3 net. Pp. 291, with 100 illustrations. New York: William Wood & Co., 1911.

The object of this short but complete treatise on appendicitis is well summed up in the preface to the first edition published in 1904. The writers stated at that time that they had tried to write from the standpoint of the practical surgeon, and before whom a constant stream of illustrative cases is passing. The warm reception accorded this first edition shows how much this method of treating the subject was appreciated. In the preface to the present edition the authors state that they delayed rewriting the book because there were so few new and good contributions to the subject.

In view of the fact that the relation of the movable cecum to constipation and to the pain which recurs after appendectomy has been performed, is attracting much attention at present, especially in German literature, it deserves to have fuller mention here. The St. Thomas Hospital, London, statistics, which show that one case in three will have a second attack of appendicitis after the primary one has subsided without operation, are of great interest.

One of the best chapters is that on appendicitis and peritonitis, which shows that the writers have had a large experience in this subject, and that many of the symptoms of peritonitis which have been thought to be classical are so late in onset as to be of little value from the surgical standpoint of early operation. This is especially true of the presence of fluid in the dependent parts and of tympanites. Great stress is laid on the value of early and rapidly spreading abdominal rigidity as one of the most important early signs of peritonitis, and also of the relatively rapid increase in the pulse rate. The chapter on tuberculosis of the appendix omits much reference to the acute mode of onset of this form of appendiceal inflammation and its great similarity clinically to ordinary forms of appendicitis.

Die erweiterte abdominale Operation bei Carcinoma Colli Uteri. (Auf Grund von 500 Fällen.) Von Dr. E. Wertheim in Vienna. Paper. Price, $3.65. Pp. 203, with illustrations. Vienna: Urban & Schwarzenberg, 1911.

After a brief introduction in which the history of the operation is considered, there are presented the detailed reports of 500 cases in which the author has operated by his method and which furnish the basis for this, the author's latest exposition of his well-known work along this line. The development of the operative technic and the method of dealing with the ureters, rectum and regional lymph-glands are clearly presented and well illustrated by numerous full-page plates.

Of great interest and importance are the carefully worked out immediate and end-results of the operation. Autopsies were made on all patients dying as a result of the operation and details of the findings given. All patients surviving the operation are followed up to date, the histories showing the recurrences and deaths as well as the survivors. The end-results have been exceedingly good and perhaps surpass those of any other similar series of cases. Surgeons interested in this line of work will find this volume a valuable fund of well-presented information.

Der vestibuläre Nystagmus und seine Bedeutung für die neurologische und psychiatrische Diagnostik. Von Dr. M. Rosenfeld, Oberarzt der Psychiatrischen und Nervenklinik zu Strassburg i. E. Paper. Price, 2.40 marks. Pp. 57. Berlin: Julius Springer, 1911.

In concise statement this brochure of fifty-seven pages deals with vestibular nystagmus in its relation to neurologic and psychiatric diagnosis. The author's position as chief physician of the Strassburg Nerve Clinic has given him especial opportunities to test the diagnostic value of the new reflex which Bárány has done so much to bring to our attention. In addition, Professor Rosenfeld gives an admirable description of the best technic with which to elicit this important reflex. The literary references at the end of the little volume are highly valuable. Neurologists and otologists will be particularly grateful to the author for his contribution

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Alabama: Montgomery, Jan. 10. Chairman, Dr. W. H. Sanders.

Arizona: Phoenix, January 2-3. Sec., Dr. Ancil Martin.

Colorado: State Capitol Building, Denver, January 2. Sec., Dr. David A. Strickler, 612 Empire Building.

District of Columbia: Washington, January 9. Sec., Dr. George C. Ober, 125 B St. S.-E.

Illinois: Coliseum Annex, Chicago, January 17-19. Sec., Dr. James A. Egan, Springfield.

Indiana: State House, Indianapolis, January 9-11. Sec., Dr. W. T. Gott, 57 State House.

Minnesota: State University in Minneapolis, January 2-5. Sec., Dr. W. S. Fullerton, 214 American National Bank Building, St. Paul.

New Hampshire: State House, Concord, January 9-10. Regent, Mr. H. C. Morrison, State Library.

New Mexico: The Capitol, Santa Fé, January 14. Sec., Dr. J. A. Massie.

New York: January 30-February 2. Chief of Examinations Division, Mr. Harlan H. Horner, Albany.

North Dakota: Grand Forks, Jan. 2. Sec., Dr. G. M. Williamson.

Oklahoma: Oklahoma City, January 9-12. Sec., Dr. John W. Duke, Guthrie.

Oregon: Portland, January 2-4. Sec., Dr. E. B. McDaniel, 704 Electric Building.

Rhode Island. State House, Providence, January 4-5. Sec., Dr. Gardner T. Swarts.

South Dakota: Huron, January 10-11. Sec., Dr. L. G. Hill, Watertown.

Utah: Salt Lake City, January 1. Sec., Dr. G. F. Harding, 310 Templeton Building.

Vermont: Montpelier, January 8-11. Sec., Dr. W. Scott Nay, Underhill.

Washington: Spokane, January 2. Sec., Dr. F. P. Witter, Traders' Block.

Wisconsin: Milwaukee, January 9-11. Sec., Dr. John M. Beffel, 3200 Clybourn Street.

Arkansas Eclectic May Report

Dr. E. H. Stevenson, secretary of the Arkansas Eclectic Board of Medical Examiners, reports the written examination held at Little Rock, May 10-11, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 13, of whom 12 passed and 1 was rejected. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Bennett Medical College	(1907)	85.5
Eclectic Medical University, Kansas City	(1910) (1911)	83.7, 87.5; 75.5, 82, 84.4, 84.8, 85.2, 86.1, 86.5, 89.5, 89.5.
REJECTED		
Eclectic Medical University	(1911)*	81.7

* Rejected on account of failure to furnish satisfactory credentials.

District of Columbia April, July and October Reports

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the written examinations held at Washington, in April, July and October, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. At the examination held in April, the total number of candidates examined was 6, of whom 3 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1910)	76.5, 80.3
Georgetown University	(1910)	80.5
FAILED		
Howard University, Washington, D. C.	(1909)	58.6
George Washington University	(1910)	65.7
Ohio-Miami Medical College	(1910)	70.3

At the examination held in July, the total number of candidates examined was 9, of whom 6 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1911)	81.7, 82.6, 82.8, 91.1.
Georgetown University	(1910)	75.1
Woman's Medical College of Pennsylvania	(1911)	87.5
FAILED		
Howard University, Washington, D. C.	(1910)	72.1
George Washington University	(1911)	68.9
University of Virginia	(1908)	71.1

At the examination held in October the total number of candidates examined was 11, of whom 10 passed and 1 failed. The following colleges were represented:

College		Year Grad.	Per Cent.
	PASSED		
George Washington University		(1910) 83.4; (1911)	77.3, 80.7, 84.2.
Georgetown University		(1910) 88.7; (1911)	77.5
Howard University		(1910) 77.4, 89.7; (1911)	86.5
University and Bellevue Hospital Medical College		(1909)	90.8
	FAILED		
University of Michigan, College of Medicine		(1910)	71.1

Kansas October Report

Dr. H. A. Dykes, secretary of the Kansas Board of Medical Registration and Examination, reports the written examination held at Topeka, Oct. 10-12, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 18, of whom 9 passed and 9 failed. Twenty-seven candidates were licensed through reciprocity. The following colleges were represented:

College		Year Grad.	Per Cent.
	PASSED		
Rush Medical College		(1911)	83
Chicago College of Medicine and Surgery		(1911)	79
Northwestern University Medical School		(1911)	75
Kansas Medical College		(1911)	82
University Medical College, Kansas City		(1911)	77
St. Louis University		(1911)	85
Medical College of Ohio		(1866)*	..
University of Oklahoma		(1911)	90
Fort Worth University		(1911)	77
	FAILED		
University of Arkansas		(1911)	66
Chicago Medical University		(1911)†	26
Rush Medical College		(1911)	70
Keokuk Medical College, College of Phys. and Surgs.		(1907)‡	..
Kansas Medical College		(1911)	71
University of Louisville		(1911)	69
Eclectic Medical University, Kansas City		(1911)	67
St. Louis College of Physicians and Surgeons		(1911)	65
Barnes Medical College		(1908)	53

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Denver Homeopathic Medical College	(1908)	Colorado
College of Physicians and Surgeons, Chicago	(1910)	Illinois
Drake University	(1910)	Missouri
College of Physicians and Surgeons, Keokuk	(1880)	Illinois
State University of Iowa, College of Medicine	(1892)	Iowa
Kentucky School of Medicine	(1883)	Missouri
University of Louisville	(1910)	Kentucky
Hospital College of Medicine, Louisville	(1905)	Kentucky
College of Physicians and Surgeons, Baltimore	(1897)	Maryland
Grand Rapids Medical College	(1907)	Michigan
Columbian Medical College, Kansas City	(1900)	Missouri
University Medical College, Kansas City	(1910, 2) Iowa; (1910) Missouri; (1911)	Nebraska.
St. Louis University	(1905) (1909)	Missouri
Missouri Medical College	(1893)	Missouri
Kansas City Homeopathic Medical College	(1902)	Nebraska
Washington University, St. Louis	(1905) (1908)	Missouri
Beaumont Hospital Medical College	(1893)	Missouri
Medical College of Ohio	(1880) Missouri; (1897)	Ohio
University of Tennessee	(1909)	Tennessee
Meharry Medical College	(1911)	Tennessee
University College of Medicine, Richmond	(1908)	Delaware

* No grade given.

† There is no such institution in Illinois recognized as a medical school.

‡ Withdrew from the examination.

New Mexico October Report

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports that at the meeting held at Santa Fe, Oct. 9-10, 1911, sixteen candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year of Grad.
Cooper Medical College	(1883)
Bennett Medical College, Chicago	(1908)
Medical College of Indiana	(1904)
University of Missouri	(1898)
Barnes Medical College	(1905)
St. Louis College of Physicians and Surgeons	(1906)
University Medical College, Kansas City	(1896) (1911)
Medico-Chirurgical College of Kansas City	(1902)
University of Buffalo	(1899)
Ohio Medical University	(1903)
Medical College of Ohio	(1889)
Western Pennsylvania Medical College	(1891)
Chattanooga Medical College	(1904)*
Baylor University, Dallas	(1909)
Milwaukee Medical College	(1897)

* Licensed through reciprocity with Oklahoma.

Medicolegal

Secretaries of Board of Health Not Liable for Loss of Diploma —Value and Use of a Diploma

(Whiteside vs. Adams Express Co. et al. (Neb.), 131 N. W. R. 953)

The Supreme Court of Nebraska affirms a judgment for the defendants in this case, which was brought to recover $20,000 from the express company and the secretaries of the state board of health for damages alleged to have been sustained by the plaintiff by reason of the loss of his medical diploma issued to him by an eastern college. The plaintiff, as an applicant for a license to practice medicine in Nebraska had sent his diploma to the board of health with a request that a license be issued to him. The diploma was received by the secretaries, examined, passed on favorably, and, as was their custom, placed in a mailing case, properly directed to the applicant and delivered to the express company, but when he received the mailing case the diploma was not therein, and was lost. He had given no instructions as to the method of returning the diploma to him, nor had he furnished any postage or other funds to pay for its return. The method of transmission adopted by the secretaries for the return of the diploma was the usual and customary method adopted by them for the return of diplomas to applicants for license. The court particularly holds that the selection of the carrier and the delivery of the diploma to it for return was not actionable negligence on the part of the secretaries rendering them personally liable in damages for the loss of the diploma.

Incidentally, the court suggests that there was error in an instruction which told the jury that, if they found in favor of the plaintiff, their verdict should be for an amount merely nominal, "five cents only;" but, as the verdict was in favor of the defendants, the erroneous instruction could work no prejudice to the plaintiff.

The court further says that the deposition having been taken of the physician in charge of the college, when he was asked if a diploma was of any value to a physician, in the course of his answer he stated that some liked to display their diplomas in their offices, when he volunteered the remark (possibly to show his wisdom): "In the West they do; but in this part of the world a man of any prominence would be ashamed to display his diploma in his office; would consider it a piece of poor taste." This would no doubt have been stricken out as an immaterial, voluntary statement displaying "poor taste;" but, instead of adopting that course, the plaintiff took the deposition of another physician, in a Massachusetts city of near 40,000 population, who interviewed a great number of physicians, and found that many of them did display their diplomas, giving the names and street numbers of those who exhibited the "poor taste." However, this was a collateral question of no moment, and the court did right in refusing to admit the second deposition in evidence.

Malpractice in Treatment Does Not Alone Render Liable for Death

(Cochran's Administratrix vs. Krause (Ky.), 137 S. W. R., 1053)

The Court of Appeals of Kentucky holds that one whose treatment is merely shown to have aggravated a patient's trouble and increased the danger is not liable for his subsequent death, for, under the statute of that state, there can be no recovery for the death of a patient unless it results "from an injury inflicted by negligence or wrongful act."

In this case a trouble having set up in one of the ears of the patient, he was advised by a physician that he had an abscess, and that an operation was necessary, but he was not disposed to submit to one, and seeing the defendant's advertisement in a newspaper, went to his office. He told the defendant in substance what the physician previously consulted had said to him, and the defendant advised him that an operation was not necessary, and undertook to cure him. He then paid the defendant $3.50, and the defendant gave him a treatment which consisted in pounding around the ear with something similar to what is used in massaging in barber shops. At that time there was a slight swelling back of the ear, and there had been for some time a discharge of pus from the ear. He went back to the defendant on three other occasions, and the effect of each treatment was the same; that is, it caused the swelling and pain to increase. After the fourth visit to the defendant, finding that he was getting worse and not better, he went to another physician, who advised him that he was suffering from mastoiditis. That was confirmed by an operation, but soon a second one had to be performed for an abscess in the temporal lobe of the brain, and within two months thereafter death ensued, when a post-mortem examination was made, which showed that another abscess had formed in the cerebellum, and that that abscess was the cause of death.

The court says that the plaintiff's evdence showed very clearly that there was negligence on the part of the defendant in the treatment of the case. But that was not enough to warrant a recovery in an action like this to recover for the death of the patient. It was apparent from the evidence that pus had formed in the mastoid process and was discharging at the ear when the man went to see the first physician, and that the condition had existed for some days before that time. Whether the abscesses had then formed in the temporal lobe of the brain and in the cerebellum, or whether they formed after that, was entirely a matter of conjecture under the evidence. It was true that the treatment which the defendant administered aggravated the trouble and increased the danger. Still the fact remained that the court was left entirely to theorize as to what was the cause of the abscess that caused the man's death. The evidence entirely failed to show that the mistreatment of the malady by the defendant caused the man's death. To submit the matter to a jury would be to allow them to theorize on evidence and to speculate without anything to show that the man would not have died just as he did if he had not been treated by the defendant. The evidence taken as a whole tended as much to show that his death was due to the delay in performing the operation as to any other cause, and it was wholly a matter of conjecture that if the operation had been performed on the day he went to see the defendant, his life could have been saved. The court therefore concludes that the trial court properly refused to submit the case to the jury and directed a verdict for the defendant.

Rescinded Revocation of License no Bar to Renewal of Charges

(Frascella vs. Board of Medical Examiners (N. J.), 79 Atl. R. 1063)

The Supreme Court of New Jersey says that, under "An act to regulate the practice of midwifery," the certificate of the prosecutrix was revoked by the State Board of Medical Examiners, in November, 1909. In June, 1910, after the prosecutrix had sued out what is called a writ of certiorari for the purpose of reviewing those proceedings, the board rescinded its action because advised by its attorney that there were fatal defects in the proceedings to revoke the certificate, among them, the fact that no notice was given to the prosecutrix of the hearing, and because the proofs were in the form of exparte (one-sided) affidavits, and thereafter the certiorari proceedings were suffered to lapse. In September, 1910, the same charge was again made, and after a trial on notice, and appearance of the prosecutrix before the board by counsel, a revocation of her license was ordered. Then another writ of certiorari was prosecuted to review both proceedings had before the Board of Medical Examiners.

It was contended that the State Board of Medical Examiners, being a special tribunal, its determination on the first complaint was conclusive on the parties until reversed. The prosecutrix in consequence remained suspended for over seven months, thereby suffering a penalty which the board was unable to rescind. Its action, therefore, amounted to a mere restoration of license, but did not and could not remit the penalty of suspension. The second charge, therefore, the board was without jurisdiction to entertain, because a person cannot be tried, convicted and punished twice for the same offense. But the court holds that there was no merit in that contention. The fact that a second time the midwife had her license revoked only strengthened the case against her. The provision for licensing these practitioners, and for the taking away of such licenses for violation of law are police measures for the public safety. Highly technical rules, relative only to the criminal code, have no application to such measures. If the first proceeding had been set aside on certiorari, that would have precluded the charge from being preferred a second time. Wherefore, the second writ of certiorari sued out was dismissed with costs.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Experimental Medicine, Lancaster, Pa.

December, XIV, No. 6, pp. 557-629

1 *Cutaneous Reaction in Syphilis. H. Noguchi, New York.
2 Status of Respiration in Methods of Differential Pressure Compared with that Under Method of Intratracheal Insufflation. J. Auer and S. J. Meltzer, New York.
3 *Venous Pulse. J. A. E. Eyster, Madison, Wis.
4 Biochemistry of Bacillus Lepræ. F. B. Gurd and W. Denis, New Orleans.
5 Relation of Hematin to Pathologic Pigment Formation. W. H. Brown, Madison, Wis.

1. **Cutaneous Reaction in Syphilis.**—The name *luetin* is proposed by Noguchi for an emulsion or extract of pure cultures of *Treponema pallidum* which is designed to be employed for obtaining, in suitable cases, a specific cutaneous reaction that may become a valuable diagnostic sign in certain stages or forms of syphilitic infection. The luetin produces a similar cutaneous reaction in syphilitic and parasyphilitic patients that is most constant and severe in the tertiary and hereditary affections. In Noguchi's series of cases, it was present constantly (100 per cent.) in the manifest tertiary affection, in 94 per cent. of latent tertiary affection and in 96 per cent. of the hereditary affection. During the primary and secondary stages, the reaction is infrequent and when present it is of mild degree. An exception has been found in cases in which energetic treatment has been or is being carried out and in which clinical signs of syphilis are absent. Such cases may show a severe reaction. Apparently this is true especially of the cases treated with salvarsan. In certain cases of old infection in which no treatment has been taken and in which no symptoms have appeared for many years and in the course of which miscarriages have not occurred, the cutaneous reaction has failed to appear. But, despite the absence of symptoms, mothers who have young syphilitic children have usually given the reaction. It remains to be determined in how far the cutaneous reaction with luetin can be used to supplement the Wassermann reaction in determining the complete and permanent suppression of a syphilitic affection. It appears probable that the Wassermann reaction is more constant in the primary and secondary and the cutaneous reaction in the tertiary and latent forms of syphilis. Moreover, it appears that the Wassermann reaction is more directly and immediately affected by antisyphilitic treatment than is the cutaneous reaction.

3. **Venous Pulse.**—This investigation by Eyster comprises a study of venous pulse, carotid, cardiographic and heart-sound records from twenty-one men with normal hearts. The heart sounds were recorded by the method of Einthoven. When correction is made for transmission, the first heart sound begins, on an average, 0.131 of a second before the c-wave of the venous pulse and has an average duration of 0.128 of a second. The second heart sound begins a few hundredths of a second before the v-wave and has a duration of 0.091 of a second. The third heart sound occurs shortly before or is coincident with the beginning of the h-wave. It has an average duration of about 0.03 of a second. Considerable variation from the average positions are noted in individual cases. This is especially true in the relation between the second heart sound and the v-wave. Measurements of the venous pulse- and heart-sound intervals show that the a-c, c-v and v-h venous-pulse intervals, the first to second and the second to third heart-

sound intervals and systole tend to remain fairly constant in length when cardiac cycles of different length are considered. The v-a, h-a and x-a venous pulse intervals, the third to first heart sound interval and diastole tend to vary in length with variations in total length of the cycle. Records of the venous pulse and heart sound obtained from dogs show a similar relation to that found in man. The main difference observed was an earlier occurrence of the first heart sound before the c-wave of the venous pulse.

Journal of Arkansas Medical Society, Little Rock

November, VIII, No. 6, pp. 155-178

6 Treatment of Pellagra. E. H. Martin, Hot Springs.
7 Pathologic Sequences of Neglected Lacerations of Perineum and Cervix; Plea for Immediate Repair. E. E. Barlow, Dermott.
8 Repair of Perineal Lacerations. H. D. Wood, Fayetteville.

Chicago Medical Recorder

November 15, XXXIII, No. 11, pp. 587-654

9 Rabies. A. M. Stimson, Washington, D. C.
10 Duty of Co-operation Between Surgeon and Roentgentherapist in Malignant Disease. N. M. Eberhart, Chicago.

Laryngoscope, St. Louis

November, XXI, No. 11, pp. 1051-1130

11 Papillitis with Otogenous Complications. E. Ruttin, Vienna.
12 Vertigo and Disturbances of Equilibrium in Recent Secondary Syphilis. O. Beck, Vienna.
13 Syllabus for Lecture to Medical Students on Deaf Child. G. Hudson-Makuen, Philadelphia.
14 Preservation of Anterior Wall in External Frontal Sinus Operation. T. J. Gallaher, Denver.
15 Primary Chancre of Tonsil. A. B. Thrasher, Cincinnati.
16 Retropharyngeal Abscess with Paralysis of Esophagus. J. A. Thompson, Cincinnati.
17 *Unusual Instances of Laryngeal Abscess. W. Freudenthal, New York.
18 *Folds and Webs at Upper End of Esophagus. H. P. Mosher, Boston.
19 Safe and Rapid Procedure for Submucous Resection of Deflected Nasal Septum with Presentation of New Septal Forceps. A. M. Macwhinnie, Seattle, Wash.
20 Tonsil Separator. B. Higbee, Louisville, Ky.
21 New Instrument to Remove Nasal Wall in Cases of Empyema of Maxillary Antrum. H. A. Alderton, Brooklyn.
22 Early Books on Education of Deaf. F. R. Packard, Philadelphia.
23 Carcinoma of Nasopharynx. C. M. Brown, Buffalo.

17. **Laryngeal Abscess.**—In October, 1910, Freudenthal's patient complained of a lancinating, sticking pain in the hard palate, the molar teeth, and the back of the head. The pain was confined to the left side only. Three days later there was quite an increase of the hoarseness which had been previously present, but as the voice had always been husky and his father was similarly affected he had paid no attention to that point. However, the pain in the back of his head and in the molar teeth continued and he went from one physician to another, was treated for neuralgia, etc., and was finally advised to have a few teeth drawn, which was done, but without any relief. Finally dyspnea and dysphagia set in and Freudenthal saw him five months after the onset of his sickness. Examination showed nothing unusual in the pharynx but the larynx presented a picture such as might have been expected in a case of malignant tumor. There was an irregular mass on the left cord which did not move freely, almost constant expectoration and a very strong *feter ex ore.* He had lost weight steadily, 20 or 30 pounds, had no appetite and experienced difficulty in swallowing, etc. There were no signs of tuberculosis or syphilis, consequently a malignant tumor was strongly suspected. A small piece was removed, but did not show any signs of malignancy, nor did the mass look like an abscess at that time. About a week later, when the patient was again seen, the appearance was somewhat changed. The movements of both cords were much restricted, which could not be explained by the presence of a tumor confined only to one side. At his next visit both vocal cords looked about the same. The picture was that of bilateral abductor paralysis. Five or six days later the whole process appeared to be in the left aryepiglottic fold. An incision was made and the man felt somewhat better, but later the same condition presented itself as before, i. e., only the larynx was affected. He had some dyspnea and was advised to go to a hospital in order to have a tracheotomy done, but refused. A little later he returned with decided dyspnea. The left arytenoid was much swollen, presenting a typical picture of an abscess. An incision was made and all the symptoms improved. He expectorated a good deal of pus and the vocal cords gradually began to move again. He was feeling very comfortable, but in a few weeks the whole process returned. On one occasion he had so much dyspnea that it was thought best to perform a tracheotomy at once. The patient, however, refused any operative intervention. The next day he vomited a great deal of pus and blood and felt much better. He felt quite comfortable afterward, but there was always more or less dyspnea. Later a tracheotomy was done. Freudenthal says it cannot be doubted that the man first suffered from a retropharyngeal abscess, though the collection of pus was so small that it escaped the notice of several physicians. Later this abscess, too, emptied itself into the larynx where it affected the left arytenoid, spreading from there in different directions.

18. **Folds and Webs at Upper End of Esophagus.**—Mosher cites a case of a true web of the upper part of the esophagus. There was a doubtful history in the case of the swallowing of some caustic. The patient had had trouble with swallowing for fifteen years. The examination disclosed about an inch below the cricoid cartilage a thin web which surrounded the esophagus. It was in the form of a diaphragm with a small central opening. The nature of the web did not become clear until Mosher put the mechanical dilator through the lumen of it, spread the dilator and pulled it back a little. The manipulation put the whole diaphragm on the stretch and made its real character plain. This procedure suggests a method of examining the upper part of the esophagus, which should help markedly in determining the presence of true webs. It might be called retrograde dilatation and examination. By it all adventitious folds are done away with by the opening of the esophagus. In the case of the web, which was just mentioned after the diaphragm was put on the stretch, the ring of tissue was divulsed by pulling the dilator up. After this soft bougies were passed at intervals three times. The patient was quickly and easily cured.

Medical Fortnightly, St. Louis

November 25, XXXX, No. 10, pp. 476-496

24 Principles Involved in Operations for Hernia. St. E. Sanders, Kansas City, Mo.
25 Conservative Treatment of Pelvic Infections. C. W. Wahrer, Fort Madison, Iowa.
26 Transmission. D. L. Field, Jeffersonville, Ind.

Journal of Indiana State Medical Association, Fort Wayne

November 15, IV, No. 11, pp. 469-504

27 Toxemia of Pregnancy. G. Van Sweringen, Fort Wayne.
28 Justification of Early Prostatectomy. F. H. Jett, Terre Haute
29 Common Causes and Treatment of Difficult Labor. E. E. Wishard, Noblesville.
30 Triple Pregnancy, with Report of Case. J. R. Hume, Milroy.

American Journal of Medical Sciences, Philadelphia

December, CXLII, No. 6, pp. 781-936

31 *Myocardial Changes in Two Hundred and Eighty-Seven Cases of Endocarditis. H. Brooks, New York.
32 Report of Case Demonstrating Pulsus Alternans, Blocked Auricular Extrasystoles and Aberrant Ventricular Electric Complexes. L. B. Rosenthal, New York.
33 *Acute Dilatation of Stomach in Pneumonia. M. H. Fussell, Philadelphia.
34 Lobar Pneumonia of Micrococcus Catarrhalis and Bacillus Coli Communis Origin. W. L. Niles and F. S. Meara, New York.
35 Symptomatology and Diagnosis of Cervical Rib. J. L. Miller, Chicago.
36 Diagnosis and Operative Treatment of Spondylitis and Some Other Forms of Vertebral Disease. B. Sachs, New York.
37 Spontaneous Intraperitoneal Hemorrhage. J. W. Churchman, Baltimore.
38 Consideration of Some Non-Tuberculous Lung Infections. G. H. Evans, San Francisco.
39 *Roentgen-Ray Studies of Serofibrinous Pleuritis. W. Engelbach and R. D. Carman, St. Louis.
40 *Meiostagmin Reaction. E. P. Bernstein and I. Simons, New York.
41 *Treatment of Bronchial Asthma. I. I. Lemann, New Orleans.
42 Asthma and Tuberculosis. H. Z. Giffin, Rochester, Minn.
43 Phlebitis Migrans. W. W. Herrick, New York.
44 *Cystopyelitis Due to Infection by Bacillus Coli Communis: Its Symptomatology and Diagnosis. S. Wassermann, Cleveland.

31. **Myocardial Changes in Endocarditis.**—Brooks made a detailed study of the types of myocardial disease which he has found associated with endocarditis in his autopsy series. The study is based on 236 cases of chronic endocarditis, thirty-five of acute endocarditis and sixteen of associated acute and

chronic endocarditis. He found that myocardial disease is present in greater or less degree in practically all cases of endocarditis acute or chronic. The type and degree of these changes determine, to a large degree, the possibilities and the future of any case of endocarditis. The most frequent changes in the myocardium in association with endocarditis are degenerative ones. Inflammatory lesions are relatively rare. In most instances the myocardial change is not determined by, nor is it the direct result of the endocarditis, but is caused independently by the same, affiliated, or by entirely independent conditions. The most frequent form seen in chronic or late acute cases is fatty degeneration, a lesion which differs in no material histochemical respect from that involving voluntary muscle. From analogy, it seems that this degeneration in most instances succeeds a primary parenchymatous alteration. As a sequence to fatty degeneration, fibrous replacement and probably brown atrophy frequently appear. There is no regular association between the special valve lesion and the type of associated myocardial degeneration, except that these changes appear more constantly and in more serious grade in aortic than with other lesions, probably because of mechanical changes.

33. **Acute Dilatation of Stomach in Pneumonia.**—Fussell believes that acute dilatation of the stomach is one of the rare abdominal conditions in which medical men can both advise and administer the treatment to the exclusion of the surgeon. The first requisite is early diagnosis. Sudden abdominal distention occurring in the course of pneumonia must bring the thought of acute gastric dilatation at once to the practitioner's mind. Distention, collapse, increased gastric tympany, pain, vomiting, are the suspicious signs. Before the patient is moribund, often before the diagnosis is definitely determined, and, as a diagnostic step, a stomach tube must be introduced and lavage practiced. If the contents of the stomach are foul and copious, or if there is much flatus, relief will be almost instantaneous and if the dilatation occur after the crisis, recovery may be confidently expected. The lavage must be practiced as often as the distention occurs. When a patient is collapsed, with running pulse, it is often feared that the passage of the stomach tube may be fatal. This is a mistake. On the contrary, the tube is easily passed and relief is marked even in most desperate cases in the midst of an attack of pneumonia. The position of the patient is of some importance. In distention of the stomach there is constriction of the duodenum under the root of the mesentery and the collapsed small intestines are far down in the pelvis, making the mechanical obstruction still more marked. By turning the patient on the right side or on the face, this element is probably largely removed. All food and drink by the mouth must be interdicted. Strychnin and eserin hypodermically have seemed of value in two of Fussell's cases.

39. **Serofibrinous Pleuritis.**—The authors found that the location of the fluid in serofibrinous pleurisy is variable. In a great majority of the cases it is more or less in the vertical position in the upright chest. The location is probably dependent on the most constant position assumed by the patient during the acute stage of the disease. Adhesions forming at this time encapsulate the effusion, fixing it permanently in this portion of the chest. The encapsulation of serofibrinous effusion in different positions of the pleura will explain the discrepancy of the physical findings with relation to the displacement of organs, Grocco's sign, obliteration of Traube's space, mobility with change of position of the chest and other confusing physical findings.

40. **Meiostagmin Reaction.**—The meiostagmin reaction has not proved satisfactory as a diagnostic aid in the authors' work.

41. **Treatment of Bronchial Asthma.**—Lemann did not find the blood-pressure usually high in paroxysms of asthma nor increased by epinephrin administered hypodermically in such paroxysms, but tended rather to be lowered. Epinephrin hypodermically frequently relieves the paroxysm, probably by relaxing the bronchial spasm. He says that the sheet anchor in the treatment of bronchial asthma is iodin, usually in the form of potassium iodid. The practically unanimous testimony of patients is that under its administration the paroxysms grow much less frequent and of less severity. It is not necessary to give large doses of the drug, therefore it is usually possible to avoid any disturbance of the stomach. A prolonged course for several months of 10 to 15 grains of potassium iodid, three times daily, should first be given and thereafter these doses should be given for periods of ten days, alternating with ten days of rest. Another favorite prescription is to direct that the iodid be taken for the first ten days in every month. With either of these methods it is possible to keep up a sufficient saturation with iodin to bring about excellent therapeutic effects without causing any of the undesirable by-effects of iodism.

44. **Cystopyelitis.**—This disease, Wassermann says, is well defined, both etiologically and clinically and strikingly resembles in this respect the so-called infectious diseases. The *Bacillus coli communis* is the most frequent organism causative to and characteristic of the disease. Cystopyelitis is a febrile disease; the fever is often of the relapsing type, extending over variable periods of time. Any obscure fever, as well as any unaccountable anemic condition in girls, with or without fever, is suspicious of latent pyelitis. Acid, turbid urine, containing pus cells and the *Bacillus coli communis*, is a positive finding confirmatory of such a condition.

American Journal of Urology, New York

October, VII, No. 10, pp. 367-416

45 Clinical Study of Renal Function by Means of Phenolsulphonephthalein. E. L. Keyes and A. R. Stevens.
46 Inspection Following Ureteral Catheterization. A. Nelken, New Orleans.
47 Causes of Failure of External Urethrotomy. H. A. Kraus, Chicago.

Journal of South Carolina Medical Association, Charleston

November, VII, No. 11, pp. 399-430

48 Tuberculin Diagnosis in Pulmonary Tuberculosis. C. F. Williams, Columbia.
49 Scab Formation in Nose: Its Proper Etiology and Treatment. W. P. Porcher, Charleston.
50 Case of Hyperpyrexia Due to Pelvic Abscess. F. W. Griffith, Asheville, N. C.

American Journal of Orthopedic Surgery, Philadelphia

November, IX, No. 2, pp. 153-267

51 Roentgen-Ray Studies of Chronic Arthritis. G. R. Elliott, New York.
52 *Prognosis in Chronic Arthritis. C. F. Painter, Boston.
53 Traumatic Arthritis as a Late Complication of Fractures of the Upper Extremity. P. LeBreton, Buffalo.
54 *Case of Coxa Vara, with Roentgen-Ray Picture Before and After Development of the Bony Deformity. J. Ridlon, New York.
55 Bilateral Congenital Dislocation of the Lower End of the Ulna. S. F. Jones, Denver.
56 Reasons for State Care of the Crippled and Deformed; Problems Involved. H. W. Orr, Lincoln, Neb.
57 Results of Muscle Group Isolation in Treatment of Paralyses of the Extremities. N. Allison and S. I. Schwab, St. Louis.
58 Psoas Abscess from Lumbar Retroperitoneal Lymph-Glands. M. H. Rogers, Boston.
59 Fracture of the Internal Epicondyle of the Femur. M. Ishimoto and K. Kaneko, Tokio, Japan.
60 *Operative Treatment of Congenital Wry Neck. J. K. Young, Philadelphia.
61 *Recognition of Congenital Visceral Ptosis in Treatment of the Badly Poised and Poorly Nourished Child. J. E. Goldthwait and L. T. Brown, Boston.

52 and 61. Abstracted in The Journal, June 17, 1911, p. 1847.

54. **A Case of Coxa Vara.**—Ridlon's case shows that either the symptoms of coxa vara may be present without any separation at the epiphyseal line between the head and neck of the femur, and be due to weakness and sensitiveness of bone at this point, or that a coxa vara may begin by the epiphyseal line opening out in front in a way that cannot be shown in a Roentgen ray negative and that gives no shortening. He has long noticed the frequency of coxa vara in fat children with undeveloped sexual organs, occurring at about the period of adolescence, and he says care should be taken in this class of cases not to mistake beginning coxa vara with beginning hip disease. It also seems probable that the rare and little understood condition called adolescent rickets is part and parcel of the same changed bony condition, and that

this condition accounts for at least some of the fractures that occur at this age. The condition of the bones appears to Ridlon, clinically, to be quite different from the bones in infantile rickets. For in infantile rickets while the bones remain soft they can sometimes be bent to nearly a right angle before they will break. Recently he saw a fat boy, of the undeveloped feminine type, break his tibia by suddenly sitting down on it on the floor from the standing position. He was standing on one foot with the other leg crossed, lost his balance and sat down on his leg, breaking the tibia obliquely at about the middle. As to the orthopedic treatment of coxa vara, Ridlon is inclined to put more trust in a plaster spica with the limb well abducted, and axillary crutches for a time, than in the use of ambulatory traction splints and perineal crutches.

60. Abstracted in The Journal, June 17, 1911, p. 1745.

Vermont Medical Monthly, Burlington

November, XVII, No. 2, pp. 261-267

62 *Anoci-Association: A New Principle in Surgery. G. W. Crile, Cleveland.

62. Abstracted in The Journal, Sept. 9, 1911, p. 925.

Journal of Ophthalmology and Otolaryngology, Chicago

November, V, No. 11, pp. 341-374

63 Broad Keratome in Removal of Dislocated Lens. A. E. Ewing, St. Louis.
64 Copiopia Hysterica, with Report of Two Cases. W. E. Shahan, St. Louis.
65 Surgical Operative Steps in Closure of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.

Annals of Surgery, Philadelphia

December, LIV, No. 6, pp. 721-858

66 *Value of the Leukocyte Count in Acute Surgical Diseases. H. W. Hewitt, Detroit.
67 Transplantation of Free Flaps of Fascia. J. S. Davis, Baltimore.
68 *Experiences in Thoracic Surgery Under Anesthesia by the Intratracheal Insufflation of Air and Ether. C. A. Elsberg, New York.
69 *Peritoneal Adhesions. E. H. Richardson, Baltimore.
70 Pathogenesis and Diagnosis of Surgical Diseases of the Pancreas. L. J. Hammond, Philadelphia.
71 *Gastric and Duodenal Ulcer. A. B. Mitchell, Belfast, Ireland.
72 *Early Diagnosis of Carcinoma of the Colon. J. Burke, Buffalo.
73 *Non-Traumatic Large Hemorrhage Into the Kidney Substance or Its Surroundings. R. S. Fowler, Brooklyn.
74 Operative Treatment of the Deformity of Pott's Disease. R. Whitman, New York.
75 Modified Autogenous Grafting and Turning Skin Flaps to Cover Granulating Surfaces. M. B. Tinker and H. L. Prince, Ithaca, N. Y.
76 A New Container for Sterilized Operating Supplies. K. Connell, New York.

66. **Value of the Leukocyte Count.**—Hewitt believes that in acute inflammatory surgical diseases repeated counts at frequent intervals should be made, and if the polymorphonuclear percentage rises while the total number remains stationary or falls, immediate operation should be insisted on. In some cases he found that the leukocyte count did not help in making a diagnosis, and in these cases he has disregarded the blood-findings entirely and depended on the history and physical signs; but in cases in which the count has been positive its value could not be easily underestimated. Leukocyte counts are sometimes valuable for their negative findings, e. g., they are frequently of assistance in making a diagnosis between a small ovarian cystoma with a twisted pedicle and a pyosalpinx or appendicitis. Hewitt insists that the laboratory findings must be correlated with the clinical to be of any value at all. The total count alone is insufficient. The differential count, *per se*, is of value in diagnosis, but of little value in prognosis. The total and differential counts, when taken together and correlated with the clinical findings, are frequently of great value both in diagnosis and prognosis. No definite percentage of polymorphonuclear cells can be taken to positively indicate infection. If we have a percentage of between 75 and 80 of polymorphonuclear cells, infection is probable; if we have a percentage of between 80 and 85, infection is usually found; if we have a percentage above 85, infection is almost invariably encountered. The duration of the infection must be taken into consideration. Counts are more positively diagnostic when taken early in the course of an acute surgical disease. Infection will frequently, when of long duration, overcome the patient's resistance and so vitiate the value of the count.

68. **Intratracheal Insufflation Anesthesia.**—In thoracic operations, as well as in a large number of thoracotomies for empyema that Elsberg has done, this anesthesia was a very good one. In not a single instance were any changes in the patient's condition observed when the pleural cavity was first opened; the pulse remained regular and of good quality and the patient's color remained good. In several of the cases there were adhesions between the visceral and parietal pleuræ, but in most of the patients there were no adhesions, and the practically normal pleural cavity was invaded. Elsberg has not yet had occasion to operate on a patient in whom both pleural cavities have to be opened. There is, however, every justification for the belief—based on the results of animal experimentation in which both pleural cavities were widely opened, and on the experiences with insufflation as a method of artificial respiration in several patients in whom all respiratory movements had been abolished—that it will be safe to open both pleural cavities if necessary, as far as the dangers from the double pneumothorax are concerned.

69. Also published in *Bull. Johns Hopkins Hospital*, August, 1911, and abstracted in The Journal, Sept. 2, 1911, p. 843.

71. **Gastric and Duodenal Ulcer.**—Mitchell says that sufferers from chronic ulcer of the stomach or duodenum, which has failed to respond to medical treatment, may confidently be recommended to consider operative treatment, the prospects being an immediate risk not exceeding 2 per cent. with 90 per cent. probability of complete and permanent cure.

72. **Diagnosis of Colon Carcinoma.**—When a pale patient, who up to a certain given moment has enjoyed perfect health, particularly as regards his digestion, suddenly, with or without dietary indiscretion, e.g., eating of flatulence-producing vegetables, begins to suffer from colicky pains in his abdomen with rumbling noises, and either in addition to obstinate constipation or diarrhea notices a great loss of weight and increasing muscular weakness, Burke says cancer of some part of the colon should be immediately suspected; when the stools contain blood, mucus or pus, or all three at one time, the further suspicion of cancer is strengthened; and if a mass is found in any part of the abdomen with or without visible peristalsis, the almost positive determination that a cancer is present is made. He emphasizes the fact that tumors of the sigmoid are very rarely palpated in early stages; what we do sometimes feel and interpret as sigmoid cancer is either chronic inflamed and enlarged colon or scybala above the strictured bowel; that not always where we find a mass in the abdomen does it signify the exact location of the suspected cancer as was demonstrated in a case of another carcinoma of the sigmoid flexure which he once saw, in which a hard mass could be palpated in the left upper quadrant and the diagnosis of cancer at that point was made, but the autopsy revealed a circular scirrhus carcinoma of the sigmoid, and the mass that appeared in the upper portion of the descending colon was hardened feces. This point is important on account of the surgical attempt to relieve the pathologic conditions, and the placing of the necessary incision. If a doubt exists as to the anatomic situation of this tumor, the Roentgen ray has become a valuable adjunct to the diagnostic armamentarium.

73. **Large Hemorrhage into Kidney.**—Of the eight cases reported by Fowler six patients were operated on, of whom four recovered and two died; a mortality of 33⅓ per cent. The two patients not operated on both died. The technic of the operative treatment will, he says, depend on the pathologic condition found at operation. If bleeding is limited to the perirenal fat, this must be excised completely, the hematoma removed and adequate drainage provided. If, however, the bleeding proceeds from the interior of the kidney and has later involved the perirenal fat, not only must the perirenal fat and hematoma be removed, but a nephrectomy done as well. Thorough removal of the fatty tissues infiltrated with blood-clot is essential, as the post-mortem history of these cases shows that suppuration easily follows.

Journal of Iowa State Medical Society, Clinton

November 15, I, No. 5, pp. 230-284

77 Progress in Surgery. J. C. Rockafellow, Des Moines.
78 Drainage of Lymph Channels from Mammary Gland and Surgical Relations of Axilla and Supraclavicular Region. H. J. Prentiss, Iowa City.
79 *Treatment of Cancer of Breast. L. W. Littig, Davenport.
80 Diagnosis and Treatment of Carcinoma of Uterus. W. B. Laforce, Ottumwa.
81 Emergency Surgery Not Due to Accidents. D. C. Brockman, Ottumwa.
82 Treatment of Acute Lobar Pneumonia. C. P. Howard, Iowa City.

79. Abstracted in The Journal, July 29, 1911, p. 419.

Journal of Biological Chemistry, Baltimore

December, X, No. 5, pp. 345-432

83 *Utilization of the Proteins of Corn. L. B. Mendel and M. S. Fine, New Haven, Conn.
84 Formation of Glycocoll in the Body. A. A. Epstein and S. Bookman, New York.
85 A Method for the Preparation of Nucleic Acid. A. W. Peters, Boston.
86 *Relation of the Pancreas to the Lipase of the Blood and the Lymph. C. L. von Hess, Chicago.
87 New Compounds of the Choline Type. G. A. Menge, U. S. P. H. and M.-H. Service.
88 Interrelation of the Ammonia and Carbon Dioxid Content of the Blood. R. Hopkins and W. Denis, New Orleans.
89 *Influence of an Excessive Water Ingestion on a Dog After a Prolonged Fast. P. E. Howe, H. A. Mattill and P. B. Hawk, Chicago.

83. **Utilization of the Proteins of Corn.**—In the authors' experiments, corn proteins, partially purified, were somewhat less thoroughly utilized than meat. Evidence was presented to indicate that this small difference may in great part be attributed to the cell residues remaining in the corn preparation employed.

86. **Relation of Pancreas to Lipase of Blood and Lymph.**—Von Hess' results indicate that the pancreas and the thyroid are not the main but only the partial source of the blood-lipase and only in so far as they play their part in the activity of the tissues in general. Serolipase variations are produced by a general stimulation or depression of the body-cells, while the small changes, which experimental lesions of these glands may produce are compensated for through the delicate mechanism governing the concentration of the serolipase.

89. **Excessive Water Ingestion After Eating.**—A fasting dog weighing 26.33 kg. was subjected to a fifty-nine-day fast receiving each day 700 c.c. of water by means of a tube. On the sixtieth day and for the three following days the water ration was increased 200 per cent. and at the end of this water period the former water level (700 c.c.) was again assumed. Determinations of total nitrogen and of nitrogen in the form of urea, ammonia, creatinin, creatin, purin and allantoin were made. The analytical data indicated that the water had brought about an increase of 77.5 per cent. in the total nitrogen output for the first day of the period, the course of the excretion decreasing from this point to the end of the period, the value for the final day being about normal. The excretion of nitrogen in the form of ammonia was markedly increased during the period of high water intake, a feature which was interpreted as indicating that the large volume of water had caused a pronounced stimulation of the gastric function. The output of nitrogen in the form of creatinin was found to undergo a sharp increase on the initial day of the water period. This point is significant in view of the former finding of a decreased output of creatinin when a normally fed organism is subjected to the influence of water drinking or fasting. In the present instances the two agencies were working simultaneously. For a period of eight days preceding the water period the urine of the dog had been practically creatin-free. With the inception of the interval of high water intake creatin in considerable quantity appeared in the urine and continued to appear throughout the entire period. The copious water ingestion was found to produce a pronounced increase in the allantoin-nitrogen elimination and a more than compensating decrease in the excretion of purin-nitrogen. The low purin values are believed to be due to the fact that certain oxidative processes have been so stimulated as to oxidize a certain quota of the purin-nitrogen precursors into allantoin. The total purin values (allantoin + purin) were increased during the water period. The total nitrogen values when taken into consideration in connection with the values for creatin-nitrogen and total purin nitrogen are believed to furnish strong substantiation for the hypothesis that the increased nitrogen output associated with increased water ingestion is due to a true stimulation of protein catabolism rather than to a flushing of the tissues.

Iowa Medical Journal, Des Moines

November, XVIII, No. 5, pp. 209-252

90 Treatment of Large Surface Wounds. E. E. Bust, Clarion.
91 Abdominal Adhesions. M. Emmett, Atlantic.
92 Chronic Middle-Ear Catarrh. H. G. Langworthy, Dubuque.
93 Exophthalmic Goiter. D. L. Rundlett, Sioux Falls, S. D.
94 Administration of Ether for General Anesthesia. J. E. Brinkman, Waterloo.
95 Surgical Psychoses with Report of Two Cases Following Operations. A. P. Stoner, Des Moines.
96 Clinical Briefs in Surgery. C. E. Ruth, Des Moines.

Albany Medical Annals, New York

November, XXXII, No. 11, pp. 637-698

97 Diagnosis and Treatment of Thyroid Gland Diseases. G. E. Beilby, Albany.
98 Chemical and Physiologic Importance of Nucleic Acids and Their Cleavage Products. V. C. Myers, Albany.
99 Albany Hospital: Ninth Report of Pavilion F, Department for Mental Diseases, for Year Ending Sept. 30, 1911. J. M. Mosher, Albany.

Pennsylvania Medical Journal, Athens

November, XV, No. 2, pp. 85-168

100 *Value of Library to County Medical Society. J. M. Anders, Philadelphia.
101 *Bearing of Pneumonia, Considered as Secondary Malady, on Treatment. H. A. Hare, Philadelphia.
102 *Typhoid with Relapse and Multiple Complications. A. A. Eshner, Philadelphia.
103 Technic and Statistic Results of Wassermann Reaction. J. L. Laird, Philadelphia.
104 Syphilis in Its Relationship to Nervous System. T. Diller and W. R. S. Denner, Pittsburgh.
105 Modern Treatment of Syphilis. J. F. Schamberg, Philadelphia.
106 Treatment of Syphilis. W. F. Donaldson, Pittsburgh.
107 *Care of Advanced Cases of Tuberculosis. W. F. Willcox, Ithaca, N. Y.
108 *Mitral Disease and Tuberculosis. J. T. Ullom, Germantown.
109 Tonsillectomy: Why, When and How, with Blood-Supply and Anatomic Relations of Faucial Tonsils. J. L. Davis, Philadelphia.
110 Some Fundus Changes Associated with Menstrual and Uterine Disorders. G. E. Curry, Pittsburgh.

Colorado Medicine, Denver

November, VIII, No. 2, pp. 371-397

111 Clinical Experience with Salvarsan. H. Sewall, Denver.
112 A Comparison of the Wassermann and Noguchi Reactions and the Effect of the Treatment of These Reactions. S. Simon, Denver.
113 The Wassermann Reaction and Its Relation to the Diagnosis, Prognosis and Therapy of Syphilis. W. C. Mitchell, Denver.
114 The Making of a Physician. E. B. Shaw, Las Vegas, N. M.

100. **Value of Library to County Medical Society.**—Anders says that if administered as a corollary to the scientific work of the county medical society and if "our faith" in its incalculable benefits were made a vital part of our daily life and not a mere expression of opinion, much good wark could be accomplished by county medical libraries under existing conditions. Not less than three-fourths of the books in the larger medical libraries now extant have been donations and legacies. Among the responses received from the secretaries in Ander's collective investigation, it was found that in those county societies having a library, the secretary performed the duties of a librarian without compensation. The objection to the effect that adequate quarters cannot be procured, as a rule, cannot hold in cities and larger towns because in every county a suitable room could be found as the result of well directed and persistent effort. The argument against county medical libraries, which sets forth as a reason for the nonpracticeability of the scheme that physicians' residences are too far removed from one another, also fails when the present methods of transportation are carefully considered, more especially if the plan previously suggested by Anders of endeavoring to make the usual meeting places of the society the depository of the library so that books could be drawn and returned and journals read on the same days of the regular sessions of the society.

101 and 107. Abstracted in The Journal, Oct. 21, 1911, pp. 1389 and 1390.

102. **Typhoid with Relapse and Multiple Complications.**—The concurrence of nephritis, intestinal hemorrhage, parotitis, neuritis, hyperpyrexia as complications in the course of an attack of typhoid, with persistence of typhoid bacilli in the blood to the twelfth week of the disease are the interesting features in Eshner's case.

103. **Mitral Disease and Tuberculosis.**—In his series of 400 cases, Ullom met but three times an association of the two diseases. One was a pronounced case of mitral stenosis with all the physical signs well marked with a lesion at the left apex. Tubercle bacilli were found in the sputum. The patient was treated in a sanatorium and came back in good condition. Her lesion has remained quiescent and she is in good condition. Another young lady suffered from a mild mitral regurgitation with a right apical lesion. She had tubercle bacilli also, took treatment at home, gained in weight and is well and working to-day. The third patient was a man with mitral stenosis and a right apical lesion. He had profuse hemorrhages and showed tubercle bacilli in the sputum. He was working at the time of his appearance at the institute, showed no tendency to progression, but has disappeared from observation. Ullom says that while these cases are too few from which to draw conclusions, yet it does seem striking that all three should show a tendency to cure.

Ophthalmic Record, Chicago

November, XX, No. 11, pp. 649-710

115 Small Flap Sclerotomy. H. Herbert.
116 *Intestinal Sepsis as Etiologic Factor in Cardio-Vascular Disease and Associated Ocular Affections. S. D. Risley, Philadelphia.
117 Broad Keratome in Removal of Dislocated Lens. A. E. Ewing, St. Louis.
118 Study of Sympathetic Ophthalmia. A. Elschnig, Prague, Austria.

116. **Intestinal Sepsis.**—By illustrative examples of ocular disease Risley endeavors to show the apparent relationship of cause and effect between such diseases and faulty intestinal conditions and diseases of the cardiovascular system. He suggests that in some of the cases of serious ocular disease in which there is no obvious relationship to syphilis or tuberculosis or other demonstrable etiologic factors, the cause may be found in infectious or toxic influences originating in the alimentary tract.

Military Surgeon, Washington, D. C.

November, XXIX, No. 5, pp. 481-606

119 What Are Best Available Measures to Diminish Venereal Diseases Among Soldiers and Sailors and Along What Lines Should We Seek Cooperation of Federal, State and Municipal Authorities? E. B. Vedder, U. S. Army.
120 Sanitary Troops in Organized Militia of United States. H. D. Thomason, U. S. Army.

New York Medical Journal

December 9, XCIV, No. 24, pp. 1157-1208

121 Consideration of Nitrous Oxid with Oxygen as an Anesthetic in General Surgery. H. W. Kearney, Washington, D. C.
122 Diagnostic Value of Lateral Thoracic Glands. M. Manges, New York.
123 Reduction of Cancer Mortality. J. M. Wainwright, Scranton, Pa.
124 Cancer Statistics and Their Meaning. I. S. Wile, New York.
125 Training of Nursery Maids in United States. C. G. Kerley, New York.
126 Modernized Views of Rabies. L. D. Frecoln, Philadelphia.
127 Nomenclature of Poliomyelitis (Acute Infectious Paralysis). B. M. Randolph, Washington, D. C.
128 *Various Infections and Inflammations in Children Treated with Tincture of Iodin. E. M. Sill, New York.
129 Treatment of Persistent Occipitoposterior Position. S. Robbinovitz, New York.

128. **Treatment of Infections and Inflammations in Children.** Sill has used iodin very extensively as a local antiseptic and germicide in a variety of cases, principally, however, in various infections or inflammations of the throat. He has seen severe sore throats clear up and heal in two or three days, after one or two applications that ordinarily might take a week to cure by other methods of treatment. Although the burning or pain in the throat is quite severe while it lasts, it does not last long and the good results justify its use. Where a milder application is desired for the throat, and especially deep down in the throat and nose, equal parts of glycerin and tincture of iodin will be found satisfactory. Sill has used this latter preparation in the treatment of babies as early as 1 year of age with good results.

He gives a list of 660 cases treated with tincture of iodin as follows: Amygdalitis, 400; chronic and subacute otitis media, 32; otalgia, 2; pharyngitis, 42; diphtheria of the tonsils, 44; nasal diphtheria, 8; nasal and tonsillar diphtheria, 1; stomatitis, 65; thrush, 5; laryngeal croup, 9; laryngitis, 28; scarlet fever, 9; measles, 7; nasal discharge, 6; (other than diphtheria), multiple furunculosis, 2. It is his firm belief that tincture of iodin, used as a local application to the throat in the acute contagious diseases early in the attack and during the active stage of the disease, will prevent very materially the spread of the contagion to other members of the family or outsiders.

Medical Record, New York

December 9, 80, No. 2144, pp. 1159-1208

130 Correction of Nasal Deformities by Mechanical Means and by Transplantation of Bone. W. W. Carter, New York.
131 Congenital Megalocolon and Anal Atresia. H. B. Sheffield, New York.
132 Odyssey of a Diagnosis. C. K. Austin, Paris, France.
133 Strabismus in Infants and Young Children. I. M. Heller, New York.
134 Real Value of Carbohydrate Feeding in Typhoid. E. R. Gardner, Pittsburgh.
135 Convenient Instrument for Ready Clinical Investigation of Sensibility to Coolness and Warmth. T. A. Williams, Washington, D. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

November 25, CLXXXI, No. 4604, pp. 1457-1534

1 *Parasite of Cancer. Sir H. Butlin.
2 Medical Aspects of Some Social Questions. G. A. Gibson.
3 Treatment of Cleft Palate. R. W. Murray.
4 Evolution of Modern Gynecology. A. E. Giles.
5 Metastatic Suppurative Cyclitis Occurring in Woman with Pyemia; Abscission; Recovery. Sir W. Collins.
6 *Urethral Grafts. A. Chiasserini.
7 Case of Tricuspid Regurgitation. R. O. Moon.
8 *Bacterial Infection of Stomach Wall Treated by Vaccine Therapy. F. K. Cahill.

1. **Parasite of Cancer.**—Butlin reviews his previous papers on this subject in which he likens the cancer cell to a protozoon. He says that there is no one cell for every kind of malignant disease, nor is there one cell for the carcinomata and another for the sarcomata. Every variety of malignant tumor has its own typical cell and the characters, the selection of locality and relations of each variety of cancer cell to the host are sharply defined and differ as widely as, though not more widely than, those of the varieties of protozoa which belong to the same species. He cites examples to illustrate some of the resemblances of the life-history of the cancer cell to that of the parasitic protozoa. It seems that they are as careful in the selection of locality as are the varieties of parasitic protozoa. They spread in the interstices of the tissues in which they first appear, as do certain of the protozoa. They are conveyed in the blood and lymph, as the parasitic protozoa are. They are deposited in distant tissues and organs like the parasitic protozoa, and they show just the same predilection for certain tissues and organs as do the protozoa. They are like many of the parasitic protozoa in the fact that they live almost entirely by osmosis. Like the protozoa, they sometimes live for long periods of time in the body of the host without any sign of their presence and perhaps in a state of lethargy, until their vigor and activity are restored to them by some lowering of the resistance of the host, or by some change in the part in which they had been lying which renders it more suitable to their necessities. They do not appear to furnish toxins which are dangerous to the health of the host, so that their effects are produced (like the effects of such parasites as *Myxobolus pfeifferi*) by mechanical causes, destruction of the tissues in which they live and multiply, the stoppage of blood and lymphatic vessels and the changes consequent on this stoppage. These conditions are naturally more dangerous when they affect the vital parts. On the other hand, when, like the protozoa, the cancer cells are attacked by pathogenic organ-

isms, bacteria and bacilli (as is almost invariably the case when they become exposed), they are rapidly destroyed, sometimes in great masses, and the effect on the host is disastrous. Some cancer cells can live for a long time outside the body of the host, although they do not, so far as we know, belong to the class of organisms which are sometimes not parasitic. They can live for weeks in glass tubes and then be implanted, as if they were just taken from the mass in which they lived. At present the cancer cells can only be implanted with success in animals of the same species as the animal from which they were taken. In this respect, again, they resemble certain of the protozoa. It may be that, with greater practice and experience, they will be induced to grow and multiply in animals of a different species, but Butlin very much doubts it, just as he doubts whether *Babesia bigemina*, a parasite of cattle, will be successfully implanted in a sheep. Cancer cells, like the parasitic protozoa, are never transformed into tissues of the host and the structures which they cause to be built up are for their own service, not for the service of the host. They are not themselves transformed into any other kind of tissue, nor do they transform the cells of the body into cancer cells. From the moment they are first unmistakably cancer cells, they remain cancer cells and from that moment they pursue only those two objects which are pursued by the protozoa, to live and to reproduce. And if they fail in these objects both the individual and the species perish. In reproduction they breed as true as any protozoon. Not only do carcinoma cells reproduce carcinoma cells and not sarcoma cells, but it is invariably the same variety of cell which is reproduced, with the same properties and powers and characteristics. It has been said that the cancer cells differ from the protozoa in the circumstance that they are not constant in their method of reproduction, that they multiply by budding or by mitosis, as pleases them, and that the protozoa never do so. If all the protozoa were thrown into a common receptacle for study they would also be found to vary in their method of reproduction. Butlin believes it is only because the cancer cells have been treated in this fashion that they seem to be subject to no method. But, he says, separate them and study them in families and it will be found that they are just as bound in this respect as the families of protozoa. The cells of carcinoma multiply by endogenous multiplication and the cells of sarcoma multiply by fission or by budding.

6. **Ureteral Grafts.**—The results of his experiments on the ureter of dogs with muscular grafts is here stated by Chiasserini. He examined histologically sections taken from eighteen cases. In experimenting he made use sometimes of pieces of vein (external jugular, femoral and saphenous), sometimes of the carotid artery. He reached the ureter by the extraperitoneal route and sutured the two ends of the ureter to the transplanted vessel by Carrel's method (slightly modified), having first cut away a piece of ureter somewhat shorter than the graft. In twelve cases the continuity between the two ureteral ends was reestablished, but a stenosis or a complete occlusion corresponding to the vascular graft was the usual result. Briefly, the conclusions he came to are as follows: 1. There is a possibility of the vessel introduced between the two ureteral ends becoming firmly united to them. 2. The piece transplanted, a few days after the operation becomes shortened so as to draw the two ureteral ends nearer together. 3. The graft becomes thicker and hard, while the lumen is nearly obliterated. 4. The stenosis causes a stoppage in the flow of the urine with consecutive dilatation of the canal of the ureter and hydronephrosis. It is certain at any rate, he says, that vascular grafts cannot be used to replace a segment of the ureter. However, every time he left a catheter in the ureter for several days he was able to observe in the graft evidences of regeneration which were lacking in most cases where no catheter was left *in situ*. The results obtained by him from ureteral autotransplantations are more favorable, but no report can be made on that now.

8. **Treatment of Bacterial Infection of Stomach Wall.**—Cahill's patient suffered from foul breath. He did not complain of "indigestion," he had a hearty appetite, but eating or starving he had a "foul breath." The stomach emptied itself in normal time. Gastric chemistry was normal. Having secured specimens from his stomach, the cultivation yielded streptococcus and *Bacillus coli*. Cahill had a "vaccine" prepared consisting of a streptococcus from the urine and a bacillus coli from the stomach. He gave four doses, and the "foul breath" completely disappeared and has not returned up to the present, now seventeen months afterwards.

Journal of Obstetrics and Gynecology of British Empire, London

October, XX, No. 4, pp. 151-210

9 Past Work of Obstetrical Society of London and Some of the Obstetrical and Gynecological Problems Still Awaiting Solution. A. Routh.
10 Pregnancy Complicated by Fibroids. W. E. Fothergill.
11 Occlusion of Lower Part of Vagina with Absence of Uterus. J. P. Hedley.

Australasian Medical Gazette, Sydney

October, XXX, No. 10, pp. 547-632

12 Evolution of Treatment of Disease. W. T. Hayward.
13 Evolution of Surgery. G. A. Syme.
14 Progress in Neurology and Psychiatry. W. B. Smith.
15 Conditions of Work and Health. J. S. Purdy.
16 Vaccine and Serum Therapy. H. B. Allen.
17 Three Cases of Mal-Development of Uterus. T. G. Wilson.
18 *Case of Bacillus Coli Infection, Treated Medically, Surgically and Hypnotically. J. Boyd.

18. **Bacillus Coli.**—A little girl, 5 years old, was suddenly seized with pain so severe over the bladder region as to cause violent screaming and convulsions. For two days previously the parents noticed that her micturition was somewhat irritating. She was treated medically for two weeks when the bladder was explored for stone per urethram, with a negative result. Boyd opened and drained the bladder, the symptoms being so urgent, but no stone was present. After six weeks the paroxysms were as bad as ever. The urine was highly acid, with a little pus and much mucus. *B. coli* were present. Potassium citrate, freshly prepared each time, was administered and the urine kept alkaline. She then had acute pain over the left kidney, lasting about a week, gradually disappearing. All sorts of bladder sedatives and antispasmodics were tried from time to time. Fresh buchu infusion in large quantities was the only one that seemed to have an effect and not much at that. Stock coli communis vaccines did no apparent good, morphia having to be administered for extra severe attacks. Meanwhile the urine was spasmodically improving. At the end of a month Boyd tried Kerley's plan of giving hexamethylenamin for five days, then potassium citrate for three, alternately. The hexamethylenamin certainly helped to clear the urine, which was now free from pus, but aggravated the symptoms, so it was stopped. During this time a measles rash developed, but whether it was true measles or a rash due to the vaccine Boyd could not say, as she had had an attack of measles shortly before. Curiously enough, while the rash was out (five days) the pains disappeared, only to recur as it faded. From being a particularly good and most intelligent little child, she had developed into a perfect little fiend, refusing to drink, take her medicine, in fact doing everything possible to annoy and hurt her mother. Boyd then proposed hypnotism. After some little trouble, Boyd got her into Forel's second stage. Suggestions were then made. All pain disappeared for the next five days, when it returned for two or three hours very sharply. Pus reappeared in the urine for a few hours. Another nine days passed without pain, when it returned for a quarter of an hour after passing water. The urine then remained alkaline and clear. In all, hypnosis was induced some thirty times.

Journal of Tropical Medicine and Hygiene, London

November 15, XIV, No. 22, pp. 333-348

19 Etiology of Beriberi. H. Fraser and A. T. Stanton.
20 Cultivation of Malarial Parasites in Vitro by Preventing Development of Complement in Human Blood Employed. C. C. Bass.

Glasgow Medical Journal

November, LXXVI, No. 5, pp. 321-399

21 Pathologic Institute of General Hospital. Sir W. Osler.
22 Origin and Development of Glasgow School of Medicine: From Maister Peter Lowe to Sir William T. Gairdner. A. F. Fergus.
23 Suicide from Cut-Throat and Drowning. D. J. Guthrie.

Annales de l'Institut Pasteur, Paris

October, XXV, No. 10, pp. 705-784

24 Research on the Physiology of Plants. I. (Nutrition minérale des végétaux. Absorption et excrétion des éléments minéraux par les racines et par les feuilles. Excrétion des substances organiques.) P. Mazé.

25 Hereditary Transmission of Experimental Relapsing Fever. (L'hérédo-contagion des spirilloses.) L. Nattan-Larrier.

26 *Scarlet Fever in Apes. (Essais de transmission de la scarlatine aux singes.) K. Landsteiner, C. Levaditi and E. Prasek.

27 Origin of Antibodies in Experimental Trypanosomiasis. (Sur l'origine des anticorps chez les cobayes trypanosomiés.) S. Mutermilch.

26. See editorial in The Journal, November 25. p. 1769.

Annales de Médecine et Chirurgie Infantiles, Paris

November 15, XV, No. 22, pp. 689-720

28 *Spasm of the Glottis as Sole Manifestation of Tetany. (Spasme de la glotte; manifestation unique de tétanie.) H. Triboulet and Harvier.

29 *Orthopedic and Operative Treatment of Little's Disease. (Traitement orthopédique et chirurgical de la maladie de Little.) A. Broca.

28. **Spasm of the Glottis.**—Triboulet and Harvier state that in ten cases of laryngospasm the Chvostek sign was positive and explained the nature of the spasm. But in a recent case there were no other signs of tetany except this spasm of the glottis. The patient was an infant over 1 year old, strong and healthy except for the transient attacks of suffocation. The electrical excitability was extreme, and they insist that the electric reaction should be tested as a routine measure in all cases of spasm of the glottis. It is possible that suffocation from this cause has been mistakenly ascribed to enlargement of the thymus.

29. **Congenital Spastic Paralysis.**—Broca discusses the clinical picture and the various methods of treatment that have been applied, emphasizing in conclusion that treatment should be exclusively orthopedic and educational. Neither the internist nor the surgeon can claim to cure the disease, but vast functional improvement may be realized by training the mind and motor functioning. It may be necessary to do some surgical work to restore the mechanical balance which first renders such training possible. For this tenotomy has proved its usefulness and osteotomy likewise to a certain extent in the inveterate cases. They regard the future of rhizotomy, that is, section of the spinal nerve roots, for Little's disease, as more dubious.

Archives des Maladies du Cœur, Etc., Paris

November, IV, No. 11, pp. 673-736

30 Case of Diastolic Murmur of Cardio-Pulmonary Origin. (Cas de souffle diastolique d'origine cardio-pulmonaire.) Devic and Bouchut.

31 Technic for Examination of the Blood, Blood-Producing Organs and Cardiovascular System. (Sur les moyens techniques employés en clinique pour l'étude du sang, des organes hématopoiétiques et de l'appareil circulatoire.) E. Savini.

Bulletin de l'Académie de Médecine, Paris

November 7, LXXV, No. 36, pp. 209-220

32 *Effect on Health of Excessive Summer Heat, and Means to Counteract It. (De quelques conséquences de la grande chaleur.) M. de Fleury.

32. **Consequences for Adults of Great Summer Heat.**—De Fleury states that following the great heat of last summer there was an unusually large number of cases of dysenteriform enteritis, appendicitis and paratyphoid, with enlargement of the liver, and in some the disturbances have not entirely passed away even yet. Other persons who did not seem much affected at the time suffer now from gastro-intestinal disturbances, congestion of the liver or some cutaneous affection of digestive origin. The tendency of the heat to increase the virulence of pathogenic germs, the abuse of cooling drinks, diluting the gastric juice and intestinal secretions, the tendency of meat and eggs to spoil during hot weather with the resulting toxic action—these factors cooperate in the disturbances caused by excessive heat in summer. Deficiency of gastric secretion is the probable cause of the loss of appetite, and the secretion in other glands is probably reduced likewise. But the most important factor, he thinks, is the diversion of the water in the organism from the kidneys to the skin, so that fluids are excreted by the skin almost entirely. Toxic products are thus retained in the body as the sweat eliminates but a comparatively small proportion of them in comparison with the kidneys. Sweat is much less toxic than urine, and least so when there is little muscular exercise, as in summer. He cites physiologists to the effect that the total mass of the apparatus concerned in the excretion of sweat is equal to only about a fourth of the filtering apparatus of the kidneys. The reduction in the output of urine thus leads to imperfect elimination of waste products. The arterial pressure also suffers from the excessive loss of fluids in the sweat, the heart showing on auscultation unmistakable signs of fatigue. The result of all these factors is a congestion and overworking of the liver, similar to the effect on the liver of residence in a tropical climate. Persons who lived mainly on fruits and vegetables escaped the above gastro-intestinal disturbances. Milk and eggs seemed to have a more injurious action than well cooked meat once a day, thoroughly masticated. In prophylaxis De Fleury advised his patients to drink very little at meals and not at all during the period of gastric digestion, but to drink in abundance when the stomach was empty. Those who had the courage to take only hot drinks benefited materially by this. These measures were advantageously supplemented by sterilization of the intestines by means of lactic ferments. Stimulation of the kidney functioning is important, and for this he gave lactose, with small doses of caffein in combination with theobromin; this increased the blood-pressure and restored kidney functioning.

Lyon Médical, Lyons

November 5, CXVII, No. 45, pp. 945-1004

33 Great Reliability of the Pirquet Cutaneous Tuberculin Test for Young Children. (Sur l'utilisation clinique des réactions à la tuberculine chez l'enfant.) M. Péhu.

November 12, No. 46, pp. 1005-1068

34 Acute Fatal Staphylococcus Cerebrospinal Meningitis in Young Man. (De la méningite cérébro-spinale aigue à staphylocoque; à propos d'un cas traité sans succès par le sérum de Dopter.) F. Barjon and G. Dujol.

Presse Médicale, Paris

November 15, XIX, No. 91, pp. 929-936

35 *The Adrenals in Erysipelas. (Les capsules surrénales dans l'érysipèle.) M. Lesné, Gerard and Françon.

36 Syphilitic Polyneuritis. (La polynévrite syphilitique, existe-t-elle?) R. Demanche and P. J. Ménard.

35. **Involvement of the Adrenals in Erysipelas and Other Acute Infections.**—Lesné has encountered nine cases recently in which patients with erysipelas became extremely weak, with incessant vomiting, a tendency to dyspnea, diarrhea and extremely low blood-pressure, the pulse rapid and irregular, the liver enlarging, and the assumption of acute disturbance in the adrenals was confirmed by necropsy. The patients were middle-aged or elderly and all died, death occurring suddenly. Others have described a similar syndrome in the course of scarlet fever and diphtheria. If the blood-pressure is tested systematically in the acute infectious diseases it may prove possible to detect this insufficiency on the part of the adrenals and counteract it by giving epinephrin. This he has accomplished in a number of other cases of erysipelas, and he describes two of the most typical, the arterial pressure dropping from 14 or 16 to 11, but it was restored to the former figure by epinephrin treatment and kept there while the patients recovered. He adds that in nine of the twenty-six fatal cases in his service between January and June this year, the patients succumbed with signs of inflammation of the adrenals.

Revue de Chirurgie, Paris

November, XXXI, No. 11, pp. 663-838

37 *Treatment of Pseudarthrosis in General and Especially with Grafts. (Le traitement des pseudarthroses en général et en particulier par les greffes.) P. Barbet. Commenced in No. 9.

37. **Pseudarthrosis.**—Barbet summarizes, with a number of illustrations, 199 cases of pseudarthrosis, including some from his own experience, and discusses the various causal factors, prophylaxis and treatment. One of the most important factors is the ill advised resection of sequesters, thus depriving the parts of the necessary support and bone-regenerating tissues. In the overwhelming majority of cases the pseudarthrosis is due to some local cause, interposition of soft parts, suppuration or comminution. In other cases the delay in

union is traceable to some metabolic disturbance, probably connected with defective functioning of some gland with an internal secretion. In some cases these factors may be associated. General treatment may include the supply of mineral substances needed for callus formation, and for this he prescribes a glycerophosphate mixture, combining the glycerophosphates of sodium, calcium, magnesium and potassium. Organotherapy may also prove useful and a number of cases are on record in which thyroid treatment hastened consolidation, while it failed in others. It might be wise to combine the drug or organotherapy with removal of the local cause. Prophylaxis consists mainly in operating at once when there is reason to suspect interposition of muscle, and, further, in reimplanting the sequesters. In exceptional cases after removal of the local cause the sluggish bone growth may be stimulated by friction and possibly by local injection of blood according to Bier's technic. In all cases, Barbet says, good physical and mental hygiene is an important adjuvant. Massage and cautious use of the limb are not curative measures, but aid in the effect of the others. Resection or freshening the fragments and replacing them in normal position are the main points in treatment, aiming to restore the continuity of the bone with the minimum of shortening, implanting a bone graft if necessary. If the reduction promises to hold without support, no direct fixation need be applied and the ordinary devices for immobilizing a recent fracture will be all that is needed. If more is required he prefers ligation to suture, with metal supports and the Lambotte appliance for the large bones. Bone grafts are indicated when without apparent local cause there is delay in bone repair or there is irreparable loss of substance. The ingrafted bone should be taken from the patient and should always be accompanied by the periosteum. Alien bone is unsatisfactory. A free autoplastic operation is almost as successful as a plastic operation with a temporarily pedunculated flap, but the outcome is much better with a permanent pedunculated graft with skin or muscle flap. Progress entails ingenious adaptation of these principles to grafting operations for pseudoarthrosis.

Semaine Médicale, Paris

November 22, XXXI, No. 47, pp. 553-564

38 *Diagnosis of Suppurative Gall-Bladder Disease. (Le diagnostic des cholécystites suppurées.) F. Lejars.

38. **Suppurative Gall-Bladder Disease.**—Lejars discusses in particular suppurative cholecystitis with cholelithiasis or malignant disease or both, and relates instances to show the difficulty of a correct diagnosis in these groups at times. In one case a married nullipara of 31 had always been well, the urine normal, never any jaundice or pain calling attention to the bile apparatus or stomach. One day symptoms developed suggesting severe acute appendicitis but under medical measures the symptoms subsided and there was apparently no further trouble for two months when a second similar attack developed, with tenderness and enlargement of the gall-bladder. When exposed it was found to contain a single large and old gall-stone filling it nearly completely. The suppuration was the work of colon bacilli, and their entrance on the scene had probably inaugurated the syndrome observed. Differentiation in these latent gall-stone cases is often difficult; when the trouble begins with a stormy onset the gall-bladder is almost the last organ to be incriminated. Association with appendicitis may further complicate differentiation. In another case the supposed suppurative cholecystitis proved to be a postappendicitic accumulation of pus just beneath the liver. Recurrence of a gall-stone trouble after years of peace is strongly suspicious of cancerous degeneration. Symptoms of acute inflammation are often the first signs of the secondary cancer in such cases. He describes a peculiarly instructive case of this kind; the patient at the age of 45 had several attacks of colic in the liver region, without jaundice, recurring during the three following years, but then there was no further trouble for seventeen years when suddenly symptoms of acute suppurative cholecystitis developed; an obstructing gall-stone was removed from the common bile-duct but the gall-bladder was already cancerous.

Beiträge zur klinischen Chirurgie, Tübingen

October, LXXVI, No. 1, pp. 1-239

39 Anaerobic Bacteria in Etiology of Appendicitis. (Bakteriologische und experimentelle Untersuchungen zur Aetiologie der Wurmfortsatzentzündung - mit bes. Berücksichtigung der anaeroben Bakterien.) M. Heyde.
40 Technic for Operations on Bile System. (Zur Schnittführung und Technik bei Operationen an Gallenwegen.) P. Sick.
41 Aneurysm of Subclavian Artery. (Die chirurgische Behandlung der Aneurysmen der Arteria subclavia.) H. Rubritius.
42 Physiologic Differences Between Procedures for Negative and Positive Atmospheric Pressure. (Experimentelle Untersuchungen über den physiologischen Unterschied zwischen Unter- und Ueberdruckverfahren.) M. Tiegel.
43 Efficacy of Novaro's Technic for Sterilization of the Hands. (Bakteriologische Untersuchungen über Händedesinfektion nach Novaro.) C. Licini.
44 Efficacy of Partial Continuous Bath in Tepid Chlorine Water. (Das partielle permanente Bad in lauem Chlorwasser.) A. Balliano.
45 Irreducible Subperiosteal Fracture of the Forearm. (Ueber subperiostale irreponible Frakturen des Vorderarms.) E. Müller.
46 Enterotomy for Intestinal Spasm Caused by Clump of Ascarides. (Fall von Enterospasmus verminosus, geheilt durch Enterotomie.) Kiesselbach.
47 Intersigmoid Hernia. A. Machol.
48 Decompressive Trephining Through the Sella Turcica. (Zur Frage der sellaren Palliativ-Trepanation.) S. Canestrini and G. v. Saar.
49 Fibrous Osteitis in Children. (Ostitis fibrosa im Kindesalter.) P. Frangenheim.

Berliner klinische Wochenschrift

November 20, XLVIII, No. 47, pp. 2098-2144

50 *Radium Emanations in Treatment of Arthritis and Gout. (Klinische Erfahrungen über die Behandlung der Arthritiden und der Gicht mit Radium-Emanation.) F. Gudzent.
51 Blood-Pressure and Carbohydrate Metabolism Under Control of the Chromaffine System. (Beiträge zur Regulation von Blutdruck und Kohlehydrat-Stoffwechsel durch das chromaffine System.) W. Falta and J. G. Priestley.
52 Technic for Freeing Serum from Lipoids and Its Importance for Immunity Reactions. (Ueber Immunitätsreaktionen mit lipoidfreiem Serum.) U. Friedemann and E. Herzfeld.
53 Biologic Properties of Mesothorium. (Ueber die biologische Wirkung des Mesothoriums. III. Emanationswirkung.) A. Bickel. (IV. Experimentelle Untersuchungen über die Resorption von Thorium X und Thoriumemanation von Verdauungskanal, ihre Aufnahme ins Blut und ihre Ausscheidung durch die Nieren.) O. Emsmann.
54 *Nature and Treatment of Painful Paralysis of the Arm in Children. (Zur Auffassung und Therapie der schmerzhaften Armlähmung der Kinder. Dérangement interne des Unterarms.) E. Durlach.
55 Color Reaction in Breast-Fed Infants' Urine. (Zur Engel-Turnau'schen Harnreaktion.) E. Langfeldt.
56 *Some Alienist Problems. (Irrenärztliche Tagesfragen.) A. Leppmann. Commenced in No. 46.
57 Relations Between Human and Bovine Tuberculosis. (Der Bericht der englischen Tuberkulose-Kommission über die Beziehungen zwischen menschlicher und tierischer Tuberkulose.) B. Möllers.

50. **Radium Emanations in Gout and Arthritis.**—Gudzent reports the results of three years' work in this line at the first university medical clinic at Berlin, in charge of His. The radium emanations have been applied in 400 cases, generally in the form of inhalation in a closed room, for two hours a day, with from twenty-four to thirty-six sittings, supplemented by injections of soluble radium salts in the vicinity of the diseased joint. Complete bed rest, he says, aids materially in the cure, not even massage should be applied until all pains and swelling have subsided. This treatment is supplemented by the ordinary measures, superheated air, electric light and brine baths, etc. The prognosis depends naturally on the existing anatomic changes. Arthritis in children responds particularly well to the radium treatment while arthritis in the senile is scarcely influenced as also true tuberculous and syphilitic arthritis. The discovery that the springs which for ages have had a reputation for curing gout were particularly radio-active led to application of the radium emanations in treatment of gout, and with considerable success. Fifty of the 100 gouty patients thus treated allowed blood to be drawn for reexamination later, and in thirty-seven of these fifty, all traces of uric acid had vanished from the blood. Before commencing treatment the blood had contained from 6 to 13.7 per 1,000 sodium mono-urate. There is generally an exaggeration of symptoms at first but in the third and fourth week great improvement and relief parallel the disappearance of the uric acid from the blood. In very old inveterate cases with severe arthritic changes the local reaction might be too severe, and this class of patients is excluded from the radium treatment. Reexamination of the blood of two patients a year after the course of radium treatment showed it still free from uric acid.

54. **Painful Paralysis of the Arm in Children.**—Durlach ascribes the trouble to some slight displacement of the cartilage. He has recently encountered three cases of the kind; the children were between 2 and 3 and they suddenly let the arm hang limp as if paralyzed, not even moving the fingers. No movement was interfered with except supination of the forearm; the trouble was corrected by oversupination with extension, followed by flexion of the ulnar joint. One of the children was cured at once by this; in the second the apparent paralysis persisted until the child's attention was completely diverted, but the third child persisted in refraining from using the arm. In such a case Durlach advises tying up the sound arm and thus forcing the child to use the arm it holds limp. Efforts to spare this arm only confirm it in the tendency to imaginary paralysis. The affection described is what the French call *dérangement interne;* the snapping sound heard as the trouble is corrected confirms the anatomic basis.

56. **Some Alienist Questions.**—Leppmann remarks that a number of occurrences recently in Germany indicate one of the periodical waves of mistrust and denunciation of alienists, especially those at the head of private sanatoriums for this class of patients. Several damage suits are pending in the courts which emphasize the need of revision of the legislation to define and protect more fully the rights of alienists over their patients. Leppmann cites examples of the harm done by the consultations with lawyers, etc., in the matter of having a guardian appointed, etc. The old method of shutting out all visitors, legal advisers, etc., gives the patient a far better chance for recovery in many cases. Another point on which he asks legislation is that when a person brings suit for damages against an alienist he should be examined for his sanity before the suit is placed on record. In a recent case that dragged along for three years, a former patient sued for 15,000 marks damages on absolutely insane grounds, the lawyers finally informing the court that the plaintiff was unmistakably insane and withdrawing the suit, but the defendants, besides the annoyance, were put to several hundred dollars of expense. In other cases cited the courts refused the appeal for a guardian as the monomaniac proved to be sane on certain subjects; one man, for instance was still a capable carpenter although a maniac on the subject of jealousy of his wife; another man of means with a persecution mania, yet was able to attend to certain business matters and was thus adjudged sane by the court which left him free to squander all his property in combating his imaginary persecutors. Leppmann approves of the French law of partial guardianship, the *partielle interdiction* of the code Napoléon, and would like to have it introduced into Germany.

Correspondenz-Blatt für Schweizer Aerzte, Basel

November 10, XLI, No. 32, pp. 1105-1136

58 *Comparative Temperature Findings. (Vergleichende Temperaturmessungen.) C. Stäubli.

58. **Comparative Temperature Findings.**—Stäubli declares that we are inclined to lay too much stress on the temperature findings, and that the temperature in the rectum is liable to prove misleading unless it is taken after the patient has been some time in bed. Under these conditions the temperature findings in the mouth, the axilla and the rectum run parallel. After physical exercises there is normally a rise in the rectum temperature; it may reach 38.3 C. (100.94 F.), while mouth and axilla show only 37 C. (98.6 F.). Comparing the repeated findings in the mouth and axilla is the only means to determine the actual body temperature, and factors which might influence the temperature in mouth or axilla, such as breathing through the mouth and sweating, must first be excluded. The higher temperature in the rectum after exertion probably results from the changes in the distribution of the blood in the body from the muscular exercise. He adds that the prognosis of pulmonary tuberculosis is growing constantly brighter as we are learning to detect it in an earlier phase. The prognosis now may be said to depend in a large proportion of the cases on the patient's pocketbook and character; that is, on whether he is able and willing to change his mode of life for months and possibly years to make his health his first consideration.

Deutsches Archiv für klinische Medizin, Leipsic

CIV, Nos. 3-4, pp. 209-401. Last indexed November 18, p. 1729

59 *Lecithin Content of Blood in Various Diseases. (Untersuchungen über den Gehalt des Blutserums an ätherlöslichem Phosphor bei verschiedenen Krankheiten.) K. Kimura and W. Stepp.

60 *Diagnostic Importance in Nephritis and Uremia of Increased Nitrogen Content of the De-albuminized Blood Serum. (Verhalten des Reststickstoffes des Blutes bei Nephritis und Urämie.) H. Hohlweg.

61 *Experimental Research on Action of Iron. (Eisenwirkung.) A. Zahn.

62 Disturbances in Vascular Reflexes with Transverse Lesions in Spinal Cord. (Ueber Störungen der Gefässreflexe bei Querschnittserkrankung des Rückenmarks. Zugleich ein Beitrag zur Kenntnis des Gefässnervenverlaufs beim Menschen.) H. Stursberg.

63 Etiology of Erythema Nodosum. (Untersuchungen über Aetiologie des Erythema nodosum.) O. Brian.

64 Eosinophilia in Trichinosis. (Ueber Eosinophilie bei Trichinose.) Huebner.

65 Meat Poisoning in Animals with an Eck Fistula. (Ueber die Fleischintoxikation bei Tieren mit Eck'scher Fistel. Der Krankheitsbegriff der Alkalosis.) F. Fischler.

66 Percussion of True Outlines of the Heart. (Ueber Perkussion der wahren Herzgrenzen.) A. Weber and F. Allendorf.

67 Roentgenoscopy of the Heart in the Tuberculous. (Orthodiagraphische Herzuntersuchungen bei Tuberkulösen.) W. Achelis.

68 *Diphtheria Intoxication with Insidious Course. (Die "schleichende Diphtherievergiftung" und ihre Behandlung durch intralumbale Seruminjektionen.) A. Bingel.

69 Diabetes Insipidus. (Ueber Diabetes insipidus, zugleich ein Beitrag zur Entstehung des Kochsalzfiebers.) B. Stuber.

70 Research on the Total Metabolism in Animals with an Eck Fistula. (Verhalten des Gesamtstoffwechsels bei Tieren mit Eck'scher Fistel.) E. Grafe and F. Fischler.

59. **Lecithin in the Blood in Various Diseases.**—Kimura and Stepp report research which sustains the statements of others to the effect that the ether-soluble phosphorus in the blood is increased in certain diseases. It was much below the normal average in exophthalmic goiter, nephritis and heart disease. The concentration of the serum seems to influence the lecithin content.

60. **The Residual Nitrogen in the Blood in Nephritis and Uremia.**—By the term residual nitrogen Hohlweg means the nitrogen found in the blood after the albumin has been removed. In health this residual nitrogen averages 51 mg. in 100 c.c. of blood serum, but with insufficient kidneys this proportion increases from 63 to 93 mg. If the proportion keeps below this range the prognosis is relatively good, but if the proportion rises above 60 up to 95 mg. this shows, as a rule, that the patient is not capable of recuperation. The increase in the residual nitrogen is not specific for uremia but is merely one manifestation of the effect of insufficiency on the part of the kidneys. It may thus reveal or exclude renal insufficiency and prove an important diagnostic measure.

61. **Experimental Research on Action of Iron.**—Zahn rendered rabbits anemic by venesection and then treated them with iron, but he was unable to detect any influence of the iron on the regeneration of the hemoglobin or red corpuscles. The regeneration of the blood proceeded parallel in the animals taking iron and in those not given any iron.

68. **Insidious Diphtheria Intoxication.**—Bingel applies this term to what is generally called diphtheric myocarditis; the heart affection seems to be merely one manifestation of a general toxic action. As the original diphtheria is subsiding after an apparently normal course, convalescence is suddenly interrupted by vomiting and the patient refuses all food, while motor agitation, even delirium, alternates with apathy; there is striking pallor and the pulse is soft and faint, although the heart findings are comparatively negative. This syndrome may follow an apparently mild diarrhea, but usually the disease is of a rather severe type. The vomiting and the psychic and vascular disturbances all point to mischief in the central nervous system, the result of the action of the diphtheria toxin. Treatment must be prompt and energetic, and for this he commends lumbar injection of antitoxin and reports some favorable experiences with it, although he was unable to save all his patients. This insidious diphtheria intoxication, he says, is a warning that diphtheria has not lost its terrors even since the introduction of antitoxin. No benefit was derived in his cases from heart stimulants, venesection, saline infusion or other measures. Nothing but lumbar puncture, withdrawing cerebrospinal fluid and replacing it with warmed antitoxin, gave any relief. He made the injection in

some cases as a prophylactic measure two or three days after defervescence. When the myocardium or brain had been irreparably injured nothing could save the patients, but the benefit promptly apparent after the injection, the attenuation of the symptoms, arrest of the vomiting, etc., showed the great therapeutic value of the measure, especially in the relief from the incessant vomiting and retching. He reports in detail three fatal cases and eight others terminating in recovery. The by-effects of the lumbar injection of antitoxin were trifling except that in about half the cases the temperature rose about half a degree centigrade or more for a day.

Deutsche medizinische Wochenschrift, Berlin

November 16, XXXVII, No. 46, pp. 2113-2160

71 Douches in Hydrotherapy. (Indikationen und Technik von Duschen.) L. Brieger.
72 *Serious Complications with Bronchoscopy and Esophagoscopy. (Ueber schwere Komplikationen bei der Bronchoskopie und Oesophagoskopie.) W. Kümmel.
73 Research on Fever. (Ueber Entstehung, Wesen und Bedeutung des Fiebers.) F. Rolly. Concluded in No. 47.
74 Tuberculin Reactions in the Eye. (Tuberkulinversuche am Auge.) F. Krusius.
75 Urobilin and Bilirubin in Blood Serum. (Vorkommen von Urobilin und Bilirubin im menschlichen Blutserum.) O. Roth and E. Herzfeld.
76 Outcome of Grafted Hip Joint. (Ein Beitrag zur freien Gelenkplastik.) R. Hinz.
77 Primary Ethyl Chlorid Anesthesia. (Ueber den Chloräthylrausch.) D. Kulenkampff.
78 Treatment of Phlegmonous Disease of the Throat. (Ueber Therapie der phlegmonösen Entzündungen des Waldeyerschen Ringes.) E. Winckler.
79 *Physiologic and Pathologic Action of Rarefied Atmosphere in Balloon Trips and Means to Control It. (Physiologische und pathologische Wirkungen des Höhenklimas bei Hochfahrten im Freiballon.) F. J. Flemming. Commenced in No. 45.

72. **Mishaps with Bronchoscopy and Esophagoscopy.**—Kümmel reports four cases in which direct bronchoscopy led to serious complications, with a fatal outcome in one case. Two of the patients were boys of 4½, the others a girl of 9 and a boy of 12. In all there was a subglottic swelling which rapidly increased after bronchoscopy or developed first after it, inducing suffocation which would have proved rapidly fatal in all without the immediate tracheotomy. He discusses the various features of these cases and warns that the use of small tubes may reduce this danger but not abolish it entirely, and he thinks it is enough to forbid bronchoscopy for children under 5 or 6 and for all children with subglottic swelling and possibly for all with the exudative diathesis. In every case all preparations should be made for an emergency tracheotomy when bronchoscopy is attempted. By inserting the bronchoscope through a tracheotomy all danger of this kind is averted, but he laments the necessity for this tracheotomy technic and low bronchoscopy instead of the extraordinarily enticing technic of bronchoscopy through the mouth. But the former permits the use of shorter and wider tubes, both of which are great advantages. With esophagoscopy the danger is from perforation of the esophagus or pharynx wall, and he reports two cases in which this happened to him, not with the esophagoscope but with the preliminary introduction of the sound. In both cases the mishap proved fatal; in both the lack of subjective disturbance at the time and the absence of bleeding as the sound was being introduced without the slightest force, were striking features of the cases. Necropsy showed in one case that the sound must have penetrated for at least 20 cm. into the mediastinal connective tissue after passing through the pharynx wall. An abscess developed outside the esophagus; if this had been promptly opened and the perforation sutured the patient might have been saved. In both cases the perforation occurred with the most cautious introduction of the sound by an expert, but the diseased wall of the organ offered no resistance. It is better to avoid blind procedures of this kind.

79. **Physiology and Pathology of Aviation.**—Flemming remarks that one reason why so little has been written on this subject is that the rapid ascent into the rarefied air brings an apathy which renders the slightest mental or physical exertion disagreeable or impossible, so that the party lose all interest in scientific records. If oxygen is supplied, the mind is reinvigorated and he relates a number of experiences in this line. He says that the pulse shows to a remarkable extent the disturbances in metabolism which occur at a height of 12,000 feet and over; his tables show how the pulse runs up high and how it can be regulated by inhalation of oxygen. Breathing is shallow and irregular and the dyspnea is increased by distention of the intestinal gases. On an average about 1,500 liters of oxygen are required for a four-hour flight in a balloon. He relates that once the flapping of the valve in the mask of one of his party suddenly ceased to be heard, and the man was seen to be livid, respiration imperceptible, hands and knees trembling, his body slumping against the wall of the car. The oxygen tube was found kinked; as soon as it was straightened the cyanosis vanished. These scientific bolloon ascents were made under specially favorable conditions for research. It was found that felt boots to the hip were necessary to protect against the extreme cold unless the balloon car was lined with cloth to keep in the body heat. Some interesting experiments were made with cultures of different bacteria exposed to the sunlight at 15,000 feet and then used to inoculate rabbits on return to the earth. Comparative tests showed that five minutes' exposure to the sunshine at 15,000 or 18,000 feet sufficed to kill the bacteria so that no infection resulted while the controls all developed the disease. The same results were obtained with thirty or sixty minutes' exposure to the sunlight at Berlin, and with fifteen minutes' exposure the period of incubation was lengthened to nearly four weeks and the infection proved mild and transient. Further experiments with exposure of the rabbit eye to the sunlight before and directly after the injection showed an attenuating influence from the sunlight, the incubation dragging out to several weeks and the lesion proving mild. He tabulates other findings in regard to the electric conditions of the atmosphere, clouds, etc., his article being a valuable contribution to the subject of the physiology and pathology of high strata of the atmosphere.

Medizinische Klinik, Berlin

November 19, VII, No. 47. pp. 1801-1842

80 *Transplantation of Living Tissues. (Technik und Erfolge der freien Transplantation.) G. Axhausen.
81 Tuberculosis and Its Toxic Influence on Mind and Character. (Tuberkulose und Psyche.) F. Köhler.
82 Reciprocal Relations Between Diseases of the Genital Organs and Sigmoid Flexure. (Ueber Wechselbeziehungen der Genital- und Flexurerkrankungen.) A. Foges.
83 *Testing the Pupil Reaction. (Zur Prüfung der Pupillarreaktion.) R. Helmbold.
84 *Filtering Method for Occult Blood in Urine. (Nachweis von Blut im Urine mittels der Filtermethode.) C. Leede.
85 *The Vestibular Apparatus and the Central Nervous System. (Neues Rindencentrum im Kleinhirne. Baranys Symptomenkomplex. Kleinhirnsymptome bei Schädeltrauma.) R. Barany.

80. **Transplantation of Living Tissues.**—In this postgraduate lecture Axhausen reports the achievements to date in this line and discusses the preferable technic. The relative vital independence of different cells and groups of cells is shown by the successful transplantation of living tissue; periosteum taken from the cadaver hours or days after death yet transplanted to a proper soil grows and forms new bone, the certain proof of its independent vitality. Tissue taken from a living being of another species does not display this capacity of independent life; it is an implantation of a foreign body, not a transplantation of living tissue. The higher differentiated the cells, the greater the difficulty of getting them to grow after transplantation, and conditions are most favorable when the tissue is taken from the individual's own body, or from a close blood relation, preferably a young brother or sister of the same sex. Lexer's success encourages further efforts in the line of transplantation of mucosa-lined organs. He resected the sound appendix to apply to fill a gap 8 cm. long in the patient's urethra, first stripping the appendix of its serosa and outer muscular layer. The central end was sutured in place and the peripheral end drawn forward through the urethra. The transplanted mucosa healed smoothly in place and micturition is not interfered with, while endoscopy shows a mucosa lining throughout the urethra. Schmieden utilized for the same purpose in three cases a stretch of ureter from the cadaver of a child or obtained by nephrectomy

on other patients, but Lexer's method has all the advantages of autotransplantation. It is evident that regeneration proceeds from the cells in the mucosa which retain their vitality. Transplantation of fat for cosmetic purposes or to provide a bed for the nerve after neurolysis has proved its feasibility; Axhausen cites in this connection Czerny's autotransplantation of a lipoma to restore the contour of the breast of an opera singer after he had removed the breast for a large benign tumor. Neuber and Bier have also transplanted subcutaneous adipose tissue to correct cicatricial disfigurement using tissue from the patient. In operations for stiff joints, interposition of a scrap of fat seems to give better results than when periosteum is used. Autotransplantation of fascia and tendons is rendering good service in treatment of recurring hernias, paralytic deformities and defects in tendons after casting off of sequesters. For the finger, the transplantation is much more liable to be successful when the preceding lesion healed under multiple transverse incisions rather than under the common radical longitudinal incision. In the latter case the whole cicatrix has to be excised and the defect closed with a plastic operation before the plastic operation on the tendon. In autotransplantation of bones and joints ideal asepsis in the field of operation is not indispensable. Even if part or all of the bone is cast off, the periosteum remains and new bone is formed. Axhausen adds that what the periosteum is to the bone, in this respect, the perichondrium is to cartilage; some of the cartilage cells are liable to retain their vitality and proliferate, the same as tendon tissue. This explains the excellent results obtained in transplanting whole joints. Large flap incisions are indispensable, as also months of immobilization. Too early use of the joints induces conditions like deforming arthritis. Lexer's oldest patient has now worn his transplanted knee for four years and is free from disturbances from it although he uses it actively. Küttner's first patient had the upper third of the femur from a cadaver (removed twelve hours after death and kept for twenty-four hours in salt solution) transplanted into his thigh in place of bone removed on account of a chondrosarcoma. Ten months afterward he was running about with a movable joint. Küttner has recently applied this method also in treatment of tuberculous joint disease; the otherwise inevitable atrophy of the muscles is an argument in favor of doing this in an early stage. In conclusion, Axhausen reviews the cases of successful transplantation of a segment of the saphenous vein to substitute part of an artery resected on account of an aneurysm, Lexer and Enderlen have done this for the femoral artery. Attempts to transplant thyroid tissue have not given durable results to date, Axhausen remarks: the best technic is the implantation of thin slices of autothyroid tissue between the fascia and the peritoneum. Better results have been obtained with transplanted parathyroid bodies, even from other persons. Autotransplantation of the kidney has succeeded in animals and might be considered in the clinic with a ureter fistula for which nephrectomy would otherwise be required.

83. **Testing the Pupil Reaction.**—Helmbold has found that the simple method described succeeds in many cases in which all other methods of investigation fail to reveal any pathologic reaction. In an entirely darkened room the patient looks through lenses of —40 D. at a lamp 15 to 18 feet distant, the flame seen only through an opening not more than 5 cm. in diameter. The flame appears as a small luminous disk. The examiner then briefly shuts off the light by placing his hand or a box over the opening. When this obstruction is removed, the luminous disk is seen to be smaller or changed in shape or it is seen as before. By placing a stronger lens in front of one eye two images of the disk will be seen, one above the other, and they may vary in shape and size. Differences in refraction may have to be corrected, but the reaction to direct, indirect and sensory stimuli can be instructively studied by this means. The strong lenses cause the rays to diverge but when they enter the eye lacking the accommodation reaction, the rays reach the retina nearly parallel

84. **Improved Technic for Determination of Occult Blood in the Urine.**—Leede's improvement consists in accumulating as many of the blood-corpuscles as possible before applying the guaiac or other chemical tests for occult blood. This he accomplishes by filtering a large amount of the urine and applying the chemical test to the residue left on the filter. The tests are thus made extremely sensitive, revealing invisible blood in the minutest proportions. By heating the urine it is possible to destroy other substances liable to interfere with the findings. Urine two days old seems to give the reaction practically as well as fresh. A suspension of red corpuscles in salt solution, in a dilution of 1 to 800,000 gave positive findings even after six days.

85. **Improved Methods for Testing Functioning of the Cerebellum.**—Barany states that when the cerebellum was excised during an operation or left covered only by the dura and thin skin, he applied tests by freezing a point of the skin by spraying ethyl chlorid on it for two or three minutes. No apparent harm resulted in any instance, not even in a case in which the spraying was repeated a dozen times. He thinks that this harmless method of testing can be applied with confidence also to the cerebrum, and that it promises interesting physiologic findings. He has learned by this means and clinical observation that the center for the movement inward of the arm at the shoulder is located in the cortex of the cerebellum just back of the ear, while a point 5 cm. behind the ear is the center for outward movement of the arm. Barany describes further a special syndrome from cerebellar disease; there is always generally a history of old otitis media and of migraine or epilepsy in the patient or a close relative, vertigo, occipital headache on the affected side, deafness at times while the hearing is good at other times, and a characteristic manner in which the hand and joints of the arm point —the sign of *Vorbeizeigen nach aussen*. He has noticed this latter sign in six or seven cases of trauma of the skull during the last year, always accompanied by vertigo and deafness on the same side. The above syndrome is the result of swelling of the cerebellum or of compression from overaccumulation of fluid, and operative relief is imperative. The incision may have to be carried down through both the dura and the arachnoid, but this is a simple, harmless procedure, he insists, as the middle ear is not opened up. In conclusion he relates a case in which this syndrome followed a firearm wound of the head and he assumed serious injury of the cerebellum, but the prompt subsidence of the symptoms and discovery of the bullet in the auditory meatus, showed that the trouble had been the result merely of concussion of the cerebellum.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 5, pp. 739-889. Last indexed October 21, p. 1411

86 *Roentgenoscopy of the Tuberculous Kidney. (Die Nierentuberkulose im Röntgenbilde.) A. v. Lichtenberg and H. Dietlen.
87 *Absorption with Ileus and Peritonitis. (Ueber die Resorption bei Ileus und Peritonitis.) E. Enderlen and G. Hotz.
88 *The Leukocyte Count in Appendicitis. (Ueber den Wert der Leukocytenzählung bei Appendicitis.) W. Schmidt.
89 *Tardy Traumatic Hemorrhage from the Meninges. (Ueber traumatische meningeale Spätblutungen.) A. W. Meyer.

86. **The Tuberculous Kidney as Seen with the Roentgen Rays.**—Lichtenberg and Dietlen remark that while a number of casual roentgenographs of renal tuberculosis have been published in the literature, they know of no systematic series of research in this line on record. They have thus examined with the Roentgen rays eight patients with tuberculosis of one kidney and three with bilateral renal tuberculosis. The findings in the kidney after nephrectomy in the first group are compared with the Roentgen ray findings after injection of 20 c.c. of a 10 per cent. solution of collargol, demonstrating the great diagnostic value of the Roentgen rays, supplementing, confirming or first rendering positive the diagnosis. The findings are typical, they assert, and permit an exact anatomic orientation before the operation, reassuring alike to the examiner and the operator.

87. **Absorption with Ileus and Peritonitis.**—Enderlen and Hotz devote 110 pages to the details of their extensive experimental research on the conditions in regard to absorption in the various stages of ileus and peritonitis as well as in health.

The conditions in regard to the circulation of blood in the region of the intestines apparently govern the essential functions of the small intestine, movement, absorption and secretion, the entire activity of the intestine depending systematically on the rapidity of the blood-current. Their research does not open up new routes for treatment of ileus and peritonitis, but it explains the clinical importance of some of the measures in vogue. Enterostomy, for instance, relieves the tension and distention; this permits the circulation to resume its normal course, and this in turn starts peristalsis and absorption unless irreparable lesions have been installed; at the same time the enterostomy relieves the intestine of the task of passing along its contents. The fatigued intestine is thus given a chance to recuperate in peace, and this is far better than to whip it up with drugs or paralyze it with opium. In case of peritonitis, peristalsis starts up after the intestine has been thus artificially emptied and the circulation allowed to proceed unhindered. An important lesson learned from this research is that no food should be given by the mouth in any form; the intestine should not be burdened with it nor the contents increased in bulk by stimulation of the digestive glands. Even water should be avoided. Proctoclysis is far preferable, fatiguing the patient much less than the vomiting after ingestion of fluid. Giving the saline solution by the rectum permits the organism to take up only and just what it needs. They advocate in conclusion the continuous infusion of a weak solution of epinephrin; besides its evident therapeutic benefit it is an index for the prognosis.

88. **The Leukocyte Count in Appendicitis.**—Schmidt does not ascribe much importance to the leukocyte count in appendicitis, and cites some cases to show its unreliability in the early stages of the disease. At the same time, the blood-count and especially the Arneth blood-curve may throw light on the prognosis. In conclusion he warns of the danger in giving castor-oil in appendicitis; in one such case a boy attending school in the morning in apparent health developed abdominal pain in the afternoon and was given castor-oil by the family physician. The next day be was brought to the clinic with diffuse purulent peritonitis from perforation of the gangrenous appendix. With sudden abdominal pain, castor-oil should not be given until organic disease has been presumptively excluded. On the other hand, when enteritis is diagnosed, castor-oil can be given with confidence. It comes then early enough, while if it is given too soon it may do great harm.

89. **Tardy Traumatic Hemorrhage in the Meninges.**—Meyer reports three cases which seem to show that with a subdural meningeal hemorrhage there is little or no tendency to paralysis at first, and hemiplegia develops only gradually. With cerebral hemorrhage, however, the paralysis has the character of hemiplegia from the start. In his first case the hemorrhage was on the opposite side of the skull from the point of the trauma, and symptoms from the hemorrhage were not apparent until five days after the accident, the clinical picture in the meanwhile being merely that of concussion of the brain. With symptoms of pressure on the brain without definite localizing signs, a hematoma from contrecoup, that is, on the opposite side of the skull, should be suspected. The interval was five weeks in the two other cases after the fall on the head before the symptoms of pressure on the brain developed. The patients were men of 42 and 57 and there had been unconsciousness for half an hour after the accident and considerable headache since, but the patients continued at work, one for three weeks when intense headache developed with other symptoms of pressure on the brain, and puncture of the brain confirmed the diagnosis of a hematoma. Necropsy two weeks after trephining revealed purulent meningitis. In the third case nothing was known at first of a trauma affecting the head, but the diagnosis of a tardy traumatic left meningeal hemorrhage was confirmed by puncture of the brain and by necropsy, the patient succumbing to postoperative hemorrhage after trephining. No vascular changes were evident in either of these cases, the trouble being pure, traumatic tardy apoplexy, without fracture of the skull. In differentiation, arteriosclerosis of the brain vessels was suspected at first but puncture of the brain cleared up the diagnosis and pointed the way to treatment. Lumbar puncture may reveal a hemorrhage but gives no information as to its source. In every obscure case puncture of the brain should be the routine procedure. If the result is negative after bilateral puncture, decompressive trephining should be the next step without delay.

Münchener medizinische Wochenschrift

November 14, LVIII, No. 45, pp. 2425-2480

90 Necessity for Uniform Time Limit in Tests for Hemoglobin. (Zur Ausführung der Hämoglobinbestimmung, unter Umwandlung des Hämoglobins in salzsaures Hämatin.) C. Stäubli.
91 *Fever After Intravenous Injections. (Ueber Fieber nach intravenösen Injektionen.) W. Heubner.
92 Purin Content of Various Foods. (Der Puringehalt von Nahrungsmitteln.) K. M. Vogel.
93 *Vaccine Therapy of Gonorrhea. (Die kausale Behandlung der akuten und chronischen Gonorrhoe des Mannes.) A. A. L. Menzer.
94 Research on Coagulating Power of Blood. (Beitrag zur Methodik der Bestimmung der Blutgerinnungsfähigkeit, nebst Mitteilungen über die Gerinnungsfähigkeit des Blutes während Schwangerschaft, Geburt und Wochenbett.) M. Neu and P. Kreis. (Bedeutung der Blutgerinnung für die Entstehung der Thrombose.) H. Küster.
95 Frequency of Tendency to Spontaneous Healing of Sinus Thrombosis. (Ueber Spontanheilungsvorgänge bei Sinusthrombose.) L. Haymann.
96 Optical Instruments with Adjustable Axis. (Optische Instrumente mit beweglicher Achse und ihre Verwendung für die Gastroskopie.) M. Hoffmann.
97 Flat-Foot Insole. (Die Heildelberger Plattfusseinlage.) O. Vulpius.
98 Healed Abscess in Frontal Lobe. (Zur Chirurgie des Stirnhirnabszesses.) O. Butzengeiger.
99 Tardy Exanthem After Intravenous Injection of Salvarsan. W. Heuck.

91. **Fever After Intravenous Injections.**—Heubner's experimental research has apparently demonstrated that intravenous injection of any solid substance, even in the finest emulsion, sends up the temperature regularly without the necessity for any chemical action. He experimented with soft paraffin, with a melting point at 39 C., in the form of a fine 0.01 or 0.1 per cent. suspension in Ringer's solution.

93. **Vaccine Treatment of Gonorrhea.**—Menzer declares that the aim in treatment should be to favor, not suppress, the discharge. After an ordinary course of treatment the patient should be tested with gonococcus vaccine to learn if he is really cured. If not, he should be given the benefit of vaccine therapy, supplemented by dieting, copious drinking, local heat to reduce inflammation in the form of warm sitz baths, and, if necessary, massage of the prostate. He insists further on the necessity for keeping the patient in bed for two or three weeks at the onset of acute gonorrhea. When the men are up and about the trauma of exercise favors the spread of the infection. He is an army surgeon and his remarks apply especially to military circles. The gonococcus vaccine induces a focal reaction wherever there is a gonorrheal process, and this has a curative action on the gonococci ensconced there, but it is only an aid in treatment. It must not be relied on to destroy all the germs and ward off complications. He reports a number of cases which illustrate, he thinks, the advantages of commencing vaccine therapy at once, plus warm sitz baths, as the routine treatment of acute gonorrhea, the only way, he is convinced, in which the disease can be effectually eradicated. He insists that the ordinary methods of treatment need revision.

Wiener klinische Wochenschrift, Vienna

November 16, XXIV, No. 46, pp. 1587-1622

100 Surgery in the Medical Course. (Welche Ziele verfolgt der chirurgische Unterricht?) H. v. Haberer.
101 Viscosity of Human Milk. (Einige viskosimetrische Beobachtungen an der Milch des Menschen.) K. Basch.
102 Five Cases of Tapeworm in One Family. (Sechs Fälle von Taenia cucumerina beim Menschen.) J. Lins.

Zentralblatt für Chirurgie, Leipsic

November 18, XXXVIII, No. 46, pp. 1497-1528

103 *Recurrence of Gastric Ulcer After Gastro-Enterostomy. (Ueber Magenulcusrezidiv nach Gastroenterostomie.) F. Fink.

103. **Gastric Ulcer Recurring After Gastro-Enterostomy.**—In Finck's case all the symptoms of the ulcer on the lesser curvature subsided after a posterior gastro-enterostomy for two years, and the patient, a man of 43, felt perfectly well.

After two years symptoms returned suggesting recurrence of the former ulcer, and the gastro-enterostomy opening was found entirely grown up and the old ulcer flaring up anew. The gastro-enterostomy had evidently given the ulcer a chance to heal, and as it healed the pylorus became permeable once more. This permitted evacuation of the stomach by the normal route as the gastro-enterostomy opening gradually grew up. But restoration of normal conditions restored the old factors predisposing to ulceration and hence the ulcer flared up anew. Fink resected the segment of the lesser curvature involved in the ulceration and thus permanently cured the patient.

Zentralblatt für Gynäkologie, Leipsic

November 18, XXXV, No. 46. pp. 1585-1608

104 Physiology of Menstruation. (Protektive Wirkung der Keimdrüsen auf Brunst und Menstruation.) J. Halban. (Das zeitliche Verhalten von Ovulation und Menstruation.) L. Fraenkel.

105 *Antagonism Between Mammary Gland Functioning and Ovulation. (Nachtrag zu der Arbeit: Ein Fall von Galactorrhoea post combustionem, zugleich ein Beitrag zur Lehre des Antagonismus zwischen Brustdrüsenfunktion und Ovulation.) E. Vogt.

105. **Antagonism Between Functioning of Lacteal Glands and Ovaries.**—Vogt brings down to date a case history showing the antagonism between lactation and ovulation. His patient is a healthy woman who was severely burned in both breasts by explosion of an alcohol can. She had nursed her child only six weeks and had been menstruating regularly during the four months since. The burn of the third degree induced profuse secretion in both breasts, although the woman was not pregnant, and this secretion continued profuse during the fourteen months before the site of the burns had entirely healed over. There was no trace of menstruation during all this time. When the wound finally healed lactation ceased at once, and two days later the menses appeared at the proper date for the first time for thirteen months and menstruation has continued normally since. This case of cessation of menstruation during traumatic galoctorrhea and its recurrence as the galactorrhea was arrested, is peculiarly interesting on account of its occurring outside of pregnancy.

Zentralblatt für innere Medizin, Leipsic

November 18, XXXII, No. 46, pp. 1121-1144

106 Albumin Metabolism: Laws Regulating Elimination of Sugar in Diabetes. (Ueber den Eiweissumsatz und über die Gesetze der Zuckerausscheidung beim Diabetes gravis.) L. d'Amato.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 12, XXXII, No. 136, pp. 1435-1450

107 Intravenous Medication to Date. (La medicazione per via endovenosa.) L. Fornaca.

Policlinico, Rome

November, XVIII, Medical Section No. 11, pp. 477-524

108 Fever-Inducing Property of Typhoid Anaphylatoxin. (Ricerche sulla funzione pirogena della anafilatossina tifica e saggi di immunizzazione attiva contro la stessa.) A. Tadini.

109 *Pathologic Anatomy and Origin of Tetany in Children. (A proposito di un caso di tetania infantile.) A. Longo.

110 Experimental Research on Elimination by the Intestines. (Contributo allo studio della eliminazione intestinale.) G. Breccia.

111 Levulose Test of Liver Functioning in Malaria. (La funzionalita epatica nei malarici, saggiata col levulosio.) P. Pozzilli.

109. **Necropsy Findings in Tetany in an Infant.**—The infant in the case reported by Longo was not quite two years old, and the tetany was of a very severe type. It was not apparently modified in the least by an intercurrent varicella, typhoid and acute pulmonary tuberculosis. No influence on the tetany could be discerned from change of diet or administration of lime or parathyroid extract. The necropsy findings were entirely negative as far as explaining the tetany except possibly for intense chromatolysis of the grey matter of the zone of Rolando and cornua of the upper spinal cord.

Riforma Medica, Naples

November 13, XXVII, No. 46, pp. 1261-1288

112 The Hands of Basket Weavers. (Il lavoro e le mani del costruttori de sporte di Marano.) L. Ferrannini.

113 Experimental Research on Effects of Lesions of the Vagus Below the Diaphragm. (Effetti delle lesioni sottodiaframmatiche del vago.) C. Marchetti.

Ugeskrift for Læger, Copenhagen

November 10, LXXIII, No. 46, pp. 1691-1724

114 *Entoptic Examination of the Eyes. (Entoptisk Undersøgelse af Keratitis.) K. K. K. Lundsgaard.

114. **Entoptic Examination of the Eyes.**—Lundsgaard gives a number of illustrations to show the entoptic findings in certain cases of keratitis and to urge general practitioners to apply this simple method of examination to detect small central foreign bodies or keratitis which otherwise might escape discovery. He places in front of the eye a strong convex lens, + 13 to + 20 D and has the patient look through this at the light of a candle about 18 feet (6 m.) away. The patient is then asked to describe or draw on a sheet of paper the outline of what he sees. By this means minute changes can often be detected and localized.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Fortpflanzung: Vererbung: Rassenhygiene. Illustrierter Führer durch die Gruppe Rassenhygiene der Internationalen Hygiene-Ausstellung 1911 in Dresden. Herausgegeben von Prof. Dr. Max von Gruber und Dr. Ernst Rüdin. Second Edition. Paper. Price, 7 marks. Pp. 191, with 230 illustrations. Munich: Lehmanns, 1911.

The Mortality of Alcohol. A Statistical Approximation of the Deaths in the United States in Which Alcohol May Figure as a Causative or Contributory Factor. By Edward Bunnell Phelps, M.A., F.S.S. Cloth. Price, $2. New York: Thrift Publishing Co., 1911.

Die rationelle Ernährungsweise. Praktische Winke über das Essen und den Nutzen oder Schaden der verschiedenen Nahrungsmittel. Von Dr. med. A. Lorand. Paper. Price, 4 marks. Pp. 388. Leipsic: Klinkhardt, 1911.

The Conservation of Vision. An Essay on the Care of the Eyes. By Douglas C. McMurtrie. Paper. Pp. 43. New York: American Association for the Conservation of Vision, 25 West Thirty-Ninth Street, 1911.

Report, Australian Institute of Tropical Medicine, for 1910. By Anton Breinl, M.D., Director of the Institute. The Commonwealth of Australia, Department of External Affairs, 1911. Paper. Pp. 46.

Anesthesia and Analgesia. By J. D. Mortimer, M.B. (Lond.), F.R.C.S. (Eng.), Anesthetist, Royal Waterloo Hospital. Cloth. Price, $2. Pp. 276. London: University of London Press, 1911.

The Triumph of American Medicine in the Construction of the Panama Canal. By J. Ewing Mears, M.D., LL.D. Cloth. Pp. 25. Philadelphia: William J. Dornan, 701 Arch Street, 1911.

Minor Surgery. By Leonard A. Bidwell, F.R.C.S., Surgeon to the West London Hospital. Cloth. Price, $2. Pp. 265, with 88 illustrations. London: University of London Press, 1911.

Statische Gelenkerkrankungen. Von Dr. Georg Preiser, Hamburg. Paper. Price, 10 marks. Pp. 278, with 272 illustrations. Stuttgart: Enke, 1911.

Sixth Annual Report, Hospital of the Woman's Medical College of Pennsylvania, Philadelphia. For the Year Ending May 31, 1910.

Twenty-Ninth Annual Report, St. Elizabeth Home for Incurables and Convalescents, Barrington, R. I.

Fifty-Eighth Annual Report, Pennsylvania Training School for Feeble-Minded Children, Elwyn, 1909-10.

The Physician's Visiting List for 1912. Leather. Price, $1.25. Philadelphia: P. Blakiston's Son & Co.

Prevention of Blindness. A Circular Letter. Bulletin 2, Russell Sage Foundation. Paper. Pp. 51. 1911.

Fifteenth Annual Report, Long Island (N. Y.) State Hospital. For the Year Ending Sept. 30, 1910.

Einundzwanzigster Jahres-Bericht des Deutschen Protestantischen Altenheims, Lawndale, Pa.

Thirty-Seventh Annual Report, Odd Fellows' Home of Pennsylvania, Philadelphia. For 1910.

Thirty-Third Annual Report of the Presbyterian Orphanage, Philadelphia.

Fortieth Annual Report of the Home for Aged Women, Elizabeth, N. J.

Biennial Report (1909-1910), Orphans' Home, Carson City, Nevada.

Annual Report of the Surgeon-General, U. S. Navy. Paper. Pp. 96.

Sixteenth Annual Report, Lyman and Industrial Schools.

Third Annual Report, Elyria (Ohio) Memorial Hospital.

Report of the Lowell (Mass.) General Hospital.

Reports, Muhlenberg Hospital, Plainfield, N. J.

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TRANSITORY MENTAL CONFUSION AND DELIRIUM IN OLD AGE

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We are all prone to fear that death or dementia may immediately follow any acute illness accompanied by mental symptoms in an old person and to regard all such cases as either the direct result of a sudden, incurable cerebral lesion or as the beginning of a senile dementia brought about by wide-spread and serious arteriosclerosis. We tend to look on these acute cases with the same apprehension with which we regard slowly on-coming dementia. We are the more inclined to view them gravely because the medical literature on the disease of old age relates almost wholly to rapidly fatal or at least permanently irremediable ailment, and therefore we unconsciously—or subconsciously, to use the more fashionable word—form the belief that all mental disturbances in the aged are but forerunners of incurable illness, if not of speedy death. In a sense this belief is true. Even acute attacks that are recovered from are at best warnings of possible future permanent mental trouble, if the patient does not in the meantime die of some physical affection; but it should never be forgotten that they may be mere preliminary signals that the human machine is getting seriously out of order but not necessarily, for the time being, irremediably so. Not infrequently the attack is recovered from, the organism regains proper equilibrium and runs for months and indeed sometimes for years before another breakdown, and in fact there may be several acute attacks with recovery from each before the inevitable occurs. The purpose of this paper is to discuss a few such cases.

Transient confusion or delirium, save when caused by some drug or by fever, rarely occurs in the aged without the presence of severe arteriosclerosis and marked disease of the kidneys, even when the immediate cause is auto-intoxication from the intestines or stomach or from some unknown endogenous source. But when we jump to the conclusion that therefore the cerebral arterial disease is the cause of the attack, we forget that practically all aged people have hardened arteries and that many show no mental illness. It is often forgotten that there may be much more sclerosis of the cerebral or abdominal arteries than of the peripheral vessels and that a radial artery may feel entirely normal to the touch when the midcerebral and visceral vessels are much hardened. Everyone who makes many necropsies of old people is struck by this frequent difference in the amount of sclerosis in different arteries. Necropsies also show that vessels which are quite stiff and with much-thickened walls may perform their function as carriers of blood quite well. So long as the other organs of the body perform their functions efficiently the only danger to the brain with sclerosed arteries is the possibility of hemorrhage or thrombosis. These transitory attacks with which we are dealing are not, therefore, due to the mere fact that the thickened arteries do not carry enough blood to supply the brain (the caliber of the vessels must be very greatly reduced to cause actual malnutrition), but are caused by a poison or poisons carried by the blood. Though we know nothing of the physical appearance of these poisons, and possibly no more of their chemical composition, the evidence of their reality is so strong as to make them more than merely hypothetical entities. They surely exist. The thickened arteries are often a mere local sign and the effect of the action of a pathologic process which has resulted in disturbing or even destroying the proper working of all the important organs in the body. This pathologic change of function produces poisons, or prevents the elimination of poisons normally formed, which in turn cause the cerebral symptoms. Cerebral arteriosclerosis may be marked and yet the patient may not show any cerebral symptoms, which surely proves that some other, some additional, factor must be necessary. Of course, I am excluding thrombosis and hemorrhage which are always, with the exception of infectious thrombi and those formed around an embolus carried from the heart, due to the physical state of the arteries.

I have not studied a large enough number of old people suffering from fever to have an opinion based on my own personal knowledge as to whether they are more or less prone to develop febrile delirium than those in middle life. The experience of others seems to prove (it certainly is the general opinion) that they resemble children in their greater liability. I have, however, seen a man of over 80 who carried a moderate fever with mental and emotional equanimity. I have many times seen the same thing in men between 60 and 70; and at all ages after childhood, but not apparently during that period, the proneness to febrile delirium seems to depend as largely on the personality of the patient as on his age. Personality does not exist in early childhood, but is only then beginning to be. Of course, the delirium of fever in the aged is not as a rule so serious, from the prognostic point of view, as mental aberration due to other causes, but whatever may be its cause in any given case, its occurrence is of more serious import than in the very young.

Delirium from drugs is not difficult to diagnose unless the drug has been taken without the physician's knowledge. Bromid probably causes delirium more often than any of the other medicines used popularly and without medical advice as a sedative. Not only in old people, but also in younger persons, a condition of excitement amounting to delirium is sometimes produced by its continuous use. I have several times seen sleeplessness which was due to mental excitement caused by the continuous use of bromid (though at first the drug had had a good effect) cured by withdrawing it. I think this unfortunate result is more common in the aged, and in the mentally—perhaps it would be more accurate to say emotionally—diseased of all ages, than in the young and healthy. The variability in the effect of scopolamin (hyoscin) is well known. In some people it causes delirium instead of sedation and, to make matters worse, it may act differently on the same patient at different times. This is not always due to variation in the preparation, for it may occur during the use of pills carefully made up out of the same mass.

The cases I shall report are instances of delirium and mental confusion occurring in the aged, or at least elderly, and associated most usually with general arteriosclerosis, but, as a rule, directly brought about by some sudden strain thrown on sclerosed kidneys. In other words, the arteriosclerosis in the kidneys leading to, or at any rate associated with, injury to their parenchyma was a much more potent factor than the cerebral arterial disease; the kidneys were in such condition that they could perform their functions fairly well until their burden of work was suddenly increased. They then for the time being, but only for the time being, became incompetent. I do not mean to claim that every case of delirium or confusion in the aged is caused by disease of the kidneys. In two of the cases I shall cite, the exciting cause was pneumonia, though in them there was also Bright's disease; in a third it was either the shock of operation or the bad effect of ether on disabled kidneys, and in a fourth, the origin was almost surely psychical.

The first case illustrates well the usefulness of bleeding and morphin, under certain conditions, in acute mental excitement.

Case 1.—*History.*—The patient, Mr. B., a professional man 70 years old, while lunching at the club got up from the table to go to the closet to urinate. While doing so, or rather trying to do so, for as it turned out he was unsuccessful, he became quite excited and began to talk incoherently to other persons present. He was induced to leave the club, though much against his will, because he thought he was addressing the court in an argument, and taken to his home, where I saw him several hours later. When I came into his room, he was standing on his bed delivering a very dramatic but entirely incoherent address to an imaginary audience. He not only did not recognize any of his family but paid no attention to any of the real people present save to object strenuously to our endeavors to make him lie down. He was entirely taken up with the people of his hallucinations.

Examination.—There was no palsy of the arms, legs or face, nor any bulbar disturbance of articulation. Though his speech was incoherent, there was neither motor nor sensory aphasia. Every now and again he pulled at his penis as if in pain there. Distention of the bladder was visible. He was, as already said, a little violent and resented being interfered with.

Treatment.—We gave him 0.25 gr. morphin hypodermically and bled a pint from the arm. The effect was immediate and most striking. By the time the bleeding was finished, he became so quiet that it was very easy to introduce a catheter and empty the bladder. I have forgotten the amount withdrawn but it was more than a quart.

Course.—In a short time he went to sleep and did not wake till the following morning. When he awoke, his mind was clear and he was in all respects himself again. He then told me that the morning before he had tried several times to pass water but had not succeeded in passing more than a teaspoonful or two. He remembered being at the club and at luncheon and that he had gotten up from the table in order to go to the closet. All subsequent events till the following morning were a blank to him. It is somewhat curious that he should have retained a clear recollection of events right up to the moment of the sudden onset because, as a rule, remembrance is clouded or entirely absent concerning events for a period of at least several hours before such an attack. He had been a patient of mine for years. He was gouty and had had for a long time an hypertrophied heart but no valvular disease. For years he had had an enlarged prostate, though it had never before interfered seriously with micturition. For a long time his urine had contained at times a trace of albumin, and occasionally a few hyaline casts. Its specific gravity was always low but he had taken large quantities of water for years. The examination of the urine we drew off gave the same result as many times before, showing no albumin but a few hyaline casts. I am quite sure that his life was saved by the bleeding. It is now more than five years since the attack and he is stilling living and in good health.

It is a good rule always to bleed a plethoric man who has any sudden cerebral attack, with flushed face, mental excitement or coma, hard swollen temporal arteries and a bounding pulse whether there is palsy or not and whether there are convulsions or not. It is also a good rule to give such a patient at the time of bleeding, if there is mental excitement, not of course if coma be present, a dose of morphin hypodermatically, even though the kidneys are not doing their proper work. It is often impossible at the time to tell whether a stroke is due to cerebral hemorrhage or is uremic, that is, due to an auto-intoxication dependent on kidney disease without a gross cerebral lesion. Uremia may produce a condition indistinguishable from cerebral hemorrhage. Bleeding can do no harm in the latter case and in the former often does much good.

Offhand one would scarcely think it possible to mistake aphasia for delirium, but transitory attacks, either total or causing jargon-speech, may cause such an appearance of mental confusion as to mislead the observer entirely. This is shown in Case 2.

Case 2.—*History.*—A woman, aged 86, well educated, and with rather more than the average of intelligence but very spare in build and with no more blood than she needed, was suddenly seized—while seemingly in excellent health and without any sudden external stress—with total speechlessness lasting for a few minutes and followed by jargon-speech. She became quite excited, talked gibberish, and for about an hour made wild gesticulations which no one could understand. There was no period of unconsciousness, no palsy except possibly a slight weakness of the movements of the right side of the face, and no convulsions or spasm. The patient appeared to understand nothing said to her. At the end of an hour speech returned, not entirely but enough for her to make herself clearly understood. She rapidly became mentally and emotionally quiet, and said she had heard and understood all that was said to her; indeed she told me much of it and related several things that had happened in the room, but, as she explained, her inability to make herself understood by speech so frightened her that she could not control herself and make herself show by gestures and by obeying commands that she understood what was said to her. Her real trouble was a temporary aphasia due either to a local intoxication or, and for many reasons this seems more probable, a partial thrombosis.

Course.—Since the first attack, she has had a thrombus which caused a temporary right-sided hemiplegia, and later another which has left her with a right-sided hemiplegia and partial motor aphasia. Neither of the last two attacks was accompanied by any mental excitement and now—two years after the first attack—her mind is clear and judgment good, though palsy and some motor aphasia continue.

Case 3.—*History.*—In a woman, aged 79, the transitory confusion came on immediately after the surgical removal of an eye. The patient is a woman of more than common strength of mind, with an excellent family and personal history and never showed any mental aberration before. Her left eye was removed under general anesthesia and as soon as she regained consciousness she showed marked, active delirium. When I saw her ten days later she was talking all the time, now about her childhood, then going from subject to subject so quickly that it was impossible to follow her. The talk of her childhood was not of "green fields and babbling brooks" but of her work at school, and how well she had done, and the books she had read in her youth. (This was characteristic of her normal temperament and disposition, for when in good health she never had doubt of her ability nor hesitated to let others know about it.) She paid no attention to questions asked her but would often catch at a word in a sentence and associate it by sound or meaning with some thought entirely foreign to the question asked. She had no knowledge of her whereabouts, nor did she care, and only vaguely recognized her daughter. She was living in her own internal world of fancy and hallucination.

Examination.—At times there was great motor restlessness and she would try to get out of bed and wander aimlessly around. She paid no attention to the bladder and rectum. The arteries were very hard. She had had valvular heart disease for years. She passed very little urine, only about 11 ounces in twenty-four hours, for several days. There was a faint trace of albumin, and a few hyalogranular casts were present. During the attack there was no disturbance of the circulation; the pulse was not hard and bounding, and the temporals were not swollen.

Treatment.—There was no question of bleeding because the patient was anemic. Morphin acted very badly with her, 0.125 gr. affecting her for an entire day, making her very dull and stupid, and almost causing physical collapse.

Course.—In a few weeks she completely recovered. I am told that her husband has had several attacks of transitory confusion in the last few years. He is well on in the seventies and actively engaged in a large business.

Not infrequently in senile dementia, even in the late stages, episodal attacks of acute excitement occur which may leave the patient just as he was before the attack, or, and this is more usual, may pass off but leave him each time at a somewhat lower level than before. Occasionally the patient may suddenly wake up from sleep in an attack. The question of their cause is very complex. They probably are due to many different things. In the insane who are not demented they seem sometimes to be entirely psychical in origin and owe their source to some vivid and horrible dream, but that would not explain the condition in an old dement manifestly too far on in the disease to have mind enough to dream. In the very beginning of mentally diseased old age there is often a daily variation in mental clearness, the nights being cloudy, even stormy, while in the day the patient may be quite clear. This periodic variability is, however, probably due to other causes than those I am considering. The irritability of exhaustion may be a causative factor.

Case 4.—This is very interesting as an example of a man who, suffering at times from an obsession, though normal in all other ways, has had one attack of confusion lasting only one day. He is 80 years old and has led a very active life with large responsibilities. He always has been, and still is, shrewd, energetic, and a man of good judgment. One morning he awakened his wife and began to talk ramblingly. By the time the family doctor came he was very confused and quite a little excited, querulous, and peevish. He was not under the influence of the obsession, said nothing about it, and nothing he did say in his incoherent talk could have had its origin in it. I found no sign of palsy, or indeed of any disturbance pointing to a local lesion. His condition remained the same all day, but late in the night he went to sleep and awoke next morning somewhat clear. He had no recollection of the preceding day. His complete recovery was almost sudden. In a few minutes he passed from a quite confused state to entire clearness of mind. He told me that for months he had been, at times, obsessed with the idea that he had signed a paper which would work injury to a person for whom he was trustee, and that in consequence he would get into serious legal trouble. He knew well that he had not done any such act, but when the idea came into his head it was so persistent and so prevented him from thinking of other things that it dominated him and he could not get rid of it. When his co-trustees would tell him he had not done anything wrong, he would be reassured but only for a few minutes. The idea would control him for hours and then pass away of itself to return again in one or two or three days. I am not sure that either his cerebral arteries or his kidneys had anything to do with causing the attack of confusion; in fact, I am strongly inclined to believe it had an entirely psychic cause, namely brooding over the obsession, though during the attack he showed no evidence of being obsessed.

Case 5.—This case, which cannot be called transitory because the end was death, is worthy of a place here as an instance of delirium following pneumonia and due to an acute exacerbation of a chronic Bright's disease. The patient was a woman, aged 60, who three weeks after recovery from an acute pneumonia suddenly became incoherent and delirious. She did not know where she was, begged to be taken home (she was in her own house), and did not recognize her relations. She talked incoherently and tried to get out of bed. She ate fairly well and paid attention to her bladder and rectum. As is usual in such cases, she was worse at night. After about a week she sank into a semi-stupor, from which she could be roused only for a moment or two. Her heart was normal; the peripheral arteries did not seem hard. From the onset of the delirium, the urine contained quite fair amounts of albumin and rather numerous granular casts. She died from uremia a few days after the stupor came on.

Case 6.—This case is an example of a rather rare condition, namely, Sydenham's chorea occurring at the age of 60. It is also interesting because the patient was a negress, and chorea, as is well known, is very infrequent among negroes. How much white blood she had I could not find out, but I doubt if she was a pure African because, in Philadelphia to-day, such negroes are almost never seen. A day or two before admission to the hospital she suddenly began to jerk all over. On admission she showed quite severe general choreiform movements. The head was thrown from side to side and rolled about, the mouth opened and shut, the arms and legs were never quiet. The frontal muscle was in almost constant movement. The eyelids alternately opened and closed, and the eyes rolled from side to side. Speech was much affected and attempts to talk increased all the movements. The knee-jerks were normal. There were no tremors, ataxia, nor palsy, but the choreic movements prevented her from walking. Control of the bladder and rectum was good. It was difficult to determine the patient's mental state, on account of her speech trouble, but she was very emotional, confused and excited. Her attention could be held only for a moment. She would obey, or try to obey, a simple command, such as "put out your tongue," "shut your eyes," but if told to wait two or three minutes after the command before obeying it, she would forget about it. Sometimes she would start to answer a question responsively but soon wandered. She was incoherent in speech and thought. A few days later she developed lobar pneumonia and died in about two weeks after the onset of fever.

Both the chorea and the mental symptoms preceded any symptom or physical sign of pneumonia. Autopsy showed lobar pneumonia and chronic Bright's disease. There was no meningitis and the brain and cord were normal on macroscopic examination.

1918 Spruce Street.

Hypotheses and Medicine.—If one pretended that hypotheses might serve as a basis for medical practice, such an idea would not be less absurd than that of an architect who should wish to construct the first story of a house before laying the foundations.—Sydenham.

A POINT IN THE TREATMENT OF LATERAL CURVATURE OF THE SPINE

EDWARD A. RICH, A.M., M.D.
PORTLAND, ORE.

The orthopedist as well as the general practitioner should bring into use far more mechanics than is commonly used in the treatment of the lateral curvature of the spine. If the case, which is usually looked too lightly on by most of the laity, cannot be turned to the specialist, the man nearer home will have to treat the curvature, and this will require acquaintance with the best means of obtaining correction.

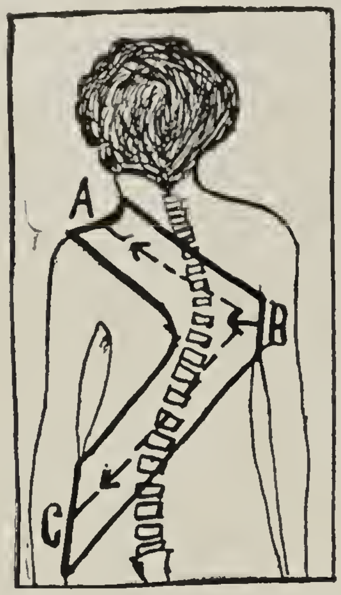

Fig. 1.—Diagram illustrating the need of counter-pressure at the neck as well as over the hip when much pressure is needed at the point of greatest curvature B.

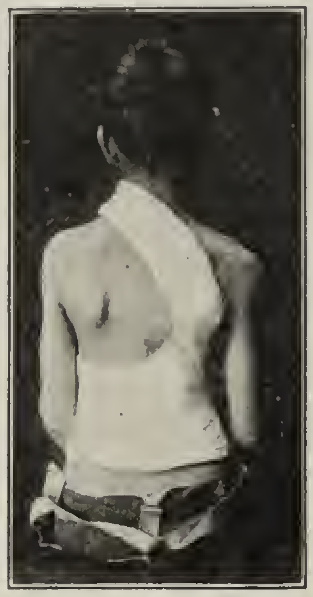

Fig. 2.—Original figure-of-eight cast used after forcible correction of scoliosis.

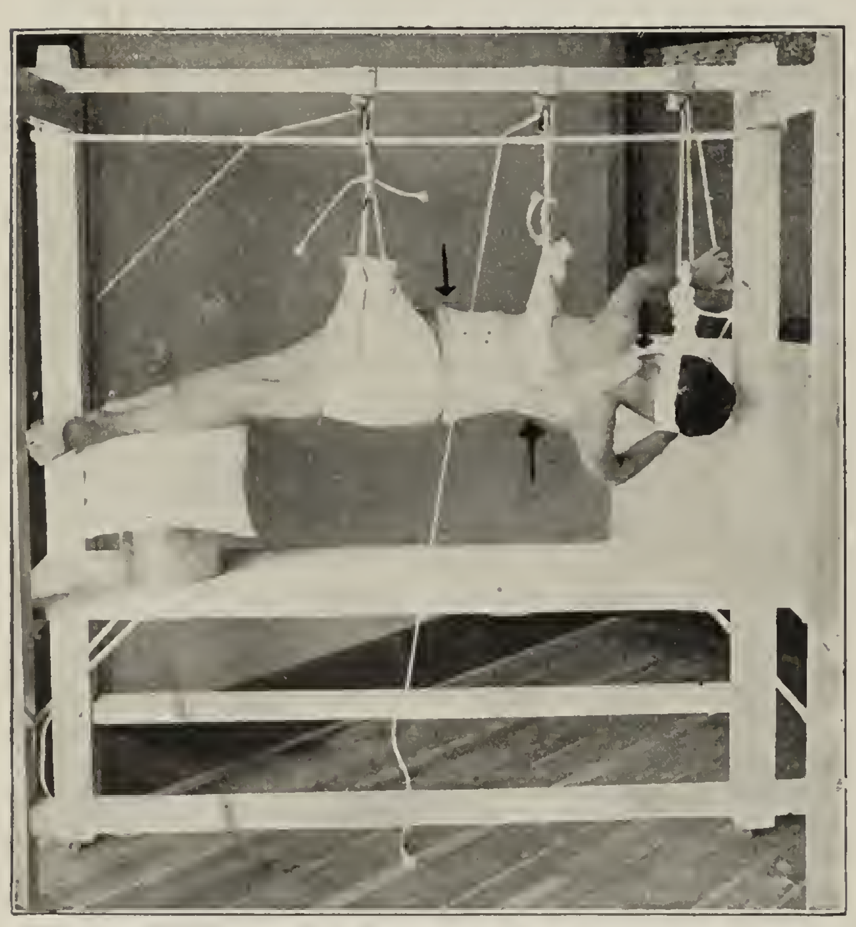

Fig. 3.—Appliance for lateral suspension and the application of retentive casts.

In a recent paper[1] by two orthopedic surgeons, a form of treatment was suggested which has long been in use in Boston and which, while capable of great good, is not capable of the greatest good.

The article in question advocates the wearing of splints that have been made over torsos so altered as to represent more or less correction. The molded splints extend from the pelvis *no higher up than the axillæ.* Inasmuch as the former paper has been published, it will be well to emphasize one point that has found favor with many orthopedists, namely, that any splint extending only to the axillæ and not gaining counter-pressure on the neck fails greatly in accomplishing its purpose of rectifying the ordinary spinal curves. As illustrated in Figure 1, when pressure is wanted on a given point B, it is a mere matter of mechanics to supply two points for counter-pressure at A and C. It might be possible in the lower lumbar curves to supply the points of

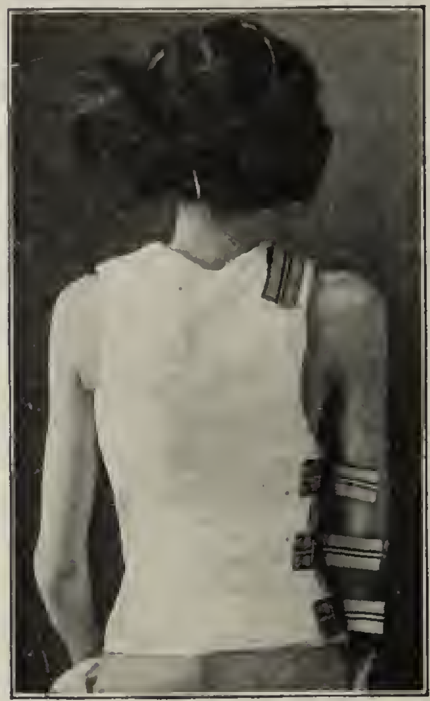

Fig. 4.—A cast made over a partially corrected torso and obtaining counter-pressure at neck as well as at hip.

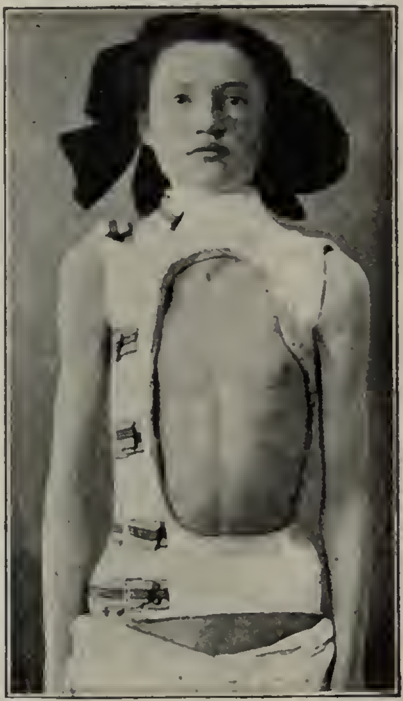

Fig. 5.—Anterior view of Figure 4, showing freedom of chest over areas of concavity.

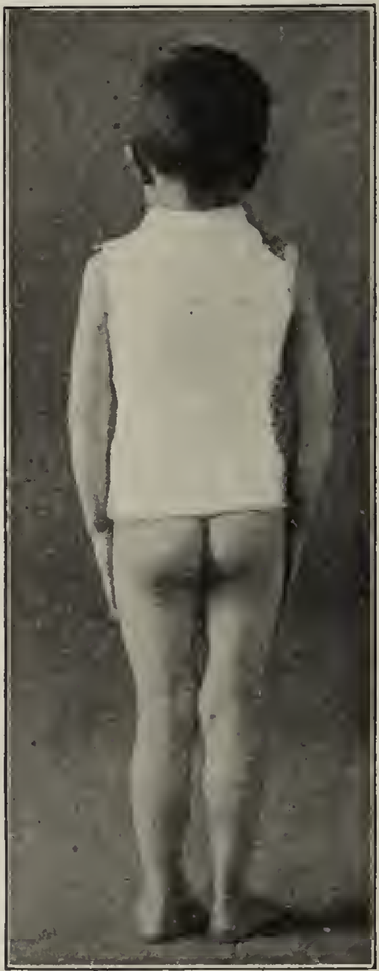

Fig. 6.—The last cast maintaining overcorrection.

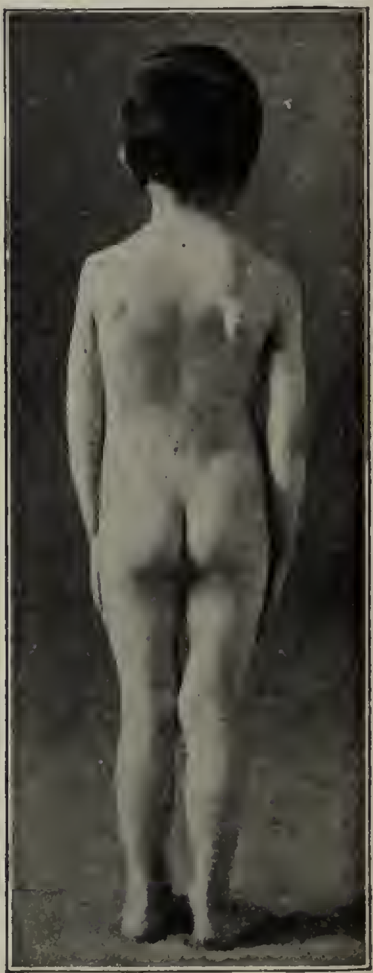

Fig. 7.—Boy of 6, with lateral curvature overcorrected. Two years before the lad suffered a dorsal curve, 1½ inches, to the right of the median and with the usual rotation.

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[1] Lovett and Sever: The Treatment of Lateral Curvature of the Spine, The Journal A. M. A., Sept. 2, 1911, p. 786.

counter-pressure, one over the hips and the other over the higher ribs. As a matter of common experience, the more frequent curvatures present the great curve in the dorsal part of spine and in these the only two available points for counter-pull are over the pelvis below and over the compensatory cervical curve above.

It was a common practice five or ten years ago to hide the scoliosis case behind some plaster jacket that was applied with the patient in suspension. And we see this still done. It should not, however, be considered justifiable longer to torture these unfortunate children with jackets, plasters and braces unless we have a definite object ahead and are intent on accomplishing something.

In previous papers[2] I have attempted to prove that the object to be attained by the treatment of scoliosis is to set vigorous means working to force back the vertebræ and their related structures to the normal. It is now understood that the spine is more than a stack of vertebræ; it is a mass of bones bound together with stout ligaments and mighty muscles. Therefore, it cannot be handled like a pile of loose blocks, but rather its shaping demands practical mechanics that supply great power.

For several years I have made an effort to gain correction by means of lateral suspension and a figure-of-eight molded splint (Fig. 2), applied while the patient was suspended in an apparatus which was designed for the purpose (Fig. 3). This splint maintains a steady pressure on the desired point by counter-pressure on the pelvis and neck. By means of the method a scoliosis can actually be *overcorrected,* but, unfortunately, it can successfully be used only in children under 10 or 12.

Employing much the same principle in another way for the older patients, we make a light mold of the patient standing up and slightly suspended. This is later filled with plaster giving us a torso, the exact replica of the patient. The torso thus made is lengthened in the waist and corrected much as described by Lovett and Sever.[1] On this torso is made a plaster or celluloid jacket that fits over the corrected shoulders and neck. The jacket is removed from the torso by lateral incision on the side opposite the great curve and after completion buckled together again, over the patient. Large areas on the side of the concavity can be removed from the jacket, to allow greater freedom where pressure is not needed and to lighten the jacket (Figs. 4 and 5).

As the jackets cease to exert pressure, more and more of the mass representing the curve and the rotation of the ribs is shaved off the torso and a corresponding amount of new plaster of Paris added to the opposite side, and on this further corrected torso new jackets are made.

Incidentally, emphasis cannot be laid too strongly on the necessity of correcting the underlying cause of the spinal curvature when it is possible to find it. For instance, in one out of three cases the patient suffers a lateral curvature from a shortened leg; how futile is an attempt to straighten the back without building up the shoe on the short leg? Yet, one sees the attempt made continually.

The day of simply plastering in scoliotic backs should be past and would soon be forgotten if the surgeon would recognize the positive benefits that can be attained from intelligent, forceful effort.

1110 Selling Building.

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[2] Rich, E. A.: The Treatment of Lateral and Posterior Curvatures of the Spine by Forcible Correction, Northwest Med., November, 1910.

AN IMPROVED HYPODERMIC OUTFIT

HANSELL CRENSHAW, M.D.
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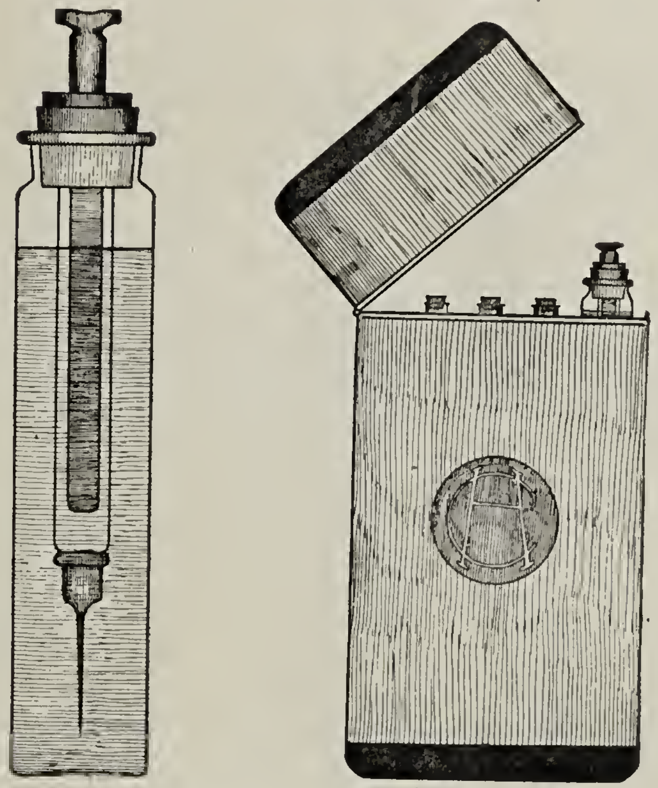
ATLANTA, GA.

Every physician has his troubles with hypodermic injections. Among these are (1) the difficulty of quickly and conveniently obtaining sterile water for injection; (2) the difficulty of sterilizing the needle and syringe, outside the office or hospital; (3) the difficulty of keeping the syringe always water-tight and in good working order; (4) the bother of protecting the needles from rust and from obstruction; and (5) the loss of time involved in getting the instrument together and the solution prepared in emergency cases. To overcome these difficulties, I have evolved the device described below.

The apparatus consists of (1) a cylindrical vial about 4 inches long and ¾ inch in diameter; (2) a perforated cork; (3) an all-glass syringe with ground-glass piston; (4) a platinum needle; and (5) about one ounce of sterile water. The platinum needle is attached to the syringe by a friction-joint, and the barrel of the syringe is inserted snugly through the perforated cork until the flange on the back end of the barrel rests against the cork. The vial is then nearly filled with the sterile water, and the cork (with the syringe passed through it) is inserted into the mouth of the vial (as shown).



Hypodermic outfit and case.

The apparatus thus assembled will not leak, though the piston will rise nearly half an inch when the cork is pressed into the bottle. Atmospheric pressure holds the piston, and the whole apparatus may be dropped into a grip or stuck in the pocket without risk of leakage.

To give a hypodermic injection of morphin, for example, with this device one simply uncorks the bottle, draws the syringe full of the sterile solution, then draws the piston entirely out and drops the hypodermic tablet into the syringe full of water. The piston is reinserted and the instrument is ready for use. After the injection has been made the syringe is thrust into the bottle, the cork tightened, and the whole outfit dropped into the satchel or pocket. The platinum needle will not rust and will last indefinitely. The bottle may be replenished with sterile water from time to time, and may be held like a test-tube in a flame.

1027 Candler Building.

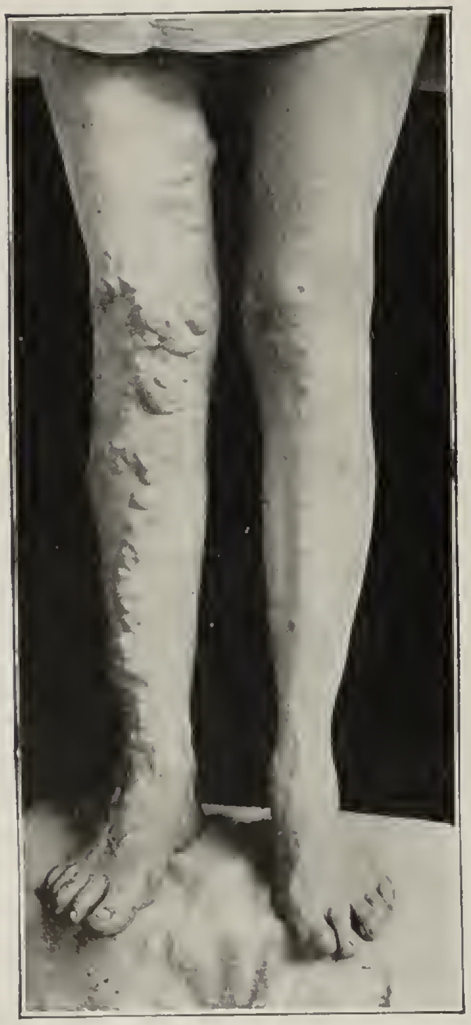
MARKED VARICOSE VEINS OF THE RIGHT LEG IN A PATIENT SIX MONTHS PREGNANT

ANDREW J. GILMOUR, Ph.B., M.D.
NEW YORK

History.—May 15, 1911, E. D., housewife, aged 40. Mother died of heart trouble when the patient was 3 years old. Father is living, aged 63, and is healthy. Patient had small-pox at the age of 10. Except for measles and whooping-cough during childhood, she has always been well; first menstruated at the age of 13; type every twenty-one days; duration, five to six days. She has never skipped a period except when pregnant.

Since the birth of the first child the veins of the right leg have markedly swollen with each menstrual period. Periods have always appeared within two months after childbirth. Patient has never nursed her children over ten days, after which time the milk has always dried up.

The woman has never had a thrombosis or a phlebitis. The swelling of the veins has been very marked during all pregnancies, but for the last two months of the present pregnancy they have swollen exceptionally fast and are now larger than ever before.



Varicose veins of the right leg, accompanying pregnancy.

She has had seven pregnancies and labors, all normal except for the condition of the veins, which lose their marked distention within a day after the accouchement but have never quite returned to the normal; the patient is free from discomfort and pain between pregnancies. The veins begin to swell at the time she feels life; from this time on there is more or less discomfort from a feeling of heaviness in the legs to actual pain as the pregnancy progresses. After the sixth month, this pain is described as a dull, throbbing pain extending from the groin along the front of the limb to the junction of the upper and middle third of the leg; it is worse for the first hour after rising, but after the patient is up and around at her work it gradually diminishes during the day so that it causes very little discomfort. This throbbing pain again appears after she retires, to subside gradually within an hour. The left leg is normal.

Treatment.—A tight 3-inch muslin bandage from the toes to the hip, which is enclosed by a spica, has given remarkable relief from the dull throbbing pain which is the patient's only complaint.

133 East Fifty-Seventh Street.

[Comment: Varicose veins in the lower extremities are very common in pregnancy. According to Budin, they are found in every third pregnant woman. While they generally appear during or after the fifth month, they are found occasionally still earlier. The early appearance of varicosities is interesting because of its bearing on the question of causation. Pressure of the enlarged, heavy uterus on the abdominal or iliac vessels is commonly supposed to hinder the flow from the veins of the lower extremities and cause their dilatation. Probably the increase in the intra-abdominal pressure is quite as important a factor as the direct pressure on the veins. But in early pregnancy it is not clear that either of these causes exist. In the case reported the swelling of the veins during menstruation has an interesting bearing on the question. It seems that a congestion of the pelvic and abdominal vessels interferes with emptying the vessels of the lower extremities.

Von Recklinghausen has shown that the venous pressure in the pedal veins is about 85 mm. of mercury. This would be sufficient to force the blood not to the heart, but only to the pelvis when one is in the erect position. Muscular action will assist in the venous circulation, but when a person is standing still the respiratory movements must become an important factor in lifting the blood. It is easy to understand how pelvic congestion may interfere somewhat with this mechanism.

The branches of the external saphenous vein are generally involved in the varices of pregnancy. Verneuil has called attention to the dilatation of the deep inter- or intramuscular veins which he believes to be more common than the dilating of the subcutaneous vessels. These deep varices show more severe symptoms than the superficial. The discomfort is greater, the leg feels more swollen and there may be cramp. The symptoms in the reported case recall the description given by Verneuil for deep varices.—Editor.]

IMPROVED METHOD OF PREPARING AGAR

W. F. THOMSON, M.D.
BEAUMONT, TEX.

In the preparation of nutrient agar the egg process, used to clarify the medium, has always been open to objection on account of the long time required for satisfactory filtration. I would like to suggest a process which I have found more rapid and free from the objections incident to the egg process.

Twenty grams of powdered or shredded agar are dissolved in about 500 c.c. of distilled water, by boiling or, better, under about 5 pounds pressure in an autoclave.

Two grams of calcined magnesia are powdered in a mortar and triturated with a portion of the agar solution. When free from lumps, the agar-magnesia mixture is intimately mixed with the remaining agar solution and the whole thrown into a double, white filter and the filtration allowed to proceed in a steam sterilizer or in an autoclave, requiring about three hours for the 500 c.c. to pass through.

The filtrate, which is now perfectly clear, is poured into a 500 c.c. measuring-flask, allowed to cool to 35 C. and the volume made to exactly 500 c.c. with distilled water.

Five c.c. of the finished agar solution are dissolved in 45 c.c. of water, heated to the boiling point and the reaction to phenolphthalein determined and the required normal sodium hydroxid or normal hydrochloric acid added to the remaining 495 c.c. to secure the reaction neutral. In another 500 c.c. measuring-flask place exactly 500 c.c. (at 15 C.) of double strength, nutrient bouillon; adjust reaction to 3+, using 5 c.c. to determine reaction to phenolphthalein, heat to boiling, filter through paper, and make the volume to 495 c.c.—at 15 C.

The agar solution and the nutrient bouillon are now mixed and 990 c.c. of perfectly clear nutrient agar with a reaction of 1.5+ is the result.

The advantages are as follows: Calcined magnesia is insoluble in water, requires no coagulation, is porous and does not impede filtration. The preparation of double strength bouillon, separately, permits of more rapid filtration, especially when precipitates occur after standardizing. The use of 500 c.c. volumetric measuring-flasks, at 15 C., renders weighing unnecessary.

IMPROVED TECHNIC OF VENOPERITONEOSTOMY FOR RELIEF OF ASCITES *

H. EDWARD CASTLE, M.D.
SAN FRANCISCO

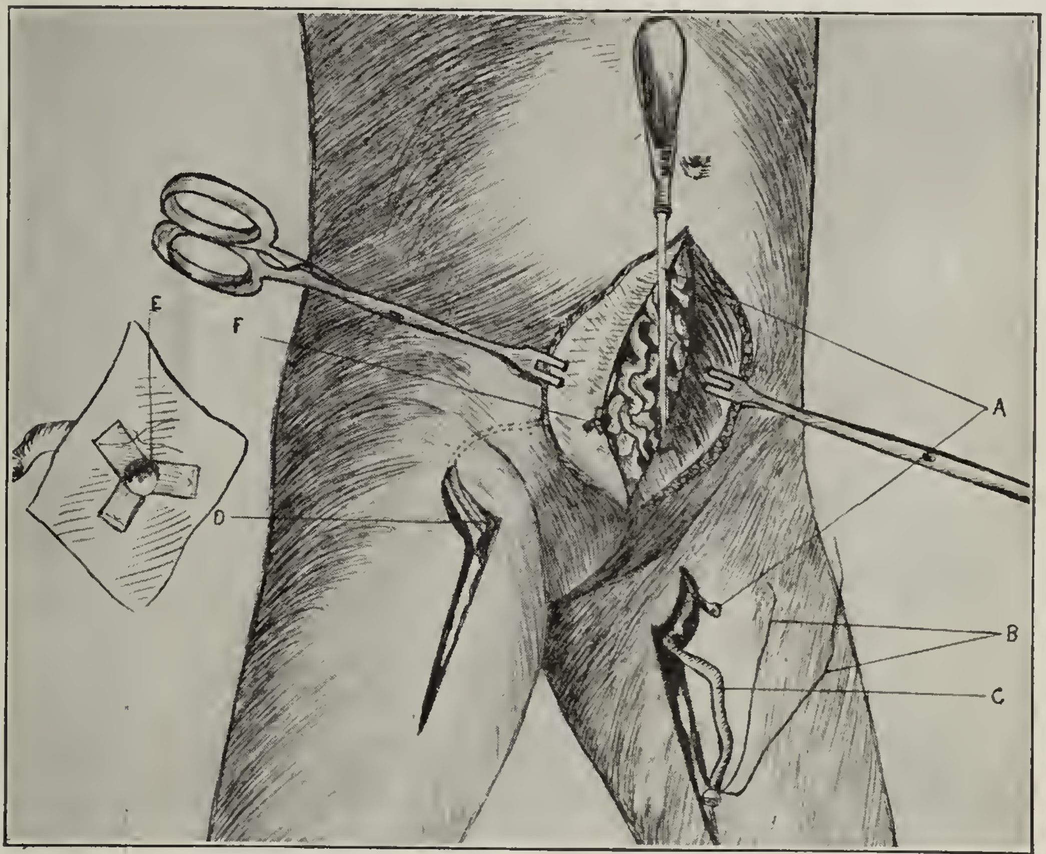
Believing that the operation of venoperitoneostomy is indicated in selected cases, in collaboration with my associate, Dr. H. A. L. Ryfkogel, I have devised the following manner of performing it, which we believe is more simple and is executed with greater facility than any method heretofore originated.†

An incision 8 inches long is made over the saphenous vein, beginning one-half inch distal to the saphenous opening in the fascia lata. Tributaries are ligated as close to the vein as possible to avoid clots. The saphenous vein is ligated and severed proximal to the ligature, lifted from its bed, and its lumen washed clear of blood with normal salt or Locke's solution, then covered with petrolatum. A silk ligature is tied very close to its cut end, to be utilized when the abdomen is opened. The vein is now ready for use and is left in its normal bed while its fellow of the opposite leg is treated similarly.

A second incision 2 inches long is made, extending from the proximal end of the incision which is over the saphenous vein, outward and upward; this second incision describes one-fourth the arc of a circle. Its object is to prevent a sharp kink in the saphenous vein when the latter is turned upward to be joined to the peritoneum.

Through a median incision the abdomen is opened low in the hypogastrium. A large vulsellum grasps the entire thickness of the abdominal wall at the edge of the incision. Care must be exercised to have the teeth of the instrument penetrate deep into the rectus, else the integument and peritoneum will slip together over the edge of the muscle. If this obtains, the muscle will force the vein into an irregular path when the operation is completed. The assistant makes traction on the vulsellum and the surgeon produces a minute opening through the peritoneum, transversalis and internal oblique muscles, and the aponeurosis of the external oblique. This opening is made from within outward and extends to the superficial fascia. It is made external to the deep epigastric artery and internal abdominal ring. Through the opening a uterine sound is introduced; when the sound reaches the superficial fascia, it is wormed through the fat with slight pressure and rotary movement until it gains access to the outer end of the curved incision in the leg. When it protrudes, the silk which was previously tied to the free end of the vein is tied also to the sound. The sound is withdrawn, which results in the vein being drawn into the superficial fascia, through the muscles and into the peritoneal cavity. The vein is now seized with a pair of fine forceps which grasps only the adventitia, thus preventing retraction out of the abdominal cavity. The small fragment which the silk ligature has damaged at the end is cut away. The vein is cut with scissors, so as to make three equal flaps which include all the coats of its wall. These flaps are 1 cm. long. They are each fastened to the peritoneum by a single mattress suture of fine silk introduced by a small, round, curved, French needle. The vein of the opposite leg is anastomosed to the peritoneum in like manner.

The abdominal wall is closed as follows: A continuous No. 1 iodized catgut suture is introduced, which approximates the peritoneum and catches the great omentum in several places. Thus the latter is prevented from gaining access to the venoperitoneal anastomosis and there becoming adherent. Two silkworm tension-sutures are introduced, which include the remainder of the abdominal wall, and which are 1 inch from the edge of the wound. The muscles are allowed to fall into place, and the fascia is sutured with No. 2 iodized catgut. The superficial fascia is brought together to obliterate as nearly as possible all space with No. 1 iodized catgut. Closure of the skin is obtained by a subcuticular suture of silkworm gut. The incisions in the legs are closed with horsehair. All incisions are dressed with dry gauze.



Venoperitoneostomy for relief of ascites.

As this method was developed on the cadaver, I desire in order to demonstrate its practicability on the living, to call attention to two cases in which it was practiced. The first patient was in the surgical clinic of Dr. Richard F. Tomlinson at the City and County Hospital, San Francisco. No difficulty was encountered, the operation being executed with much greater facility than could be done on the cadaver. The patient was in a deplorable condition and succumbed to the effects of the anesthesia the day following the operation. At autopsy, the lumen of both veins were entirely free from fibrin deposit.

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* Read before the Section on Surgery of the San Francisco County Medical Society, Aug. 15, 1911.

† A historical review of the subject, together with the bibliography, has been omitted, owing to the lack of space. The unabridged article appears in the author's reprints.

The second patient was operated on by Dr. Edward R. Bryant in his clinic in San Francisco. Dr. Bryant employed our method with adroitness. He elected to anastomose only one saphenous vein to the peritoneum. The patient is reported several weeks after operation to be feeling well, with no accumulation of ascitic fluid.

SUMMARY

The advantages of this technic may be summarized as follows:

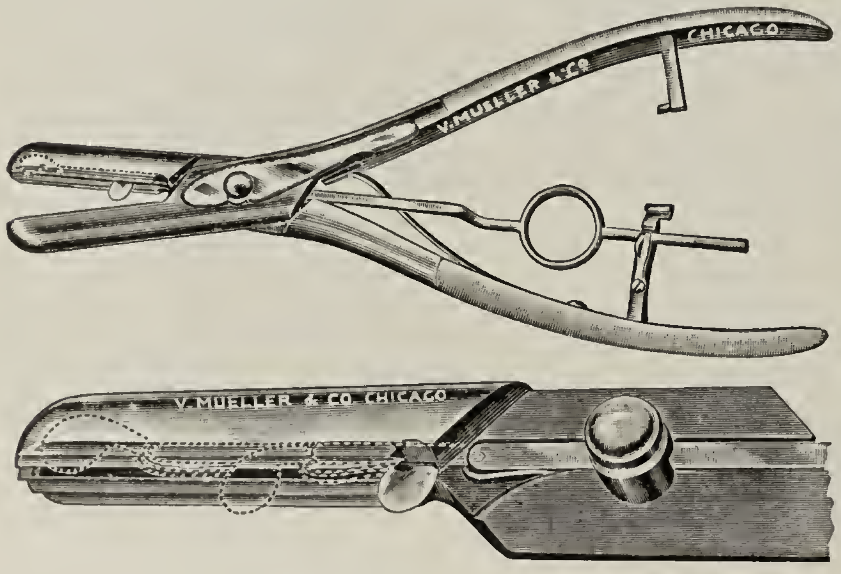
1. The curved incision in the upper part of the thigh prevents kinking of the vein.
2. This method of anastomosis makes it possible to have the sutures at a sufficient distance from the lumen of the vein to prevent any obstruction or obliteration of it.
3. The subcutaneous transplantation of the vein reduces the formation of cicatricial tissue about it to a minimum.
4. Anchoring the omentum prevents its contact with the anastomosis.

1820 Sutter Street.

A NEW APPENDICEAL CRUSHING AND CUTTING FORCEPS

STEPHEN C. GLIDDEN, M.D.
DANVILLE, ILL.

This forceps has longitudinal serrations which crush the tissue of the appendix to a paper-like thinness, removing all fecal matter from the portion crushed. A sliding knife-blade, buried in the point of one blade of the forceps, rises along the center as the ring between the forceps handle is pulled on, causing it to cut clean, leaving the appendix stump sealed ready for invagination. The part of the appendix which is removed is also sealed at the cut surface, preventing leakage of any fecal matter on the wound surface or sponges. The forceps first *crushes* and then *cuts*. It has also been used in removal of ovary and tube, as it leaves a clean incision, which is usually whipped over with a line of sutures.



Appendiceal crushing and cutting forceps.

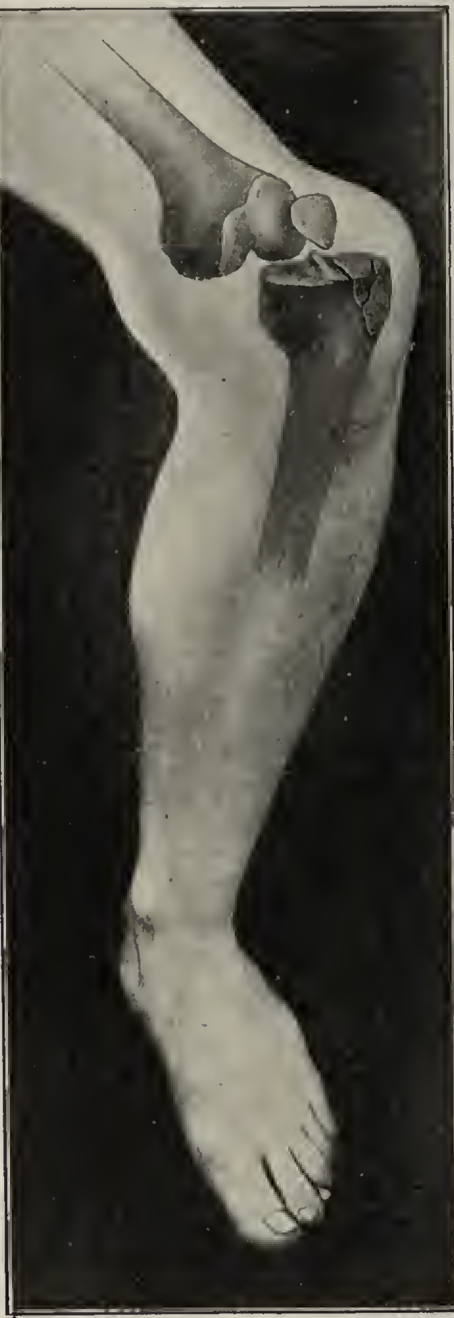
Work and Credit.—A surgeon has great opportunities to do good, particularly if he doesn't care who gets the credit for it. To fight for credit is a dreadful waste of energy. As Joseph Leidy said, "It doesn't make any real difference who discovered a thing; the important thing is that it has been discovered."—DaCosta in *Ohio State Medical Journal*.

EXTERNAL DISLOCATION OF THE KNEE

ROYALE HAMILTON FOWLER, M.D.
BROOKLYN

Dislocation at the tibiofemoral joint is rare, constituting about 1 per cent. of all cases. External dislocation occurs in 5 per cent. of these injuries in this location. It is rare in its complete form. When complete the dislocation is usually compound. The following case was incomplete:

Dec. 30, 1910: Mr. H. L. L., aged 40, a strike-breaker, was pulled from a wagon, a distance of 3½ feet. He landed on his feet, fell to the ground and was unable to rise. He was taken at once to the Methodist Episcopal Hospital. Examination revealed a left extremity in flexion and some abduction. The outer portion of the head of the tibia was prominent on the outer side; the inner tibial tuberosity was in contact with the external condyle of the femur. The internal condyle of the femur was proportionately prominent. There was slight external rotation of the lower limb, and the patella was displaced outward. Voluntary motion was of course abolished. A fracture of the external tuberosity of the tibia was recognized; *x*-ray showed this involved the joint. Reduction was easily accomplished, under ether anesthesia, by traction and direct pressure on the ends of the bones and a plaster cast applied. Ten days later the man died of lobar pneumonia; there had been no disturbance of circulation in the affected limb. The following points of interest are taken from the autopsy record: There was consolidation of the left lung from base to apex in a state of gray hepatization. The lower extremity of the left side showed no circulatory disturbance. On opening the knee-joint an effusion of blood was apparent. The outer half of the head of the tibia was the seat of a comminuted fracture. The external lateral ligament was torn across, the anterior completely torn, the internal only partially ruptured. The anterior crucial ligaments were torn, the posterior were intact. The main popliteal vessels and nerves were not injured.



External dislocation of the knee.

475 Washington Avenue.

Pharmaceutical Abbreviations.—In writing prescriptions physicians should exercise the greatest care and best judgment as to abbreviations, since great harm may result from misinterpretations. Such an abbreviation as "Hyd. Chlor." could mean calomel, corrosive sublimate or chloral hydrate; "Acid. Hydroc." could be either prussic acid or hydrochloric acid; "Aq. Chlor.," either chlorin water or chloroform water; and "Sod. Sulph." might be sodium sulphite, sodium sulphate sodium sulphid.—S. F. Hale in the *Mask*.

A NEW DIAGNOSTIC SIGN IN PARALYSIS AGITANS: THE COG-WHEEL RESISTANCE OF THE EXTREMITIES *

HAROLD N. MOYER, M.D.
CHICAGO

For a number of years I have observed a symptom in paralysis agitans that is not recorded in the literature. For the want of a better term, I have ventured to call it the "cog-wheel" resistance of the extremities. This is suggested by the use of such terms as "lead-pipe" and "waxy" flexibility. These terms describe a resistance which is felt where there is impaired motility in passive movements of the extremities. The term "cog-wheel" is proposed as in a certain sense descriptive of a jerky or intermittent resistance of the extremities, when the sign is looked for. It is elicited by the examiner grasping the wrist with one hand and steadying the arm with the other, above the elbow. Rapid flexion and extension of the arm is made. Instead of an even movement, without resistance, when there is no involvement of motility, one, two or, perhaps, three slight hindrances to the movement are experienced by the examiner, which communicates to the hands of the examiner a jerky feeling. This is not sufficient to stop the movement of the extremity, so that it may be seen, but it is readily appreciated by the hand of the examiner. After the extremity has been passively moved for a short time, the jerks will slowly disappear, to be followed by a return after a period of rest.

The symptom is most easily elicited and is most commonly present in the upper extremity, though it is occasionally noted in the lower. When testing the leg, the same method is pursued as when examining the arm, the patient being conveniently seated on a table and the leg rapidly flexed and extended at the knee.

It is obvious that this symptom belongs to the early period of rigidity in Parkinson's disease, and it is this fact that gives it its value, from a diagnostic point of view. The term "paralysis agitans" is a misnomer. No patients with this disease have typical paralysis and many of them are without tremor. The essential symptom in the disease is the rigidity, and this is frequently an early symptom, preceding the tremor, although in some cases there may be tremor without rigidity, or at least without sufficient rigidity to admit of its being recognized in a clinical examination. So far as I have observed, this symptom is not noted in other conditions; hence when obtained it is strikingly characteristic of Parkinson's disease.

Its value, from a diagnostic standpoint, is due to its presence in the cases in which there is real difficulty in making a diagnosis. The ordinary typical case of paralysis agitans, with the pill-rolling movement, the festination, stooping, and mask-like features, can be recognized at a glance, but there are less developed cases characterized by rigidity and absence of tremor, and frequently in which the disorder is limited to one extremity, in which the diagnosis is difficult. It is in this class of cases that I have learned to appreciate the value of this sign. In a number of cases in which the disorder began in one hand, characterized only by clumsiness and discomfort in the extremity, this sign was elicited and later, after some years, the more frank symptoms of paralysis agitans developed.

As stated above, this sign may be absent in cases in which there is a characteristic tremor of Parkinson's disease, but I have never seen it present in other than Parkinson's disease; hence it can be stated that it is a quite positive sign of this condition, though its absence by no means conclusively proves that the disorder is not paralysis agitans.

31 North State Street.

ABSTRACT OF DISCUSSION

Dr. J. H. McBride, Pasadena, Cal.: Dr. Moyer's sign may prove to be of assistance in making an early diagnosis, as many cases of paralysis agitans are irregular in development. Those cases, for instance, in which there is the hemiplegic course of progress, attacking one arm, then the leg, then the other arm, and then the leg of the same side, are so slow in their course that there may be reasonable doubt for some time as to the diagnosis. Those cases in which there is perspiration on one side of the face, or one half of the body, preceding later tremor, may be confusing. I hope Dr. Moyer's discovery may prove to be of value in assisting to an early diagnosis.

Dr. W. W. Graves, St. Louis: The symptom described by Dr. Moyer is certainly new to me and no doubt will prove to be a valuable aid in our early recognition of paralysis agitans. The diagnosis of paralysis agitans is by no means an easy matter in the early stages and any sign that will give us additional light is of value. Of course, I should hope it would not be present in all cases, because any symptom that is pathognomonic is always a dangerous symptom in medicine. It has occurred to me that it might be explained in this way: in making passive movements at the elbow spontaneous tremor might account for it. I merely offer that as a possibility. Otherwise we should expect to get it in other joints. Now, the rigidity which is really the fundamental and the most important sign of paralysis agitans is not confined to special groups of muscles; whereas, the spasticity, as we see in ordinary hemiplegia, is confined to, or at least most marked in, particular groups of muscles; for instance, the adductors of the shoulder and the flexors of the elbow, wrist and fingers, the extensors of the knees, adductors of hip and the plantar flexors of the foot. In paralysis agitans the rigidity does not affect the flexors any more than it does the extensors; it is a general sort of thing. So one would expect to find this symptom, if it is not due to tremor, in making flexion as well as in making extension of the forearm.

Dr. E. D. Fisher, New York: I think the sign of Dr. Moyer, which we might call the Moyer sign, is of great interest, and it struck me that it might be explained as due to the degeneration in the muscle fiber itself. I don't think we know the pathology of paralysis agitans. Recent investigations of the spinal cord and peripheral nerves show no definite pathologic changes, but there are pretty constantly found in the muscles degenerative conditions or pathologic changes in many of the fibers, distributed irregularly in the muscles. That might explain this irregular jerky movement which Dr. Moyer has described. Dr. Moyer should investigate further and give us at our next annual meeting an explanation of these interesting symptoms which he has discovered.

Dr. H. N. Moyer, Chicago: It is a nervous symptom but it is not constant. The cases of paralysis agitans which begin with a marked tremor and very little rigidity don't have this symptom. It is very rarely absent in the cases in which there is not much tremor. Therefore, it is of greater value. It cannot be imitated voluntarily; I cannot myself show you on my own arm how it feels. You have got to have a real case, but you recognize it the instant you try, and lots of old cases will have it. Any old case of paralysis agitans will do. There is that sudden little jerk of resistance to the movement. The old contention was that paralysis agitans was a nervous disease or a muscular disease. I am one of those who consider it a disease of the brain; just exactly what portion I don't know, but some part between the frontal and the occipital lobes.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

THE ABUSE OF NORMAL SALT SOLUTION *

GEORGE H. EVANS, M.D.
SAN FRANCISCO

The therapeutic value of a physiologic saline solution administered in large amounts either intravenously, hypodermically, or by the intestinal tract in certain pathologic conditions, characterized by changes, quantitative or qualitative, in the blood-plasma, has been so abundantly demonstrated by clinical experience that it requires no emphasis here. That under certain circumstances saline solutions are productive of great harm to the tissues of the body, and are even capable of producing death, is as true as it is of many other valuable therapeutic procedures. It is my desire to call attention briefly to some of these conditions and to sound a note of warning against the thoughtless and indiscriminate use of this remedy. The apparent harmlessness of sodium chlorid, a salt which forms such an important part of the fluids of the body, the fact that this salt is found so largely in practically all of our foodstuffs, the idea, altogether too prevalent, judging from what we see in every-day clinical experience, that there is practically no limitation to the functional capacity of the glomeruli of the kidneys to excrete water—all these factors have probably been responsible for a great deal of the indiscrimination in its use. One cannot fail to be impressed with the danger of such procedure, if one observes the utter recklessness with which salt solution is frequently prescribed, particularly in the postoperative period, without previous knowledge of the condition of the blood-pressure, the ability of the heart to handle large amounts of fluid successfully, or the functional capacity of the kidneys to excrete successfully the large amount of chlorid thus forced on them.

The amount of damage thus produced and the number of fatal cases directly attributable to the abuse of this procedure is, of course, ordinarily problematic, because of the fact that the chief indications, where it is used commonly, accompany grave surgical and medical emergencies in which the disastrous rôle played by the salt solution is lost sight of in the light of the serious condition which called forth its use; thus fatal results are undoubtedly frequently attributed to the pathologic condition, and the misapplication of the remedy escapes the condemnation it justly deserves. Clinical observation abundantly demonstrates this fact.

In a case recently reported by Brooks,[1] the abuse of salt solution is well set forth. One and one-half liters of salt solution were ordered in three doses per rectum, apparently without indications for its use, in a perfectly normal postoperative period following a short and simple appendectomy. Owing to the carelessness of a nurse, a "stock solution" of nearly saturated sodium chlorid was used, the patient receiving almost 9 ounces of the salt, with rapidly fatal result from acute sodium chlorid poisoning. While such cases of acute poisoning from large doses of the drug are probably rare, it will be well to seriously consider how frequently harm results from carelessness in the extemporaneous hurried preparation of salt solution, varying from the isotonic solution; for it is not alone in the poisonous effects of excessive dosage that danger lies, but also in the hemolytic effect of solutions that are hypotonic. The results of these are often overlooked and thus the mortality records from "shock," "hemorrhage," and other surgical complications are raised. In surgical shock, not the result of hemorrhage, its use is illogical. Even though the blood-pressure be low, it is low because of vasomotor paralysis causing dilatation of the peripheral vessels. Salt solution cannot remedy this, and, if given in large quantities, as frequently happens, may do great harm.

A recent case in the service of a San Francisco confrère[2] is interesting:

> A woman, aged 28, was operated on by the Wertheim method, for the removal of a carcinomatous uterus. After the operation, normal saline solution was ordered to be administered by Murphy's method of proctoclysis. Again the carelessness of a nurse was responsible for the introduction of 5 quarts of the solution within a period of eight hours. The patient's pulse suddenly rose to 148 per minute. It became irregular and weak. She looked very bad and went into a stupor. Under the influence of stimulants and mustard to the precordia, the alarming symptoms subsided, the pulse dropping in two hours to 118 per minute.

The toxicity of sodium chlorid has been too well demonstrated by a number of investigators to require emphasis here. While probably the least toxic of the metal chlorids, animal experimentation has sufficiently proved its toxicity. Thus Joseph and Meltzer[3] found that 3.70 gm. per kilo of body weight produced death in healthy dogs. While the necessary fatal dose is very high in comparison with the other metal chlorids, the harmfulness of sodium chlorid is sufficiently demonstrated to warrant a protest against its free use hypodermically or intravenously without a knowledge as to the functional capacity of the kidney to excrete the salt. Where this function is impaired to the extent that the excess of sodium chlorid is not promptly eliminated, osmotic disturbances are sure to ensue, with resulting harm to the tissues. This has been particularly noticeable in those cases of toxemia dependent on, or accompanied by, renal lesion. It is in such cases that saline solution as a diuretic has heretofore been altogether too prevalently extolled. That the elimination of toxins through the production of diuresis can be brought about is true only to the extent to which the kidney is functionating. Sippel's[4] case well illustrates this:

> A patient suffering from eclamptic convulsions, which had kept up for thirty hours after delivery, was relieved following decapsulation of one kidney. Copious urination followed and the coma subsided. Following this, 3 liters of physiologic salt solution were given hypodermically with the result that coma and anuria returned, which soon proved fatal.

Sippel believes the fatal result to have been directly due to the infusion. It must certainly be admitted, remembering that the normal amount of salt excreted by the human body daily is about 12 gm., that the accumulation of this amount of salt in the blood would probably produce a decided irritation to the kidney epithelium, for with the 3 liters of solution, 27 gm. of salt were introduced. Such overloading of the blood with salt will be more pronounced if, while the tubular epithelium of the kidney is much impaired, the water-expelling function of the glomeruli is only slightly so. The water of the subcutaneously infused solution will then be expelled, but not the sodium chlorid. In some cases, intestinal rather than subcutaneous or intravenous infusions should be used.

The prevalent use of this remedy in instances of toxemia due to acute infections accompanied by marked

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Brooks: Arch. Int. Med., 1910, vi, 577.

[2] Personal communication.

[3] Joseph and Meltzer, N.: Jour. Pharm. and Exper. Ther., June, 1909.

[4] Sippel: Deutsch. med. Wchnschr., Jan. 6, 1910, xxxvi, No. 1.

diminution or absence of chlorid excretion, even though the functional capacity of the kidney is unimpaired, demands condemnation. Lobar pneumonia well illustrates this condition. Whether the diminution in chlorid excretion is due to the retention of the salt in the pulmonary exudate, or to abnormally low absorption from the intestinal tract, the fact remains that the introduction of salt solution can result only in increased retention, and is a procedure both illogical and pernicious. Yet salt solution occupies to-day a prominent place, and the danger of the retention of the increased quantities of chlorids thus introduced is unappreciated, while the additional work imposed by the introduction of large amounts of fluid to the circulation, on a heart probably already crowded to the point of incompensation, is ignored.

The harm resulting from the large amounts of water introduced is probably even greater than that produced by the effects of chlorid retention. The value of restriction of fluids in conditions of cardiac insufficiency, first prominently brought forth by the investigations of Oertel, has been almost universally accepted, and to-day there exists practical unanimity of opinion as to the value of fluid restriction in heart and kidney lesions, particularly those accompanied by hypertension. The effects of hydremia on a weakened heart have been too often demonstrated by animal experimentation and at the autopsy table to require emphasis. Even with prompt excretion by the kidneys, skin or lungs, the task imposed on the heart is greater in direct proportion to the amount of fluid introduced, and this regardless of the manner of introduction. Be it understood that what is said here does not apply to colonic flushing in which all the water introduced is immediately expelled. Doubtless functionally competent hearts and kidneys are capable of successfully handling much therapeutic imposition; but I desire to emphasize that my clinical observation has convinced me that this procedure is commonly applied in both medical and surgical emergencies when this functional capacity has not been first demonstrated.

I would therefore urge a more discriminating use of this therapeutic measure, restricted to those conditions in which either quantitative or qualitative changes in the blood-plasma present logical indications for its application, and then only after it has been satisfactorily demonstrated that circulatory or renal contra-indications do not exist.

Whitney Building.

THE BABY-TENTS OF CHICAGO *

FRANK W. ALLIN, A.M., M.D.

CHICAGO

A study of the last United States Census reports reveals some startling figures. In the whole United States more than 10 per cent. of the infants have died in their first year. This high mortality has not been equally distributed, for grouping thirty-seven of the largest cities, each having a population of over 100,000, the death-rate is about 20 per cent., while in our very largest cities it approaches 25 per cent.—one out of every four. So great is the hazard that no insurance company will issue a policy on this first year. This alarming mortality has aroused many, in and out of our profession, to seek relief.

There was held in Chicago during the summer of 1911, a two-weeks' exhibition, the largest and most comprehensive ever attempted in the interest of child welfare. This idea we copied from New York's exhibit of last year, enlarging and extending in manifold ways to many times the size of that exhibit. This is the culmination of a general interest.

Chicago lost 6,888 babies under one year of age in a single twelvemonth. A study of the spot maps of the city shows that certain areas produce most of the deaths and far exceed their relative proportion. It also shows the dire effect of the heated season and that certain diseases predominate. After about three days of hot weather, every day of prolonged heat shows a rapid increase in the mortality. Diarrheal cases lead the list, making the total of enteritis jump from below 50 per cent. to above 80 per cent., with a summer average for this disease between 72 per cent. and 76 per cent. The bulletin of the Chicago Health Department states that at least 80 per cent. of all the deaths under two years in the summer months are due to preventable diseases.

Many plans have been devised to relieve these first years of their terrible hazard. Infant welfare movements of many kinds are at work and it will be difficult to measure the influence and determine the exact value of each of these. The baby-tent has its place among them. Designed to meet a need not covered in any other way, it has not only met the immediate needs of the individual sick child, but, by example and instruction to the mother, has often taught her to prevent recurrence in this child and her other children. Organized effort to save the baby is relatively a recent thing. Only a few years ago milk commissions were organized, and the idea has spread rapidly until nearly every city now makes some kind of an effort to guard and protect that part of its population living wholly on milk. The mortality was greatly reduced, but remains frightfully high, especially where the population is dense. It became apparent that the milk-supply was not the only thing to be considered. Since the greatest mortality appeared in the crowded districts, it became evident that better air was needed.

The fresh-air wharfs of New York City and the fresh-air sanitariums of Chicago's lake front were among the first efforts to relieve the congestion of our great cities for the little folks. Sending children to the country for outings and tent colonies for certain diseases had proved so successful in demonstrating the benefits of fresh air that fresh air has become one of the important things in the care of babies. Even after the profession had come to see the benefits of fresh air, it was hard to convince the mother. But at present, with almost daily articles in the papers and the efforts of the health department, it is not so much a question of knowledge as of inducing the people to act. Chicago's congested districts are at some distance from the lake front. Most of the deaths of babies in the hot summer months occur within quite limited spaces, particularly on the northwest side, in the Ghetto and back of the stock yards. The Lincoln Park Sanitarium and the Jackson Park Sanitarium are caring for many babies, but they are inaccessible to a vast majority in Chicago. Mothers with several small children and a sick baby could not be spared from their homes to go several miles and stay all day at the lake front; consequently the little sufferer remained cooped up at home. To reach these infants, often dying without ever having a doctor or even a fair

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* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

chance for existence, the baby fresh-air tent idea originated seven years ago.

The baby fresh-air tents are located in the areas where the deaths are most numerous, which is among the foreign population, Poles, Lithuanians, Italians and Russian Jews. The tents are placed either on the roofs of buildings or in vacant spaces in the midst of these thickly populated sections, so near the homes that the mother can bring the sick baby at 8 o'clock in the morning, leave it all day in the care of competent nurses and call for it again at 6 o'clock in the evening. This daily contact of the mother with the doctors and nurses is not the least valuable part of this arrangement. Like the Salvation Army in their work on the street corners and tenement districts, these tents have left the Lake Shore Drive to reach the masses where they are near their homes.

The equipment of the tents consists of a hospital tent about 12 by 16 feet, with a double roof, board floor and sides, and screen sides above the chair rail. Each contains eight iron beds, a hammock, electric lights, two electric fans and a telephone; also a receiving tent, about the same size, for examining, bathing and temporary care of the baby. A milk station is maintained in this tent where milk in any modification is prepared for the occupants, or sold to the mother at cost. Certified milk is used for these preparations. The tents are opened about July 1 and closed about September 15. The tents were kept open nights and Sundays only in extreme emergency of either very sick patients or severely hot weather.

A trained nurse is in charge of each tent, with one or two assistants. There are assigned to the different neighborhoods a visiting nurse and field nurses, who hunt out these sick and poor babies and send or bring them into the tent. An intern is placed at each tent for half or the whole day as the work may justify. He examines all patients, writes the histories, excludes contagious diseases and prepares the patients for presentation to the doctor who visits the tent on that day. The medical staff consists of three physicians for each tent, each assigned to two days of each week. Each is expected to visit the tent at some hour in the forenoon and have complete charge of all new patients entering on his day. Thus each physician has his own patients and prescribes for the others only in emergency. The pediatric society has furnished most of the doctors, the remaining places being filled by physicians of the neighborhood having more or less interest in children.

Only patients under about 2 years of age are received, as those older could not be kept in the beds. Only children of the poor are taken. When it can be determined through the visiting nurse of the district that the parents are able to pay, they are referred to their family physician. A large proportion of these little sufferers are brought in or sent in by the district nurse. When patients fail to return they are investigated by the visiting nurse. Not every mother can be induced to leave her baby in the tent at first, but usually after a few days, if her child is not improving as rapidly as it should, she is prevailed on to do so.

About sixty babies under 2 years of age were cared for the first summer, seven years ago. Each year has shown an increase in the number of tents and the number of patients, until last year eleven tents were established with a total of 1,750 babies. These tents are located in different parts of the city, no two in the same neighborhood.

The total mortality last year, counting all deaths at the tent, at home or in the hospital within three days after being at the tent, was 1.75 per cent. The year before it was a little over 2 per cent., which was the highest for any year. One of the most successful tents last season gave the following summary:

Total number of patients	363
Average number of times each patient was seen	4
Average number in tent each day	12
Total number of deaths	2
Death-rate for the entire season	0.55 per cent.

One of the grateful mothers remarked the summer a tent was established in her neighborhood: "Last year it was all the time funerals, but now the babies are all getting well."

The baby-tent idea has become so popular that many cities have taken up and followed more or less closely the plan that was originated in Chicago. New York City six years ago put up "shacks," where babies have been cared for in the fresh air. Cincinnati, Cleveland, Minneapolis, Nashville, Rochester and Hartford are some of the other cities caring for infants in fresh-air tents. In Chicago many organizations have become interested and are seeking to do some of this work. Thus far the Elizabeth McCormick fund, through the United Charities, has financed the tents—last year at a cost of a little over $5,000.

The purpose of this paper is to present to the profession a feasible means of getting at one of our great problems of the city, that is, to check the high mortality among infants. The baby-tent idea lays no claim to improving the food-supply, as shown in the milk-commission milk, or to the fresh-air idea, which was in existence long before it appeared. But it has adapted these two great ideas in a way and in the place most needed, by scattering tents throughout these congested districts, so accessible that they will meet the need. The number of babies cared for and the low mortality certainly demonstrate the success of the baby-tents and their right to existence and extension to more districts and other cities.

4206 Monroe Street.

ABSTRACT OF DISCUSSION

Dr. J. P. Sedgwick, Minneapolis: There are one or two things I would like to bring before the Section, as they have been of value to us in our work in Minneapolis. We have, running along the ridgepole of the tent, a perforated water pipe connected with the water system of the city, and when it gets too warm in the tent the water is turned on, thus bringing the temperature down. It is not the temperature of the water, but its evaporation that produces the effect, and it certainly does lower the temperature in the tent. The tent has been used four years and the death-rate during the first summer compared with the death-rate in the hospital proper for the same months of the five years preceding was just one-half. The reduction in mortality may not have been wholly due to the tent, but was partly due to the enthusiasm of the nurses and interns.

Dr. May Michael, Chicago: I would like to add that in Chicago after we employed wet-nurses the mortality was greatly reduced.

Dr. Frank W. Allin, Chicago: Instead of the perforated water pipe, on warm days we have had a cake of ice in a tub, placed near the fans, so that the air was blown over the ice and through the tent.

Hippocrates' Short Definition of a Physician.—"An upright man instructed in the art of healing."

THE WHITE CELLS IN TUBERCULOSIS *

W. WARNER WATKINS, M.D.
PHOENIX, ARIZ.

Study of the leukocytes in their relation to disease, or to a particular disease, soon impresses one with the truth of Professor Ehrlich's statement[1] that the biologic variations of the white cells make them the most interesting study in pathology. Could we definitely know what the changes of the leukocytes are, at the onset and during the course of a disease, we would have an invaluable aid to the diagnosis and prognosis of that condition. Study of immunity and of the broad field of biologic adaptation in its application to pathology has revealed the white cells as the mobile tissue of the body, the elements most quickly adapting themselves to changes in environment by undergoing endless variations in the presence of stimuli furnished by pathologic organisms and their toxins. Unfortunately, however, for clinical and therapeutic purposes, these variations are, as a rule, so similar in different diseases and so inconstant in the same infection in different individuals that their diagnostic and prognostic value becomes somewhat uncertain.

So far as tuberculosis is concerned, the white cells have been the subject of but limited study, which is rather strange since the reaction of the leukocytes in this wide-spread condition is exceedingly interesting and ought to become a sound basis for practical therapeutics. In America the work of Webb[2] is the most valuable contribution to investigation along this line.

For the sake of clearness this paper outlines its matter under three divisions:

1. The most important known facts regarding the white cells in tuberculosis.
2. The conclusions growing out of limited and incomplete personal observations.
3. The lines along which further investigation seems to be most needed.

I. THE MOST IMPORTANT FACTS CONCERNING THE WHITE CELLS IN TUBERCULOSIS

The biologic law that the nucleus is the dynamic center of living cells and that the cytoplasm is only a means of communication between this center and the surrounding medium, holds true for leukocytes. Then one would naturally conclude that of all the white cells the most powerful ones are those with the largest and most perfect nuclei; this conclusion is justified by the work of several investigators who have proved that the most resistant and, consequently, the most powerful white blood-cells are the large and small lymphocytes. It is interesting, also, in this connection, to note that Ehrlich's assertion that the lymphocytes do not possess ameboid movement and do not respond by chemotaxis to stimuli, has been vigorously disputed by several writers.

In resisting a tuberculous infection it has long been known that the lymphocyte is the cell particularly effective against this bacillus. The term "lymphocyte," as used herein, classes under that word, without any attempt at differentiation, both the small mononuclear leukocyte (the lymphocyte of Ehrlich or small lymphocyte of American writers) and the large mononuclear leukocyte (the large lymphocyte of American writers), since no one has yet made any distinction in their function. That these cells are attracted particularly by the tubercle bacilli is doubtful, their effectiveness against these organisms being largely explained through the work of Bergel, confirmed by Webb and his assistants, that only lymphocytes have the ability to dissolve the waxy sheath enclosing tubercle bacilli and protecting them against the destructive antibodies of the serum and against ordinary phagocytes. It is the universal observation of hematologists that there is an increase in the lymphocytes in tuberculosis, but the conclusion heretofore drawn, that this lymphocytosis is due to secondary anemia resulting from the disease, is erroneous, for this increase in mononuclear cells occurs only during the process of recovery from, or successful resistance of, tuberculosis, and does not occur when the disease is progressing unfavorably. A fact which simplifies routine observation in this connection is that when there is an increase in the mononuclears (except in lymphatic leukemia, in which all the elements are increased), this change in percentage is due to an actual relative increase and is not accompanied by a rise in the total leukocyte count.

II. CONCLUSIONS DRAWN FROM PERSONAL OBSERVATIONS

Personal observations have been made from 112 blood-counts in 100 individuals, with results as follows: Twenty-two healthy adults gave an average lymphocyte count of 41.5 per cent., ranging from 29 per cent. to 57.5 per cent. Thirteen patients definitely cured of tuberculosis of the lungs gave an average lymphocyte count of 45 per cent., ranging from 35 per cent. to 67 per cent. Twenty-four counts on patients with tuberculosis checked or healing gave an average percentage of 38, ranging from 30 per cent. to 50 per cent. Forty-four counts from patients in whom the disease was gradually or rapidly progressing gave an average of 25 per cent., ranging from 10 per cent. to 35 per cent. Six who were not seen after the original examination, but whose cases were all advanced, gave an average count of 24 per cent. Two adults presenting themselves as normals, but whose appearances were suspicious, gave counts of 19 per cent. and 20 per cent. The conclusions based on these observations, in view of the established facts concerning lymphocytes in tuberculosis, together with the work of contemporaneous and accurate observers, are as follows:

1. These observations agree entirely with those of Webb that the percentage of lymphocytes affords an apparently reliable indication of individual resistance to tuberculous infection. A broad classification of patients in whom tuberculosis is still active obscures the important fact—invariably observed in a close analysis of individual patients—that the percentage of lymphocytes corresponds closely to the condition of the patient and the progress of the disease.

2. There is present in many healthy individuals a considerable increase in the percentage of lymphocytes, so that instead of being 30 per cent., they approximate 40, 45 or 50 per cent., or more. These increases are observed particularly in high altitudes and in lowlands where the atmosphere is rarefied by absence of moisture and by high temperature. The conclusion is certainly justified, that an individual presenting such an increase in number of those defensive cells known to be most effective against tubercle bacilli, presents, likewise, an increased resistance against infection by those organisms.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Ehrlich: Anemia.

[2] Webb: Hematologic Studies in Tuberculosis.

3. There exists in human beings who have definitely recovered from tuberculosis, a permanent increase in the percentage of lymphocytes, the counts ranging from 40 to 70 per cent. That such an increase in those cells known to be particularly destructive to tubercle bacilli affords a relative immunity to tuberculous infection, is a natural conclusion. This is a definite biologic confirmation of the much-disputed statement that cured tuberculosis produces immunity—the degree of the immunity being limited only by the definiteness of the recovery.

4. In patients with active tuberculosis, there occurs coincident with, or preceding, the checking of that activity, an increase in the percentage—i. e., the number—of lymphocytes, which continues as long as the lung tissue maintains its resistance and remains permanent if this resistance proceeds to eradication of the tuberculous area. This lymphocytosis is so definite and unfailing that it offers the most dependable means that we now have of foretelling from week to week and from month to month what the future course of the disease in those patients will be.

5. On the other hand, preceding by a variable time the lessening of resistance and consequent invasion of new tissue by the bacilli, there occurs a decrease in the percentage—i. e., the number—of lymphocytes. This decrease can be observed before any appreciable change in the lungs can be detected, and offers an even more definite and reliable indication of the probable course of the infection in those cases which are so disconcerting in their failure to observe prognoses.

6. The blood of tuberculous patients with lymphocytosis presents, usually, an interesting picture and one very different from that of normal blood. Lymphocytosis is said to depend chiefly on an increase of Ehrlich's large mononuclears—those cells reputed to originate in the bone-marrow. This is true, though these newly formed cells differ in appearance from the ordinary large ovoid lymphocyte. The small lymphocyte, forming, ordinarily, about 25 per cent. of the total white cells is, occasionally, the cell which multiplies; but, as a rule, this type of cell becomes subordinate and the mononuclear cells which appear in the blood so rapidly during a tuberculosis in the process of healing may be two or three times as large as a polynuclear, and have a large, irregular cytoplasm and a very large, sometimes irregular, nucleus.

7. Actual count of the white cells has not been made in these observations, because the necessity for it was not evident, although, in order to avoid criticism, this should, perhaps, be done. In uncomplicated tuberculosis there is known to be no leukocytosis, so that an increase in the percentage of one type of cell as shown on a smear preparation, is an actual increase in number of that type. The criticism that a mixed infection with pyogenic organisms will bring about an increase in the number of polynuclears and, consequently, a decrease in the percentage of mononuclears without an actual decrease in their number, is a criticism of scientific accuracy which will have to be answered by checking such investigations against actual counts of the leukocytes. The clinical fact remains unaltered, however, that the percentage of lymphocytes is an exact and reliable indication of the course which a tuberculous process will assume in the immediate future—whether this percentage is an actual change in number in cases of tuberculosis uncomplicated with pus organisms, or whether it is an apparent change owing to the preponderance of polynuclears in mixed infections.

III. LINES ALONG WHICH FURTHER INVESTIGATION IS NEEDED

In viewing the lines along which further investigation is needed, the field is seen to open up with every new step and only a few suggestions are offered.

1. The conclusions offered above need to be confirmed by continued investigation, controlled by actual counts of the white cells.

2. Healthy individuals in different sections of the country should be examined in large numbers to determine, as Webb has been doing, in what sections of the continent there is a tendency to an increase in those cells which most effectively resist tuberculosis.

3. The particular methods by which individual resistance against tuberculosis can be raised should be ascertained, with the lymphocyte percentage as an accurate guide to the degree of such a resistance. In the great campaign against the white plague, prophylaxis must eventually be the means of eradicating it, and when such methods of increasing individual resistance are definitely known, they can be utilized in prophylactic treatment, whether they are dependent on climate, gymnastics or specific immunization.

4. The relationship between the reaction of these cells and the administration of specific agents like tuberculin, vaccines, immune serums, etc., should be determined; also to what extent the changes in the lymphocyte percentage can be utilized as a guide in specific treatment. One writer makes the statement that the lymphocytes increase after an injection of tuberculin. If the effect of tuberculin is to stimulate those cells which have the ability to destroy tubercle bacilli, there must be a close connection between that effect and the increase in lymphocytes. If the effect of tuberculin and allied remedies is to cause the production of antibodies in the blood-serum, lymphocytes being known to participate in the production of such bodies, it is evident that there are relations of cause and effect not yet discovered.

5. The trend of study and investigation in tuberculosis is toward the blood—blood-serum and blood-cells—and the more these are studied, the clearer is the conviction the world over, that Koch, in his discovery of the bacillus and of tuberculin, did not, by any means reach the summit of valuable knowledge in this disease.

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ABSTRACT OF DISCUSSION

Dr. Gerald B. Webb, Colorado Springs: Dr. Watkins' excellent paper corroborates our former work. When we discovered the increase of lymphocytes in Colorado Springs we considered it due to the same marrow hyperplasia which causes the increase of the red corpuscles. Professor Zuntz has recently written me that he considers these changes due most probably to lack of oxygen in the bone marrow. We have been able to produce the same results by hyperemia of the marrow, increasing the lymphocytes by 100 per cent.

Dr. Watkins spoke of the differential blood-counts found at the Salton Sea. I would like to ask our Chairman (Dr. Henderson) if he could explain the possible hyperplasia of the marrow in this region by reason of stimulation due to excess of carbon dioxid retained in the blood.

Dr. Yandell Henderson, New Haven, Conn.: I confess that I cannot give any explanation of the effect of the Salton Sea. There have been extensive investigations recently in Germany on the effects of sea baths and seashore climates, but so far as I am acquainted with them they do not offer any ground for an answer to the question.

Dr. J. E. Pottenger, Monrovia, Cal.: The attempt to determine the variation in leukocytes at different altitudes is a good one, as no doubt there is considerable physiologic variation. My work has been done at an elevation of 1,000 feet. I have made about 800 differential counts on some 600 patients. I have not been sufficiently impressed with any particular variation from the normal in lymphocyte percentage to attempt to establish a rule, aside from the increased percentage in the early stages of the disease and a decrease, often, in serious cases. From the data presented by Dr. Watkins the question naturally arises as to what the value of altitude might be in establishing immunity. Sufficient work has already been done to show that the lymphocyte is probably more active in increasing the resistance of the individual in tuberculous disease than we had formerly supposed, but since this same increase in lymphocytes is to be seen in normal people at an altitude, we are obliged to consider that such increase in diseased persons must be in part physiologic and cannot be considered as a favorable reaction against the disease process.

As the technic employed in making counts is very important, I wish to ask Dr. Watkins what technic was employed in making his computations.

Dr. W. W. Watkins, Phoenix, Ariz.: I will say, first, that my chief object in presenting this paper was that I thought the criticisms which would be offered would be of value to me in future work along the same line. As to the criticism regarding conclusions based on only 100 patients, of course, conclusions of value cannot be drawn from 100 examinations, in any condition, if that were all; but as there were thousands of cases reported in literature, I felt justified in drawing conclusions which simply confirmed the work of other men. As to the technic of the smears, I used both the method recommended by Ehrlich with cover-slips and the method recommended by DaCosta with slides. The one I chiefly used is that of taking the ordinary slide, properly cleaned and prepared, putting on the drop of blood, bringing the end of another slide up to the drop and then pulling it away, the blood following the slide. In these smears, the drop was kept in the central portion of the slide. I take three or four, never less than two. The smears, when the leukocytes are bunched at the terminus of the smear, cannot be depended on. The leukocytes must be distributed evenly throughout the smear to be of value. The stain used was Wright's.

PROLAPSE OF THE UTERUS COMPLICATING PREGNANCY *

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Of the malpositions of the uterus, descensus is most often encountered. This applies as well to the early pregnant uterus in descensus of moderate degree. It is well known that a moderate degree of descensus uteri is not incompatible with pregnancy and with normal delivery, but complete prolapse of the gravid uterus is rarely seen and has never been observed at full term. A number of cases have been so recorded, but it is believed that in these cases the edematous, elongated cervix and inverted vaginal walls have been mistaken for the uterus in its entirety (Braun-Fernwald[1]). In Plasse's case the patient went to the seventh month of gestation. No other reported case has developed to this degree. In this instance the fetus was macerated.

The first noteworthy contribution to the subject was by Hüter[2] in 1860; the next by Franke,[3] who brought the total of reported cases to 124. Seitz[4] followed with a noteworthy contribution on the subject published in 1902.

With the aid of Dr. Heaney of Chicago I have collected, in all, 140 cases in the literature to which I will add one of my own and two as yet unreported cases.

We seldom find prolapsus of the gravid uterus in a primipara. The displacement is usually the result of pregnancy, hence a condition common to multiparæ. As to the time of occurrence, we find in the majority of case-records that the procidentia was not manifest until one or more children were born; that there had preexisted a descensus of the uterus to a greater or lesser degree, and that the descensus had increased in the subsequent pregnancy. In other words prolapsus uteri in pregnancy is but an exaggeration of a preexisting condition.

Traeon[5] reported two cases in which the prolapse occurred during pregnancy, one in the fourth month due to a severe strain and the other when at stool. Stamm[6] also reported two cases, and Vèrre, Webb and Rosano each a case in which the prolapse occurred in pregnancy.

In the case reported by Kidd,[7] the prolapsus was first in evidence at the time of labor, though in his case the woman had given birth to three children and had had five abortions, making it probable that the uterine supports had been weakened prior to the last labor in which the prolapse occurred.

Dufour[8] records a case in which the pregnant uterus was prolapsed to the level of the knees. The woman had borne three children and was in the sixth month of gestation. The cervix protruded from the vulva throughout the six months of pregnancy. With the first pain incident to premature labor, the membranes ruptured and the entire gravid uterus protruded to the level of the knees. The protruding uterus and vaginal walls became deeply congested and for fear of gangrene the uterus was promptly emptied by first incising the cervix. Boissard[9] recorded a similar experience in a pregnancy of three months. Wagner,[10] Harvey and Plasse also reported cases in which the gravid uterus hung to the knees. The first case of acute prolapse occurring in labor was reported by Maurieeau. Similar cases have been reported by Gristoek, Kauffman, Wagner, Stein, Poetal, Meralini, Chemin, Smelli, etc.

The likelihood of pregnancy occurring in a prolapsed uterus is in inverse ratio to the length of the cervix, the degree of prolapsus of the uterus and vaginal walls and to the tissue changes resident in the uterus and its appendages. Where the cervix protrudes from the vulvar outlet, pregnancy will rarely supervene. In prolapsus of long standing the usual anatomic findings are eversion and erosion of the lips of the cervix, hypertrophy of the endometrium and uterine musculature and cystic degeneration of the ovaries. Such a combination of lesions, irrespective of the position of the uterus, will greatly lessen the chances of pregnancy. Add to these lesions the possible fixation of the uterus and its appendages by pelvic adhesions and the chances of pregnancy are almost *nil,* with practically no chance of maturing the pregnancy. Winekel reported two cases in which the anterior lip of the cervix attained the size of a man's fist and caused ischuria. The swelling of the anterior lips of the cervix has been observed in a number of cases and is ascribed to edema. This edema rapidly disappears after delivery.

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* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Braun-Fernwald: Winckel, Handbuch der Geburtsh., ii.

[2] Hüter: Monatschr. f. Geburtsk. u. Frauenkr., Berl., 1860, xvi, 176.

[3] Franke: Inaugural Thesis, Jena, 1892.

[4] Seitz: Beitr. z. Geburtsk. u. Gynäk., 1902, vi, 250.

[5] Tracon: Arch. de tocol., 1891, xvii.

[6] Stamm: Diss. Würzburg, 1898.

[7] Kidd, F.: Centralbl. f. Gynäk., 1890, No. 35, p. 627

[8] Dufour: Monatschr. f. Geburtsh., xvi.

[9] Boissard: Nouv. Ann. clin. de Montpellier.

[10] Wagner: Martin, Atlas, Tab. 47, Figure 5.

In several reported cases cohabitation was accomplished through the gaping cervix (Spancken[11]); Chopart, cited by Franke, and Harvey, cited by Winckel.

In the fourth month of gestation the uterus rises out of the pelvis and in this manner an uncomplicated descent of moderate degree is corrected for the remaining months of gestation, to return in the early weeks of the puerperium. In prolapsus of an advanced degree and in cases in which the uterus is adherent or incarcerated, a spontaneous reposition of the uterus cannot be effected. Bimanual manipulations or operative interference must be instituted if the pregnancy is to proceed.

Where the uterus is completely prolapsed, pregnancy is usually terminated spontaneously in the early weeks of gestation. Wimmer's case, which went to the sixth month, and Plasse's case, which was interrupted at the seventh month of gestation, are notable exceptions to the rule that in extreme prolapsus abortion occurs in the first month of gestation as a result of circulatory and mechanical disturbances. These abortions are incomplete in the majority of cases because of ineffectual contractions of the uterus. In the 124 cases, reports of which were collected by Franke, there were twenty abortions.

In the event of labor or abortion certain serious complications may ensue. Postabortive and puerperal infections occur in a relatively large proportion of cases because of the ineffectual emptying of the uterus and the occasional presence of ulcers of the cervix.

The elongated, rigid cervix offers a serious impediment to the progress of labor. We find labor prolonged by the resisting cervix and the enfeebled uterine musculature. It is no exception for labor to be prolonged two to three days and in some instances five to seven days. So great may be the resisting power of a rigid, elongated cervix that the lower uterine segment and body of the uterus may rupture spontaneously in labor and gangrene of the cervix is known to ensue. Not only does the resistance offered by the cervix prolong labor, but, if not relieved by incision, the lower uterine segment may stretch to the point of rupture as in the case of Dougall.[12] This case proved fatal as a result of a rupture which extended from the cervix to the fundus. Miller also reported a case of rupture of the lower uterine segment as the result of a resisting cervix. Kohl asserts that there is little or no bag of waters in advance of the presenting part and believes this to be a factor in the slow dilatation of the cervix.

My own case is as follows:

Patient.—Mrs. A., aged 36, quartipara, was in the third month of gestation. Since her last pregnancy the vaginal walls and cervix had protruded beyond the vulvar outlet. From the onset of her present pregnancy the prolapsus steadily increased until she was scarcely able to walk about.

Examination.—I found the vaginal walls completely everted and by making traction on the cervix, I was able to deliver the entire uterus beyond the vulvar outlet. The body of the uterus was a little larger than a man's fist, the cervix about 4 inches in length. The pelvic floor was torn and relaxed to the extent of affording little support to the pelvic organs.

Treatment.—Relief was imperative. My first advice was to confine her in bed with the hips elevated for the greater part of two to three months. The conditions were not favorable to the wearing of a pessary. A sick, 2-year-old child and three other small children at home on a ranch and no help other than that of the mother and father made it imperative to provide relief in the shortest possible time. Accordingly, I emptied the uterus of a three months' fetus, and under the same anesthetic I amputated the cervix and performed an anterior colporrhaphy and posterior colpoperineorrhaphy. The results were satisfactory and the patient left the hospital for her home in sixteen days.

In the management of these cases, the following propositions are presented:

1. Pregnancy with a moderate degree of prolapse, and in the absence of any considerable elongation and rigidity of the cervix, will usually proceed to term and delivery will be effected without serious embarrassment. If, in the early months of pregnancy, the patient complains of a bearing-down sensation and of bladder and rectal disturbances chargeable to the descended uterus, a suitable pessary may be worn with safety, and removed at the end of the fourth month. Hüter asserts that no case is recorded in the literature in which the wearing of a pessary has brought about a miscarriage. In addition to the wearing of a pessary, and in cases in which for one reason or another a pessary cannot be worn, rest in bed should be enjoined for several hours daily, all unusual exertion forsworn and the clothing so adjusted as to prevent traction and constriction at the waist line. In acute prolapsus, occurring in the course of pregnancy, there is great liability to miscarriage, hence the urgent indication to replace the uterus and to provide a suitable support in the form of a pessary. Rosano records a case in which a woman, 26 years of age, had given birth to five children and was again pregnant, when through violence the uterus was caused to descend, protruding from the vulvar outlet to a length of 27 cm. The uterus was replaced and the pregnancy progressed to term.

To replace a prolapsed pregnant uterus the patient should be in the knee-chest or dorsal position, the bladder and rectum empty and all constricting clothing removed from the abdomen. With the thumb and fingers the uterus is gently but forcibly pushed back in line with the long axis of the pelvis. Following the replacement, rest in bed should be enjoined and a suitable pessary adjusted. If the head is engaged in the pelvic inlet no effort at replacement should be attempted.

2. Where the labor is retarded by an elongated, rigid cervix the acknowledged method of procedure is to make a bilateral incision of the cervix (Dührrsen) and to apply forceps or perform version. Under such conditions there is a relatively large proportion of breech presentations and the presence of a rigid cervix renders the delivery particularly hazardous to the child. Here the bilateral incisions of Dührrsen are of special advantage. Seitz found it necessary to incise the cervix in 38 per cent. of the ninety-one cases collected by himself and Franke. We are admonished not to make an anterior incision of the cervix for fear of wounding the bladder and rectum. A reasonable degree of caution and experience should obviate the objection, and certainly in advanced pregnancy this incision affords a more ready method of delivery than do the bilateral incisions of Dührrsen. In pregnancy at term, an abdominal Cesarean section may be made in selected cases.

Where the uterus is adherent the usual rule of procedure is to empty the uterus of its fetal contents and if the pregnancy is not advanced beyond the fourth to the sixth week the necessary abdominal and plastic work may be done to correct permanently the displacement and associated lesions.

3. Following delivery the uterus, which prior to pregnancy was but partially prolapsed, may become completely so. Foster had one such case, the result of

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[11] Spancken: Arch. f. Gynäk., 1881, xvii, 128.

[12] Dougall: Glasgow Med. Jour., July, 1881, p. 28.

forcible traction on the cord. Bernard records a case in which a complete prolapse followed on forcible expression of the placenta. Such an organ should be replaced by taxis, the patient retained in bed with the hips elevated until the end of the second or third week of the puerperium, when the necessary operative procedures may be applied to correct the displacement permanently. A colpeurynter or gauze pack should not be used to retain the uterus in place because of the stoppage of drainage of lochia. If the cervix presents at the vulvar outlet during the puerperium an antiseptic dressing should be applied to the vulva to prevent infection of the uterus.

4. When the prolapse of the gravid uterus exists to a degree that renders the patient uncomfortable or incapable of enduring the existing conditions, relief may be found in various ways. In prolapse of a moderate degree, the pessary, worn for the first four months of gestation, will usually afford the desired relief. Most authors advise against the performance of plastic operations on the pelvic floor during pregnancy because such operations are excessively bloody, the trauma of the operation is liable to induce abortion and the restored pelvic floor is almost certain to give way in a subsequent delivery. However, there are a number of successful cases on record in which the cervix has been amputated and the pelvic floor restored without interrupting the course of pregnancy. E. Hausson amputated the cervix in the fourth month of gestation. Four weeks before the estimated date of confinement the bag of waters ruptured and labor followed. The child was fully developed and living. Boni amputated the cervix in the fifth month of gestation; the pregnancy continued to full term.

Schroeder[13] and Mittermaier[14] each amputated the elongated cervix of a prolapsed pregnant uterus without interrupting pregnancy. Schroeder's patient was in the third month and Mittermaier's patient was in the tenth week of gestation. Morral amputated the cervix and repaired the pelvic floor in two cases, one in the third, the other in the fifth month of gestation, both cases going to full term. In view of his results in these two cases and of his experience with one in which death occurred on the eighth day of the puerperium following sloughing of the cervix, Morral vigorously endorses the practice of amputating the cervix and restoring the pelvic floor in the course of pregnancy.

Had I been familiar with the work of Morral and others when the case above reported was referred to me by Dr. A. F. Jonas of Omaha, I would have followed their example in the effort to save the child.

Dr. Ralph G. Mills, medical missionary to Kangkai, Korea, writes me that in the past year he had delivered two cases in which the native Chinese doctors had saturated the protruding portion of the cervix with kerosene oil and set fire to it. In both cases there was dense scar tissue in the cervix. One woman was in labor seven days, the other four days. Both required multiple incisions in the cervix to deliver the child with forceps. One child lived, the other died.

The necessity for operative interference in so large a percentage of cases has obviously added to the maternal and fetal mortality. V. Hüter reckoned the fetal mortality at 31.4 per cent.

In twenty-nine out of ninety-one cases the forceps was used with seven fetal deaths. There were six versions with two fetal deaths and in ten instances the head was perforated; 28.5 per cent. were still-born or died shortly after delivery. Abnormal presentations were relatively frequent.

Winckel says that breech presentation occurs two or three times more frequently in a prolapsed than in a nonprolapsed uterus. There were five maternal deaths, four due to sepsis and one to rupture of the uterus.

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ABSTRACT OF DISCUSSION

Dr. Arthur E. Hertzler, Kansas City: I have recently had a case of this sort that has many elements of interest. The patient at the time of observation was 20 years old and gave this history: Between 16 and 17 she began to notice the protrusion of the cervix; between 17 and 18 the prolapse was complete. She married shortly after 18 and became pregnant a few years later. When I first saw the patient the uterus was entirely prolapsed. I was asked to see her because the combined efforts of the patient and the family physician could not restore the uterus to the pelvis. By rest in bed and manipulation the uterus was easily replaced and the patient was kept in bed for a couple of months. The patient was delivered spontaneously at term after a labor lasting eight hours. She was attended by her family physician and the labor was said to have been without notable difficulty. Four months after delivery the patient was given the choice of a complete operation which would sterilize her or a partial operation which would give her a chance of pregnancy under difficulties which could not be estimated. She selected the former and I amputated about 2 inches of the cervix, removed a considerable portion of the anterior vaginal wall, separated the fascia and did a plication. A firm perineum was built up and the uterus placed sufficiently high to apparently bring the organs into the most favorable situation. What was not needed of the fundus was cut off and sutured to the rectus fascia. The patient made an uneventful recovery. When I saw the title of Dr. Findlay's paper I asked the patient for permission to examine the field of operation and I found everything in satisfactory condition.

Dr. W. B. Dorsett, St. Louis: A case occurred in my practice some time ago. When I first saw the patient she was in much the same condition as that described by Dr. Hertzler. When she was standing the uterus would hang down and could not be kept in position by any kind of pessary; there was not enough perineum to hold the pessary. It could be held up only by keeping the woman in bed with the hips elevated. She was kept in bed for six months after I first saw her. At the seventh month of pregnancy, labor set in and she was delivered of a seven-months child, which lived only a short time. I subsequently did a perineorrhaphy, repairing the cervix, and also an anterior colporrhaphy and a Gilliam operation, explaining to her that she could not become pregnant but would be relieved of her symptoms. The question came up as to whether or not I should remove the ovary. As I made rather a solid pelvic floor I did not remove the ovary. I cannot say anything more than what has been said regarding the treatment given by Dr. Findley.

Dr. F. T. Andrews, Chicago: I never have seen a patient of this kind pregnant, but had a patient on whom I made an extra-vaginal hysterectomy, in whom the uterus was hanging out almost to the knees, and the patient told me that she had had this condition for many years: that having this condition she became pregnant and that the physician replaced and held the uterus within the canal. She had an uninterrupted pregnancy and delivery. When she came to me she had passed the menopause and I removed the uterus. I made an elaborate research in the matter of hernias of the uterus, pregnant and non-pregnant, and found a very large number of cases of hernia in which the uterus was pregnant in different situations. I found some cases of hernia of the uterus tabulated as such which were purely prolapse. Therefore, it would be possible in making research to miss those cases because the word "prolapse" was not used but "hernia" used instead.

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[13] Schroeders: Lehrbuch der Gebürtshulfe, bearbeitet von Olshausen u. Veit.

[14] Mittermaier: Centralbl. f. Gynäk., 1896, xx, 135.

Dr. Palmer Findley, Omaha: The question might come up, "Shall we sterilize the woman?" I trust I have not given such an impression regarding a pregnant uterus prolapsed but otherwise normal. I would not raise the question at all of the advisability of sterilizing the woman to prevent further pregnancies.

GENERAL PARESIS, TABES AND SYPHILIS OF THE NERVOUS SYSTEM *

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ETIOLOGY

In all three conditions mentioned in the title we have as the primary cause syphilis. In general paresis and tabes there are no active elements of the primary infection present; that is, no spirochetes are found in the diseased tissues. We have rather the results which manifest themselves by inducing fibrosis of the nerve-tissues and blood-vessels. Probably 5 or 10 per cent. of those acquiring syphilis are affected with general paresis and tabes, and a like proportion with syphilis of the nervous system.

We should divide these diseases into two classes, (a) general paresis and tabes being parasyphilitic, and (b) syphilis of the nervous system being directly due to infiltration of syphilitic material into the nerve-structures and vessels, with evidence of spirochetes. An important point is also the time between the infection of the primary disease and the appearance of the disease of the nervous system.

SYPHILIS AND PARASYPHILIS

In the parasyphilitic diseases, general paresis and tabes, involvement of the nervous system rarely shows itself before ten years, and often still later; while in syphilis it usually occurs in about five years. Other causes are important factors in exciting diseases of the nervous system, as injury, strain, overexertion, exhausting diseases as typhoid, excess, alcoholism, venery, heredity, etc. Perhaps without these exciting agents no involvement of the nervous system would take place, but the converse is still more positive, that without syphilis probably there would be no general paresis or tabes.

Symptomatology.—In general paresis and tabes there are many points of resemblance and also many differences. As we have seen, they occur about the same time after the primary infection and are both parasyphilitic; they may both have a long prodromal period before the symptoms become pronounced. This is perhaps more clearly observed in tabes if carefully investigated than in general paresis, but it may be seen even in the latter, although the history of the disease before acute mental disturbance will often show that there have been some changes in character or personality months, or even years before, which were not fully appreciated. In tabes the history of pain, or anesthesia, or some slight vesical weakness, or inconstancy of gait, may have existed for a long time before the patient has consulted a physician. Probably at the time a careful examination of the pupillary reaction would have shown partial or complete Argyll Robertson pupils; I have seen the Argyll Robertson pupil years before any other clinical manifestations. I consider, indeed, this symptom the most important or cardinal one in the diagnosis of general paresis and tabes, hesitating without its presence to make a positive diagnosis. In one case in which the diagnosis was important from the legal point of view, the diagnosis of general paresis from the mental side was positive; the absence of the Argyll Robertson reaction, however, led us to qualify the diagnosis and therefore the prognosis. The wisdom of this was shown two years later by the recovery of the patient. The importance of this symptom cannot be overstated, as its early manifestation gives us the only possibility of cure or stay of the disease by treatment.

The conditions first mentioned are the two which are common to both diseases, general paresis and tabes; the other symptoms, while in some degree resembling, are so widely apart in intensity as almost to be different in nature. Many authorities, especially Mott and Ferrier, are very positive that the two diseases are the same, their clinical differences being due only to the situation of the lesion, the nature of the pathologic changes, however, being the same. I think, however, when we take up the course and symptoms and study them individually, the differences will show themselves most markedly.

Confining ouselves to the spinal-cord lesions and the cranial nerves, we find in general paresis either spasticity and exaggerated reflexes, which certainly is not symptomatic of tabes, or loss of reflexes with ataxia of a mild degree, as a rule, rarely as extreme as that found in tabes of the typical form; or again, spastic paraplegia and ataxia, which is a combined sclerosis of the spinal cord, as is shown by the pathologic changes. This certainly is not seen in tabes. Again, in tabes the spinal symptoms are all of the sensory type as shown by pains, paresthesias, ataxia, or loss of muscular sense; but never in a motor type as paralysis or contractions; these latter conditions, when present, are caused by disuse, never by a true lesion of the spinal cord involving the motor or lateral tracts. The end-stage of tabes, the so-called "paralytic," is a misnomer; there is not true paralysis, but simply complete loss of direction of motion. The sensory side of the disease is shown by the extreme pain, not only the lightning-like, stabbing pains of the extremities and trunk, but also by rectal, vesical, cardiac or gastric crises, which are so infrequent in general paresis, even of the so-called tabetic type, as not to be classed as the essential symptoms of general paresis while they are especially so of tabes. Vesical paralysis, so common in tabes, is unusual in general paresis. We must not confuse mental weakness in which there is inattention to emptying the bladder with paralysis of that organ.

I might mention also the joint involvement and the foot ulcers, which indeed, while not common in tabes, are certainly not present in general paresis.

The cranial nerve lesions, with the exception of the Argyll Robertson, also differ in the two diseases. Optic atrophy is rare in general paresis; especially is this so of the cerebral type. Such affections of the third nerve as ptosis, ocular muscle paralysis, common to tabes, are rare in general paresis even of the tabetic type. As I have already said, the gastric, cardiac and laryngeal crises, due to pneumogastric nerve involvement, are rarely present.

No case of general paresis runs its course without spinal cord involvement, probably of both the lateral and posterior columns, but in no case is there such complete involvement as is seen in typical tabes. Another important point is the length of the disease. General paresis runs in a typical cerebral form about three years; in the tabetic and irregular form possibly five or even ten years (these latter are unusual), while tabes lasts ten or twenty years, unless some intercurrent complication, possibly cystitis, abruptly ends the case.

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Passing now to the mental symptoms in tabes, if the lesion remains confined to the spinal cord, there are no mental symptoms; the intellect is as acute as at the onset of the disease. If these diseases were really identical, it is probable that the lesion could keep itself for twenty years confined to only the spinal cord. The converse is not so; general paresis always manifests spinal symptoms, not important as compared with the mental, but still always present.

The mental symptoms of general paresis are so well defined—in the later stage the grandiose, exaggerated delusions of power, strength, riches, etc., and the depression or dementia seen in the early stage—that there is no possibility of mistaking them in our cases of tabes if present.

We do, indeed, find after many years mental disturbances in some cases of tabes as we do in other chronic diseases—and no oftener—but not of the special character of general paresis.

Pathologic Considerations.—General paresis has its essential lesion in the involvement of the cerebral meninges, especially the pia mater, and the cerebral cortex, affecting the cortex cells or neurons. We have also an early affection of the association fibers. This explains in part the mental side of the symptoms, i. e., the exaltation or depression, and loss of association of ideas. The blood-vessels are involved, but not occluded by thickening of their walls; as found in syphilis of the brain, the cranial nerves, and spinal cord tracts are the seat of degeneration. In tabes we have the initial lesion in the spinal ganglion and the neurons of the posterior column lying just inside the posterior gray cornua; later the posterior nerve-roots and columns are involved; rarely do we find the lateral column involved except in protracted cases and then only in a limited degree. The cranial nerves are involved usually much more extensively than in general paresis; the blood-vessels are narrowed in caliber and show degenerative changes in the walls, resembling those changes found in general paresis. The distinction in the two diseases is the situation, as stated by Mott and Ferrier, but it is one which remains distinctive and is valuable as a differential point of diagnosis.

SYPHILIS OF THE NERVOUS SYSTEM

This differs etiologically, clinically and pathologically from the parasyphilitic diseases, general paresis and tabes.

Etiologically, it is the primary syphilitic infection, evidenced by the spirochetes, which by infiltrating the nerve-tissue and the blood-vessels impair the function of and may destroy the structure of these elements.

The early involvement of the nervous system within a few years (five), or even in some cases in a few weeks, is diagnostic of primary syphilis. Some of the symptoms resemble those of general paresis and tabes, especially the latter. The pupil is suggestive of the Argyll Robertson, sluggish in its reaction to light, but not a true Argyll Robertson.

Ocular muscle paralysis is usually present, often evanescent. We may have tabetic symptoms, loss of reflexes resembling indeed tabes, but their onset has been too rapid to be mistaken for the slow progressive course in tabes. Myelitis is common, or poliomyelitis, generally of a chronic type.

Mental symptoms, especially in alcoholic cases, often make a diagnosis from general paresis difficult.

COURSE AND PROGNOSIS OF GENERAL PARESIS, TABES AND SYPHILIS OF THE NERVOUS SYSTEM

In the typical cerebral cases of general paresis the course is usually rapid—dementia, convulsions, contractions of the extremities, closing the scene. Of late years, there seems to have developed a different type of the disease, longer in duration and less marked by exaltation; indeed depression or early dementia, symptomatic of the neurasthenic type, first manifest themselves. This is more often the case when tabetic symptoms are present, but may also occur when the reflexes are exaggerated from the beginning. Tabes has not changed its symptomatology as the disease is further studied; it is usually a protracted disease, pain, ataxia, vesical weakness, Argyll Robertson pupil and other cranial nerve involvements being the rule. The mental condition remains usually unaffected to the end.

Syphilis of the nervous system presents an entirely different picture, as would be expected from the pathology, which is an infiltration of granulation material either in the membranes of the cord and brain and the walls of the blood-vessels leading to their occlusion, or to tumors, i. e., syphiloma. It gives local symptoms—cerebral paralysis, focal epileptic seizures, cranial nerve-lesions, transverse myelitis, etc. Conditions acute in type are not necessarily permanent, as the infiltration may be absorbed and complete recovery take place. The prognosis is unfavorable in general paresis and tabes, although in the latter all the symptoms may be stayed in their course; no destroyed tissue is ever renewed. In syphilis complete recovery may at times take place.

TREATMENT

I shall refer only to the new remedy, salvarsan; as yet, in the parasyphilitic affections, it is probably as ineffective as mercury and potassium iodid. In syphilis it is certainly very active in its results, in certain manifestations more effective than mercury and potassium iodid. Whether its effect in future involvement of the nervous system is to be permanent is still a question.

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ABSTRACT OF DISCUSSION

Dr. C. R. Woodson, St. Joseph, Mo.: The time at which paresis or tabes of the central nervous system manifests itself depends largely on the resisting capacity of the individual. That paresis and tabes are one and the same, pathologically speaking, I think is almost universally admitted. With paresis and tabes, repeated Wassermann tests will show a large percentage (I believe Mot says over 70 per cent., but this I consider too low) of positives. The time at which the local or focal symptoms of lues of the central nervous system assert themselves depends largely on the habits of the individual. I believe also that it is admitted that the patient's habits in addition to lues constitute a necessary or an important factor in causes of paresis.

This is indicated by the fact that we have so much less paresis in women than in men. That paresis is increasing no one pretends to deny. I am strongly inclined to agree with those who say, "No lues, no paresis and no tabes." There is not much reason for confusion in the diagnosis. The first and prominent symptoms of paresis are mental changes. The earliest mental manifestations are irritability, a disregard for others and for ethics, and an Argyll Robertson pupil; musicians assert also that they can detect early discord in vocal efforts. One of the most prominent symptoms associated with paresis is observed in the voice, owing to a vibratory twitching of the muscles of the tongue, and a disposition to get in too many r's and t's. Associated with anything like advanced cases, we have a pronounced muscular spasm of the face. In the majority of patients we have pronounced grandiose ideas, and later on, marked mental enfeeblement. In different cases, of course, the symptoms are quite different. In the last or third stage, when there is a pronounced mental enfeeblement, almost any nurse can recognize it. Tabes is confined to the cord in most instances, but we may have tabes associated with paresis, or paresis associated with tabes, with characteristic symptoms of both. The symptoms that occur as a result of lues, *per se*, are almost always characteristic cranial nerve involvements. We have, pathologically speaking, many things different in paresis and tabes. In lues of the central nervous system, we have endarteritis, meningitis and gumma, which are all inflammatory in character, affecting different tissues. In paresis there is a hyperemic condition, and later on obstruction of the vessels and an atrophy of tissues, subdural hemorrhage and subdural hematomas, either of which may be as large as my two hands, with a pronounced atrophy on one side of the brain, most frequently the left, which is, perhaps, one-fourth or one-third less than the normal weight.

Dr. George A. Moleen, Denver: In regard to the time of infection, I think while we would prefer to say that it has a definite time of involvement, yet we do find cases of tabes following close on the primary infection; with Dr. Bramwell of Edinburgh within the last year I saw a patient who had crises within a year of the initial infection. I have myself seen a very rapid type of paresis, with a fatal termination within eighteen months of the initial sclerosis. Admitting that these are not common, however, the fact that they do occur places us in an uncertain position in setting any definite time as far as the beginning is concerned. I admit, however, that as a rule, it begins in from ten to fifteen years. We must remember, however, that a great many of the cases of specific infection which eventually result in the degenerative processes of tabes or general paralysis, are in the patients who have been partially or insufficiently treated; the patients who have had from one or two to six months' treatment, and then ten or fifteen or twenty years afterward have shown involvement of the posterior columns, or a diffuse involvement of both the nervous system and the brain. Often, we may say, we have found to exist an optic atrophy as long as twenty years before the symptoms of either paresis or tabes have been apparent.

In regard to the Argyll Robertson pupil, I believe an important observation to be the comparison of the reflex to light and that of accommodation, noting and comparing the excursion of the pupil under the two conditions, the diminution or the retardation of the action to light if it is not present, being of considerable importance, to that of accommodation; and especially is that true, I think, in tabes. Paralyses in tabes perhaps occur with less frequency, although we not infrequently find paralysis of the ocular muscles.

I have heard the statement repeatedly made that optic atrophy is more rare in general paresis than in tabes. That is perhaps true in the eastern clinics, but in Colorado I have seen a number of cases in which optic atrophy was observed early, and the diagnosis confirmed later by the apoplectiform seizures and the typical course of a general paresis. Important in differentiating paresis from tabes I believe to be the peculiar tremor, and that of the tongue and lips, together with the epileptiform and apoplectiform seizures. I have thought for some time that there was a distinctive characteristic in the tremor, in that it was very fine, sometimes not observable by the eye, but rather resistant to opposed pressure, i. e., by opposing the hand which is held forward rigidly, usually tremor diminishes or disappears, while in paresis it generally persists, vibrating the entire arm.

One characteristic is a very strong differential point. It has been observed that chemical substances, as well as the syphilitic virus, enter the spinal fluid earlier in general paresis than in other conditions, as a result of an increased permeability of the membranes. Consequently the Wassermann reaction is positive in the cerebrospinal fluid early in paresis, while it is negative even in syphilis of the nervous system.

Dr. Andrew William Hoisholt, Stockton, Cal.: I think it is the rule that we do not see mental symptoms outside of symptoms of general paralysis in connection with tabes, but of recent years papers have appeared in Germany describing a certain psychosis following tabes; that is, the typical tabes of years' standing; and then suddenly an acute psychosis developing that had none of the ear-marks of general paresis. Within the last year I have had a case from San Francisco at the Stockton Asylum that had for five years presented the ordinary symptoms of tabes and then suddenly, within a few days, developed symptoms of a psychosis terminating fatally in about six or seven weeks. It was a question with me whether it was an acute general paresis, such as Altzheimer has described or not. I am satisfied that there are cases of tabes associated with psychotic symptoms that do not resemble general paresis.

Dr. George H. Moody, San Antonio, Tex.: Does Dr. Fisher use iodid of potash in his treatment of paresis or in locomotor ataxia? In my treatment I am in the habit of not using iodid of potash in either condition. If it is true that it is not used so universally at it used to be, I would like to know if Dr. Fisher thinks that ceasing to use it so universally as formerly in these cases has given a longer life to paretics and tabetics. Those I have seem to live longer than such patients did formerly. It used to be considered that in two or three years the paretics would die certainly. It seems to me that Dr. Fisher is entirely correct in his opinion that there is quite a difficulty sometimes in making a diagnosis between paresis and locomotor ataxia if we attempt to make it earlier and at the time when we should make it if we expect even a stay in the course of the disease. Dr. Fisher has well indicated that such results may be had in locomotor ataxia, and the patient may live for many years comfortably and without such progress in the downward course of the disease. It seems to me that in a few cases in which the early diagnosis of paresis was made I have been able to see a stay in the course of the disease for some time by putting the patient at absolute rest and giving him mercury hypodermically, which I am doing considerably lately. It seems to me—and I would like to ask Dr. Fisher if it is also his constant observation—that while it is probable that there must be a basis of syphilis in every case, in those cases which I have observed there has been a history of unusual work; the patient has been on an extra strain. It seems to me that this is so in every case of paresis. It seems to me also that in every case there is a neuropathic predisposition.

Dr. E. D. Fisher, New York: Of course the majority are on the side that general paresis and tabes are one and the same disease. The highest authorities are in favor of that conclusion. We do indeed have a similar pathologic process. I have viewed this matter, however, from observation based on many hundreds of cases in the hospitals, in the dispensary and in private practice, and from the clinical side it does seem to me—it is easily proved—that there is a decided difference between tabes and general paresis. I take that position, especially at this time, knowing that the majority of the opinions of men of experience are against it. I gave it out a year ago at the meeting of the American Neurological Association.

In regard to the question, whether or not these cases are due to insufficient treatment in the early stages, that is always a subject of doubt. The most carefully treated patients will have it, and others, in my experience, and those with hardly any treatment may not.

In regard, also, to the use of mercury and the iodids in tabes and general paresis, I would say this, that my uniform treatment in tabes is—while I may not have very much faith in it—the use of the unguentum hydrargyri and the iodids. If I notice a rapid progress in the optic atrophy, I then discontinue that plan of treatment. I think the opinion is that potassium iodid in general paresis is of very little use. In hospital practice, as I understand it, it has almost ceased to be used. The improvement that occurs at times in hospital cases is due largely to the fact that patients are relieved from external irritation, and often as soon as they are released from the hospital a relapse occurs.

There is only one other point, and that is that we must make the distinction between the so-called tabetic type and the cerebral type of general paresis. I think the cerebral type, as a rule, belongs to the old class of cases of general paresis in which we saw the rapid progress of the disease with a fatal termination in the course of three years. The tabetic type seems to be more common to-day than the cerebral. In these latter cases there is depression and dementia which go on gradually increasing and lasting often ten years.

A PHENOL (CARBOLIC ACID) INJECTION TREATMENT FOR SPHENOPALATINE GANGLION NEURALGIA

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In 1907,[1] I described the neuralgia which starts in the sphenopalatine ganglion and gave what I thought to be its etiology. Since then I have described it more in detail,[2] and mentioned the treatment of the ganglion by injection of alcohol into it, taking my idea from this treatment of the peripheral nerves (Schloesser). From the statements of various operators (V. P. Blair,[3] H. T. Patrick[4] and others) this treatment of the nerve-trunks usually gives satisfactory results (relief for one and a half or two years, if not permanent relief). It is recommended by Cushing[5] that it always be tried before the Gasserian ganglion be removed. As a treatment for the severe grade of sphenopalatine ganglion neuralgia, however, it has not been satisfactory in my experience. It has given relief for short periods of time only, sometimes for as little as two weeks. The alcohol always causes considerable, sometimes very great, pain at the time of injection, which may last several days. Because of this pain I have tried the combinations of alcohol with chloroform, novocain, cocain and eucain, which have been recommended to obviate this unpleasant feature. Although these admixtures prevent partly or wholly the pain caused by the unmodified alcohol, they have not proved any more nearly permanently curative than the unmodified alcohol.

For the lesser grades of this neuralgia, alcohol, simple and combined as above, has proved curative.

It has, from the beginning of my experience, seemed exceedingly desirable to find a drug or combination of drugs that might be used for this purpose, and in this way that would at once be painless and permanently curative. The use of phenol, added to the alcohol, seems to accomplish these results. I have found that 5 per cent. phenol in alcohol injected into the sphenopalatine ganglion in small amount (one drop approximately) is painless and apparently curative for all grades of this neuralgia. Whether this combination would prove painless and curative for the peripheral nerves I do not know; but I see no reason why it should not.

It must be remembered that by my method[2] I inject a cocainized ganglion, the cocain having been soaked into it from the mucous membrane covering the sphenopalatine foramen. The straight needle is then introduced from before, backward and upward under the posterior tip of the middle turbinate, a distance of from 5 to 6 mm. (3/16 to 1/4 inch). Although I have always injected a profoundly anesthetized ganglion, the application of unmodified alcohol has ever been immediately painful. I have found that with 1 per cent. phenol added to the alcohol the immediate pain is less and the resultant benefit lasts longer. With a 2 per cent. solution, these effects were more marked; and finally, when 5 per cent. was added the application was painless. In a severe case, in which the patient was injected ten months ago (the oldest of these cases), there has not yet been a return of the pain.

History.—Patient, a woman, 50 years old and frail, had always suffered "more or less from neuralgia" in different parts of her body, had for ten years suffered severely from supra-orbital neuralgia on the left side and a characteristic sphenopalatine ganglion neuralgia on the right side which had for a number of years behaved as a migraine (recurrent pain around eye, in upper jaw, under zygoma, ear-ache, pain in mastoid occiput, neck, shoulder, scapula, axilla, arm, forearm and, when very severe, in hand or fingers).

Treatment.—I had injected this ganglion five times with unmodified alcohol, and combinations of chloroform and novocain with alcohol, obtaining relief at first for six, and finally for only two, weeks from such injections. It is now ten months since this ganglion was injected with one drop of a 5 per cent. solution of phenol in alcohol. The injection was painless and without untoward symptoms, and, so far, has been curative inasmuch as the pain has not returned. Meanwhile the supra-orbital neuralgia of the left side continues unchanged.

An equally satisfactory result for another patient is now of seven months' standing.

I have used this treatment for ten sphenopalatine ganglia (seven lesions were of the above described type and three were glaucomata, it having been found that frequently the pain of glaucoma is controllable from this ganglion[6] [Ewing]). In each case the treatment has been satisfactory, painless at the time of injection and in no wise accompanied by untoward symptoms. Occasionally a little of the original discomfort returns, when the cocain wears off, and remains for several hours or possibly a day. I have been asked specially about phenol gangrene in connection with this use of the drug. It has not followed in any of my cases. My method is to inject only one drop of the 5 per cent. solution in alcohol. I prefer to repeat the injection two weeks later should it be necessary, rather than inject a larger amount at once. This might be necessary for two reasons; first, the single application of such a small amount may not be enough, and, secondly, the solution may not have been perfectly applied—that is, it may not have reached the ganglion perfectly. I fancy that the injection of a large quantity or a stronger solution might be followed by bad consequences.

It may be urged with justice that these results are too few in number, and not of sufficient time standing, to permit of conclusions. As far as they have gone, however, they are vastly more satisfactory than I have obtained by other methods.

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CONGENITAL IMPERFORATE ANUS, WITH OCCLUSION OF ENTIRE COLON

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The patient was a male infant, born Oct. 13, 1911. The parents are healthy, but father is 71 years old, and mother, 36. The patient was the second child born to this couple. The other child, aged 5, is healthy but is backward and otherwise defective mentally. In the case under consideration labor was normal, with the exception of some dystocia due to enormously distended abdomen due to gas. It was found that no opening existed between the anal aperture and the rectum. This was punctured and the opening dilated, partially relieving the distention. The child lived four days; it took very little nourishment, but there was no vomiting. The distention remained throughout. Autopsy revealed that while the small intestines were normal, the colon was undeveloped, being about 1 cm. in diameter, and was constricted at intervals of about 8 cm. throughout its entire course.

Therapeutics

PRURITUS ANI

Whether one regards pruritus ani as a distinct disease, or only as a symptom of some underlying condition, it must be realized that the disease or condition, whichever one chooses to call it, is a very frequent one. It is often, also, a very obstinate and troublesome one to treat successfully. There is therefore a certain propriety in frequent discussion of the subject, even at the risk of considerable repetition. In order to be certain that good therapeutic measures are not forgotten, they must be frequently brought to mind. It is not proposed at the present time to treat exhaustively this subject, but to recall some of the more important and more useful aids to successful treatment, and to mention also some which have not been recently referred to.

The physician should not advise any course of treatment or prescribe any medicine until he has made a careful examination of the patient in order to determine, if possible, what the underlying cause of the affection is, or if he cannot find that cause, at least to exclude the common causes which, when they are present, may be easily detected. These causes are the *Ascaris vermicularis*, a fistula *in ano*, and fissures. Hemorrhoids may be present, but are less frequently accompanied by pruritus. Small ulcers in the mucous lining of the rectum, and especially between the mucocutaneous border and the internal sphincter, are frequently overlooked, though they are often associated with pruritus. Some writers assert that these are present in the majority of cases of pruritus ani.

If none of these conditions is present, it may be possible to learn of a condition of excessive moisture on the skin in the anal region, due to abnormal secretion of the sudoriparous or sebaceous glands, which is encouraged and increased by the friction of the parts and by the local heat induced by exercise. Sometimes a condition of irritable spasmodic contraction of the sphincter may be discovered.

If none of the above conditions is found, inquiry should be made as to the presence of chronic constipation, of intestinal fermentation, especially of putrefaction of proteins, and of congestion of the vessels of the rectum attendant on congestion and sluggish circulation in the liver.

Having made inquiry with reference to all of these conditions which may be present in different cases of pruritus ani, one is better prepared to adopt the line of treatment which may promise some hope of success.

The diet should be regulated. Alcoholic beverages, and often tea, coffee and even cocoa should be avoided. Sugar should be greatly reduced. Eating between meals, and eating to excess should be forbidden.

Regard should be had for the clothing. Overheating of the body is undesirable, and it is better, except in the very coldest of winter weather, to wear linen rather than wool next to the skin.

All the excretory functions should be maintained in a state of activity. If the urine is of high specific gravity and strongly acid, alkalies and plenty of water should be prescribed. If the bowels do not move freely every day, laxatives should be given. If the patient is plethoric and stout, a saline laxative may be ordered before breakfast; if the patient is thin and anemic and has a poor appetite, a small dose of rhamnus purshiana should be prescribed, to be taken three times a day, before eating.

If the *Ascarides vermiculares* are present, an enema of a strong solution of sodium chlorid, or an infusion of quassia should be used once a day for four or five days.

If hemorrhoids or a fistula are present they should be treated by operation. If a fissure or an ulcer has been found, it should receive proper treatment. This means stretching the sphincter ani and applying nitrate of silver or the actual cautery to the sore.

In most cases there is some enlargement of the hemorrhoidal vessels, even if actual hemorrhoids are not present. For this condition, some time ago (*New York Med. Jour.*, July 29, 1905) Dr. Lewis H. Adler, Jr., of Philadelphia, recommended the injection of the following:

℞	Gm. or c.c.		
Fluidextracti ergotæ	8		
Fluidextracti hydrastis	8	or	
Tincturæ benzoini compositæ	8		āā fl. ʒii
Fluidextracti hamamelidis	60		fl. ℥ii

M. et Sig.: Inject 1 or 2 teaspoonfuls, daily, as directed. Shake.

It has been frequently recommended to paint a strong solution of nitrate of silver on the skin around the anus, such an application to be repeated several times at intervals of four or five days.

If the patient is not sufficiently annoyed by the trouble to lead him to follow up a regular course of treatment, other palliative measures will sometimes afford considerable relief.

Two drugs are exceedingly useful in relieving itching. These are phenol (carbolic acid) and menthol. The phenol may be used in aqueous solution, or in an ointment; which is preferable depends somewhat on the condition of the skin. If the skin is dry and rough, an ointment is often useful. If, on the other hand, the skin is smooth with a tendency to be moist, an aqueous mixture is often preferable. At the same time, it must be remembered that water usually acts as an irritant to the skin. To prevent this a small amount of glycerin may be used, as in the following combination:

℞	Gm. or c.c.		
Phenolis liquefacti	5		fl. ʒiss
Glycerini	10	or	fl. ʒiii
Aquæ q. s. .... ad	100		ad fl. ℥iv

M. et Sig.: Apply externally.

In many cases an alkaline wash is very useful. For this purpose the alkali may be combined with menthol as in the following prescription:

℞	Gm. or c.c.		
Mentholis	50		gr. viii
Sodii boratis	2	or	
Sodii bicarbonatis	2		āā ʒi
Glycerini	10		fl. ʒiii
Aquæ q. s.	ad 100		ad fl. ℥iv

M. et Sig.: Apply externally.

Pruritus ani may at times be due to microorganisms, in which case treatment with antiseptics is valuable. Many of the remedies used in this itching, notably phenol and nitrate of silver, belong to this class.

A strong ointment of phenol may be used, as:

℞	Gm. or c.c.		
Phenolis liquefacti	3	or	♏ xlv
Adipis benzoinati	30		℥ i

M. et Sig.: Apply externally.

Or,

℞	Gm. or c.c.		
Hydrargyri chloridi mitis	4	or	ʒ i
Adipis benzoinati	30		℥ i

M. et Sig.: Apply externally.

If much moisture is secreted on the affected parts, dry powders containing oxid of zinc, talc, or starch, either alone or in combination, will be found very useful. A strip of surgeon's lint held in place by a T bandage is useful in keeping the opposed cutaneous surfaces separated and in absorbing the moisture.

Other simple applications sometimes successful in relieving this itching are strong solutions of magnesium sulphate, solutions of chloral hydrate, or ointments containing chloral hydrate, sometimes combined with menthol or camphor. Also the simple frequent application of solutions of ordinary yeast should be again urged. A yeast cake is dissolved in a pint of water (or half a yeast cake to half a pint of water), and the solution is applied freely to the anal region. This simple treatment often not only causes relief, but, at least, temporary cure of the terrible itching.

A persistency of this troublesome condition in spite of ordinary treatment should cause the trial of *x*-ray applications. Such treatment has proved very frequently successful, and has established cures.

A very radical surgical treatment has been advised and sometimes used, viz., to dissect up the skin in the region of the diseased area, but leaving such skin attached at the extremities of elliptical areas. Of course as the skin is dissected from the subcutaneous tissue the nerve endings are divided. The skin is then stitched back in place and allowed to heal, and the nerves not again perfectly regenerating, the itching does not recur. Of course such radical treatment is rarely indicated.

MISTURA GLYCYRRHIZÆ COMPOSITA: BROWN MIXTURE

Let us hope that this preparation will not be official in the ninth revision of the United States Pharmacopeia. If a physician wants to use or prescribe this preparation, he could refer to the eighth revision, i. e., the last Pharmacopeia. Let this preparation be forgotten and go into innocuous desuetude. Why? Because it is an absurd mixture, and it is a shame to put it into a perfectly good stomach. Even if a patient happens to have a cough, why should his stomach be upset with any nasty, sweetish cough mixture? Also, how often is it but one ingredient of a more elaborate cough mixture, and it is even called and termed a "vehicle for ammonium chlorid."

Let us study the reason for this heresy against the much-loved brown mixture. What does brown mixture contain?

Mistura glycyrrhizæ composita, U. S. P., contains:

Pure extract of glycyrrhiza		3 gm.
Syrup (sugar)		5 c. c.
Acacia, granulated		3 gm.
Camphorated tincture of opium		12 c. c.
Powdered opium	0.4 gm.	
Benzoic acid	0.4 gm.	
Camphor	0.4 gm.	
Oil of anise	0.4 c. c.	
Glycerin	4. c. c.	
Diluted alcohol	95. c. c.	
Wine of antimony		6 c. c.
Spirit of nitrous ether		3 c. c.
Water, a sufficient quantity to make		100 c. c.

Suppose, to the above, as is often done, is added ammonium chlorid, and perhaps some other syrup, and often codein or heroin, and let any physician who orders brown mixture decide whether he wishes this ancient, fantastic absurdity perpetuated in the ninth revision of the United States Pharmacopeia.

It seems a shame to continue to give bad-tasting, sugary preparations in the attempt to combine prescriptions for coughs. There is practically no activity whatsoever, except to upset the stomach, in any of the cough syrups. If ammonium chlorid is selected as the expectorant desired, and there is none better, let it be administered in a sour preparation, or given in simple water, with or without a flavor, as peppermint or wintergreen. A disagreeable after-taste may be quickly eliminated by a taste of orange or lemon, as the patient desires; or the ammonium chlorid watery solution may be administered in an effervescing water.

Disinterestedness in Research.—The scientific investigator may not seek particularly for knowledge which can meet at once some material need. Like the artist, he is more prone to direct his efforts toward that which will for the moment properly gratify an absorbing interest of his mind. If the new knowledge has, when discovered, an immediate practical value, so much the better; but the direct search for understanding has certainly always proved the most effective motive for scientific labors. Because of this attitude the investigator should not be regarded as self-centered, or neglectful of duties to the general good. He is serving best his own generation in so far as he makes his standard of work thorough and honest. In so far as he does that, he is serving best future generations as well, for only thus can the results of his work be used later as a basis for further advancement. And since the interrelations of phenomena are so manifold, the conviction is justified that every bit of honest work can finally be utilized in forming the body of truth. Although the investigator may labor primarily to satisfy his own curiosity, and to secure for his craftsmanship that inner approval sought by every conscientious worker, nevertheless he is making permanent additions to the world's values. There is about his life, as Professor Royce has noted, "an element of noble play. . . . One plays with silk and glass and amber, with kites that one flies beneath thunder clouds, with frog legs and with acid. The play is a mere expression of a curiosity which former centuries might have called idle. But the result of this play recreates an industrial world. And so it is everywhere with our deeper curiosity. There is sense in which it is all superfluous. Its immediate results seem but vanity. One could surely live without them, yet for the future and for the spiritual life of mankind, these results are destined to become of vast import."—Cannon in *Science*.

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SATURDAY, DECEMBER 30, 1911

CHLORIDS AND GASTRIC SECRETION

Inasmuch as disturbances in gastric digestion and consequently the sequence of changes involved in the alimentary processes are closely connected with the production of hydrochloric acid in the stomach, it becomes of the utmost importance to learn the factors by which this is regulated. The secreted acid is obviously derived from the chlorids of the body. The chlorin supply of the organism must regulate or modify the production of hydrochloric acid; in any event a level must be attainable at which a deficiency in chlorids may make impossible the secretion of an acid gastric juice. It is commonly maintained that a salt-free diet, i. e., one markedly deficient in chlorids, will promptly lead to failure of hydrochloric acid secretion. Furthermore, the idea is quite current that a continued elimination of chlorids in the urine tends, in the absence of daequate salte intake, rapidly to deplete the available store of chlorin in the body.

Recent studies by Rosemann[1] have served to define more clearly some of the consequences of a diet poor in salts. It is a conspicuous fact, brought out by these experiments on dogs, that a marked decrease in the total bodily store of chlorin cannot readily be induced by such a dietary. The elimination of chlorids becomes exceedingly slight (as has often been observed in starvation in man); and inasmuch as even a specially selected food intake almost invariably contains a little salt, the decrease in the total available chlorin ordinarily is almost insignificant. Indeed, the removal of gastric juice (by fistula) is a more effective means of reducing the chlorin reserve than is the loss through the kidneys.

When an actual reduction of the chlorin supply within the organism is accomplished, by some device such as has just been referred to, the secretion of gastric juice at once decreases in quantity and acidity. Feeding of salt is followed by a speedy and striking improvement. Rosemann's investigation leads to the conclusion that only about 20 per cent. of the total normal chlorid reserve of the body is available for the needs of gastric secretion. Clinically it is of particular interest to note that every diminution in the chlorin store leads to a noticeable decrease in appetite. When gastric secretion completely ceases, the animals decline all food. This at once suggests that the sensation of hunger is perhaps associated with the chlorid content of the gastric cells. On this hypothesis stored chlorid might lead to a feeling of hunger which is relieved by feeding with its consequent discharge of chlorids in the form of hydrochloric acid. In the "fictitious" feeding of Pawlow's esophageal fistula dogs it is noted that they gradually become indifferent to the food offered to them, even though none of it is actually absorbed. It is suggested that the loss of the capacity of storing chlorid owing to pathologic changes in the gastric cells may account for some of the anorexia and consequent undernutrition encountered in many diseases.

Rosemann has further pointed out that the secretion of gastric juice is intimately dependent on the general nutritive condition of the individual—quite apart from its chlorin reserve. Inanition does not deplete the latter to any extent; yet secretion may be distinctly impaired. Evidently the secretory cells are damaged by undernutrition, so that even with adequate inorganic materials at their command they no longer give a normal response. "Starvation" cures or highly restricted diets designed to promote gastric "rest" may thus be more detrimental to the stomach, because of the attendant undernutrition, than is a moderate degree of gastric activity which contributes to an improved nutritive status of the individual and the digestive glands. The bearing of this on the current tendency toward a more liberal diet in certain types of gastric disease is apparent.

THE DETECTION OF TYPHOID BACILLI IN THE EXCRETA

It is evident that so long as typhoid bacilli are being excreted in the urine or feces, the typhoid convalescent is a menace to the health of others. It is equally evident that physicians in general are making no systematic attempt to determine their presence in the excreta. The reason for this has been the difficulty of making the determination with the means at hand. The necessity for recognizing the "typhoid carriers" as such has led to much experimentation in an attempt to perfect a practical method for determining the presence of typhoid bacilli in the excreta. This would practically mean the determination of the point at which the convalescent ceases to be a menace to the health of others.

Early methods for isolating and identifying the typhoid bacilli were cumbersome in the extreme and certainly not suited to routine clinical use. Many methods and special culture media have been devised for facilitating the process. Most of these are based on the acid-production of the colon bacillus, when grown on a sugar-containing medium, as a means for differentiating it from the typhoid bacillus. If the suspected material is plated out in an agar medium containing dextrose and some coloring matter such as litmus, which changes color in the presence of acid, the zone of decolorization surrounding the colon colonies distinguishes them from the typhoid colonies. Each of the special methods devised for accomplishing this has its points of superiority and of disadvantage, and each requires a good working familiarity with the organisms and mediums, and is fairly satisfactory if employed by one who is thoroughly familiar with the variations and peculiarities of the typhoid colonies on that particular medium.

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[1] Rosemann: Die Magensaftsekretion bei Verminderung des Chlorvorrates des Körpers, Arch. f. d. ges. Physiol. (Pflüger's), 1911, cxlii, 208

In addition to the methods already successfully used, such as Endo's, Hiss', Conradi-Drigalski's, and Hesse's malachite green, the technic of which is described in recent text-books on bacteriology, a recent modification of Endo's method offers many advantages. This method is described by Major Russell of the Army Medical School,[1] and is being employed in army hospital service. The advantages claimed are: ease of preparation of the medium; the fact that the medium will keep from two to three weeks; inhibition of the growth of other intestinal bacteria by the medium, which, meanwhile, remains favorable to the growth of typhoid bacilli; relative shortening and simplification of the isolation process.

As better laboratory methods furnish us with the means for detecting typhoid bacilli in the excreta, the public has a right to demand that health authorities exercise the same rigid supervision over typhoid convalescents as is practiced with respect to other infectious diseases. The methods are well within the range of practicability for city boards of health and hospitals. It is to be hoped that physicians, in behalf of the public good, will not be remiss in securing the adoption and utilization of the means which scientific methods have placed at hand. Examination of urine and feces for typhoid bacilli, before the patient is readmitted to community life, should be instituted as a routine procedure by those who have supervision of conditions affecting public health. "Typhoid carriers" may thus be detected and needless epidemics avoided.

BETTER PAY DESERVED BY THE ARMY HOSPITAL CORPS

The decline in efficiency of the Hospital Corps of the United States Army has been made the subject of an official report by the surgeon-general to the chief of staff. As a result, the American Pharmaceutical Association has taken up the cause of the military pharmacists and proposes to urge legislation which will increase the efficiency of the Hospital Corps, in accordance with the recommendation of the surgeon-general. The functions of this corps range from those of kitchen helper to those of the trained nurse; it includes the pharmacist, clerk, photographer, ambulance driver and orderly. The nursing of the sick, the sterilization of instruments and dressings, the compounding of medicines — all the details of an intricate system of property accounting and sick records are in the hands of the members of the corps. They are the only nurses at army hospitals, except at four or five general hospitals in the United States and in the Philippines.

The federal government is under a moral, if not a legal, obligation to furnish efficient and capable nursing and pharmaceutical service to the Army. The government should also set an example in the organization and service of its hospitals. The sick soldier should not be left to the untrained and incompetent. From the privates of the Hospital Corps are drawn its non-commissioned officers. If the privates are not carefully selected men of education and reliability, the non-commissioned officers will not be much better. Supervision of military hospitals, the sick, the attendants and the equipment requires no slight qualifications. When to this is added proficiency in pharmacy, nursing and minor surgery it is evident that the government must offer better inducements if it expects to obtain men with the necessary ability.

The Army Pay Bill of 1908 gave increased pay to the various grades, averaging 40 per cent. and in some cases as high as 80 per cent. increase. It gave the Hospital Corps not more than 20 per cent. increase, thus placing it at a decided disadvantage in attracting the best class of privates. All the branches of the Army are practically in competition with one another for educated and reliable men. The more intelligent the man, the more carefully he considers and selects the branch of service which offers the best inducements in pay and in opportunity for advancement. In these respects, the Hospital Corps to-day is the lowest of any branch of the service.

The Surgeon-General of the Army submitted a memorandum to the chief of staff, August 3, looking to a modest increase in the pay of the Hospital Corps, an increase rendered necessary by the practical impossibility of obtaining men of any description for this branch of the service. The surgeon-general is held responsible for the health of the Army and the efficiency of its medical service. His opinion is that of an unprejudiced expert. The Chief of Staff of the Army, himself a trained physician of no mean professional attainments, will we hope, agree with the surgeon-general. There should be no opposition from any quarter to legislation that would remedy an obviously dangerous condition. The American Medical Association, no less than the American Pharmaceutical Association, is interested in the needs of the Hospital Corps of the Army and its members should give such assistance as is in their power to aid in the passage of a bill increasing the pay of the Hospital Corps

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[1] Russell, F. F.: The Isolation of Typhoid Bacilli from Urine and Feces, with the Description of a New Double Sugar Tube Medium, Jour. Med. Research, 1911, xxv, 217.

MEDICAL ASPECTS OF IMMIGRATION

The increasing interest in questions of public health and preventive medicine lends special significance to the recent report of the Commissioner of Immigration for the Port of New York.[1] and of the chief medical officer at Ellis Island.[2] Of the total number of immigrants into the United States for the year, 749,642 entered through New York. Of these, 16,910 were certified by the medical officers at Ellis Island for physical or mental defects, and 5,296 were deported (not necessarily for medical reasons alone). Among 209 immigrants found to be mentally defective were eleven idiots, twenty-four imbeciles, ninety-four feeble-minded, ten epileptics and seventy insane. Under the classification of loathsome and dangerous contagious diseases were 1,361 cases distributed as follows: trachoma 1,167, favus sixty-eight, tinea tonsurans fifty-four, gonorrhea twenty-three, sycosis barbæ twenty-three, venereal ulcer fourteen, syphilis ten, and uncinariasis two. Under the heading of defects affecting ability to earn a living were 11,072 cases, half of which were senility, and the remainder chiefly hernia, poor physical development, varix, cardiac disease, spinal curvature and other deformities, defective vision, lymphadenitis, exophthalmic goiter, arteriosclerosis and deafness. Disease or defect of a minor degree, not affecting the ability to earn a living, was found in 4,232 cases.

In the immigrant hospital on Ellis Island, 6,141 aliens were treated; 347 were mentally diseased, including 132 landed aliens who had become public charges. Forty deaths and thirteen births were recorded.

Commissioner of Immigration Williams calls attention to two points of special interest. One is the insufficient size of the present medical quarters on Ellis Island for the proper execution of the laws relating to physical and mental defectives. The other is the fact that present methods of medical inspection are entirely inadequate for the detection of feeble-mindedness. Mr. Williams notes the number of feeble-minded children in the New York schools who have passed Ellis Island and states that one reason that so many pass through is the insufficiency of time and facilities for thorough examination as to mental condition. He emphasizes not only the probability of the individual's becoming a public charge, but the danger of feeble-minded offspring. This class not only constitutes a very definite social and economic problem, but also contributes largely to the criminal element.

A moment's reflection shows that this stream of immigration drawn from every European country through Ellis Island affords an unparalleled opportunity for scientific investigation, besides imposing on us an onerous obligation of national health protection. So far as circumstances permit, this duty is performed by the medical officers of the Public Health and Marine-Hospital Service at the various immigration stations. But enlargement of the medical facilities at Ellis Island, by far the largest port of entry, as recommended by Commissioner Williams, would make possible a much more effective inspection for feeble-mindedness, and would decrease the number of dangerous or loathsome contagious diseases which now escape detection.

Of equal importance are the lines of special investigation for which Ellis Island affords a unique opportunity. An example in point is the recent work of Passed Assistant Surgeon H. M. Manning,[3] who found in 412 unselected patients at the Immigration Hospital, that over 40 per cent. were infected with intestinal parasites, and of these 0.24 per cent. harbored the hookworm. In view of the wide agitation over the hookworm problem, and the vast resources in money and effort now being directed to its eradication in this country, certainly this constant stream of fresh infection pouring in without hindrance from foreign lands merits grave consideration.

A rare field is presented for the careful study of trachoma, tabulation of accurate details as to family and personal history, social conditions, race and place of residence, as well as for the purely experimental study of the disease in animals, on a laboratory basis. The large number of trachoma cases would lend particular value to statistics and conclusions drawn from such studies. Other diseases of the eye are also found in abundance. Deformities and skin diseases furnish numerous examples. With little additional work, important data for anthropology could be collected during the routine inspection. In no wise should the immigrant be exploited, nor would he be in the course of such investigations. Considerations of public health and preventive medicine as well as the advancement of medical science and eugenics make such work desirable.

THE INDEX

This issue contains the index of the current or fifty-seventh volume of THE JOURNAL, including the index to the Current Medical Literature. This is the only index of medical literature which contains references to articles published up to within thirty days of the time the index goes to press. While it does not contain all the medical articles published the world over, it does, we believe, list all the articles in the best medical journals of the world. Approximately 150 periodicals in the English language and seventy-five in the leading foreign languages, including German, French, Italian, Dano-Norwegian and Swedish, are listed in the Current Medical Literature Department. A point of interest is the fact that each issue of these journals is listed regularly, irrespective of whether any abstracts are taken from it or not; the titles are always published, so that any one can at any time gain an idea of the scope of the contents of any particular periodical listed in this department.

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[1] Williams, William: Ann. Rep. Commissioner of Immigration, Ellis Island, N. Y., for the fiscal year ending June 30, 1911.

[2] Stoner, George W.: Ann. Med. Rep., Ellis Island, N. Y., for the fiscal year ending June 30, 1911.

[3] Manning, Herbert M.: Prevalence of Intestinal Parasites Among Immigrants, Med. Rec., Sept. 30, 1911.

The Index is divided into three parts, the General Index and the two divisions of the Current Medical Literature Index, Subjects and Authors. The General Index includes the references to all the matter which appeared in The Journal, whether as original contributed articles or as editorials, abstracts of various kinds, correspondence, etc. In the Subject Index are listed only the original contributed articles which have appeared in The Journal and in all other journals listed in the Current Literature Department; in other words, it is an index of medical articles only, omitting all reference to editorials, news and other miscellaneous matter. The General Index really belongs to The Journal; the Subject Index belongs to many journals. Under Authors appear the names of all those who have contributed articles to The Journal and every other medical journal listed in the current literature, as well as the names of those whose papers are abstracted in medical society reports in The Journal.

The "Guide to Current Medical Literature," under which title the index appears in pamphlet form,[1] contains, in addition, the titles of the articles listed, arranged chronologically and by journals, as in the Current Medical Literature Department. It is issued in separate form for convenience—to make it unnecessary to handle the bound volume of The Journal. It forms an almost complete index medicus for the six months which it covers, and our readers will be surprised to find how completely they may depend on it when they become accustomed to its use.

Current Comment

THE SAFETY OF OYSTERS AS FOOD

In a number of instances epidemics of typhoid fever have been traced to oysters taken from polluted waters. On account of their nature and composition oysters seem to afford a good pabulum or medium for the preservation or multiplication of typhoid bacilli or organisms of the colon group. Their breeding-grounds are sometimes so located with reference to the sewage discharge of cities that the possibility of their contamination with pathogenic bacteria of the colon type is great. After the passage of the national Food and Drugs Act this was one of the first problems to receive consideration. It was studied systematically in its various phases. This resulted in rulings by the Food and Drug Inspection Board which made it unlawful to ship or sell in interstate commerce oysters or other shell-fish taken from polluted beds or to ship or sell shucked oysters to which water or ice had been directly added. The bacteriology of the question was studied by Stiles,[2] and the report of his findings with reference to clams and oysters is interesting. Bacteriologic examination of the oyster liquor in the shells of oysters collected from miscellaneous sources and opened under aseptic conditions showed a maximum count of 26,000 and a minimum of 150 organisms per cubic centimeter, and a maximum of the *B. coli* type of 100. Twenty-one of thirty-six samples showed no *B. coli.* Nine of the remaining fifteen samples showed more than one *B. coli* per cubic centimeter. The bacteriologic examination of hard clams collected from miscellaneous sources and opened under aseptic conditions showed a maximum count of 4,300,000, and a minimum of 2,000 organisms per cubic centimeter, with a maximum of 1,000 of the *B. coli* type. Many of these clams were collected from highly polluted waters. Bacteriologic examinations of thirty-three samples of shucked market oysters collected in January showed a maximum count of 4,750,000 and a minimum of 15,500 organisms per cubic centimeter, with a maximum of 1,000,000 of the *B. coli* type. These oysters were opened under ordinary commercial conditions, kept with ice in contact in uncovered containers. Oysters may be contaminated from the following sources: contaminated grounds; polluted water in which they are floated; insanitary shucking houses; washing with impure water and contaminated ice; unclean methods in handling, packing and shipping. Stiles therefore concludes that shucked oysters as ordinarily found in the market contain more bacteria per given volume of liquor than oysters opened directly from the shell under clean conditions; the bacterial content of opened market oysters may include numerous colon bacilli and streptococci and not only is each of these organisms evidence of fecal contamination, but when they are present in large numbers, as in some of the instances noted above, their toxins may cause gastro-intestinal derangements of a serious nature if consumed raw. Even when grown in unpolluted water, because of unclean methods of shucking and handling, they may be contaminated and rendered unfit for food.

TETANY OF THE VISCERA

Modern research has revealed the intimate connection of the nervous system with the organs of vegetative life, and especially with those regulating agents of the internal economy, the glands of internal secretion. This close relation is sometimes revealed by the anatomic structure. The adrenals and the pituitary have very close anatomic connections with the cells and fibers of the nervous system. But that the connection is really after all a chemical one is shown by many facts. The ovary removed from its nervous supply and implanted even in the abdominal wall still continues to exert the influence which, according to modern ideas, must be attributed to an internal secretion. Another striking example of such a chemical influence is afforded by the relation of the parathyroids to the irritability and spasmophilic disposition of the nervous system that culminates in tetany when these glands are removed. That the area over which this increased irritability is exhibited is greater than has been commonly supposed is shown by the researches of Falta and Kahn.[1] These investigations show that the abnormal condition of the nervous system in tetany extends to the sympathetic and autonomic nervous system as well as to the nerves of sensation and voluntary motion. There is thus a "tetania viscerum" as well as a "tetania membrorum." This condition is shown both by tests which indicate an increased irritability of the internal organs and by actual symptoms of irritation. The former are to be compared with the signs of Trousseau and Chvostek and that of Erb obtained by mechanical or electrical irritation of the voluntary nerves and muscles, while the spontaneous symptoms are mostly to be regarded as the results of internal spasms corresponding to the spasmodic contractions of the muscles of the hand in external tetany. In the investigation of internal irritability, Falta makes use of the specific irritant action of two therapeutic agents as revealed by modern pharmacology. Epinephrin is employed to stimulate the sympathetic nerves and pilocarpin the autonomic. The specific action of pilocarpin, shown by increase in the flow of tears and in increased perspiration is also revealed in a striking manner by observation of the stomach by means of the *x*-ray. Such an examination shows in the normal stomach only slight changes under small doses of pilocarpin, but the stomach of the individual affected with tetany shows the phenomena of acute dilatation, cessation of peristalsis and marked increase in the size of the stomach. This use of a chemical irritant to demonstrate the condition of the nerves controlling vegetative life is very interesting and may point the way to a wide extension of our knowledge in the future. Not only is there a general irritability of the nervous system in this disease, but the results of spontaneous irritation belong to the symptomatology of the disease. These symptoms are, chiefly, of a spasmodic nature. Spastic contraction of the stomach with patency of the pylorus may be observed by radioscopic examination. The disturbances of the vegetative system include also important modifications of the general metabolism. Our conception of tetany is thus greatly enlarged. The picture of tetany as an affection of the ganglion cells depending on deficient activity of the parathyroids is frequently complicated by an irritation of the thyroid which results in hyperthyroidism. The close connection of the various ductless glands is thus shown, a disturbance of one sooner or later involving the others. This work suggests the possibility of the existence of a tetany of the viscera unaccompanied by external manifestations. Further experimental and clinical investigation may show a relation of some of the spasmodic affections of the viscera to abnormal function of the parathyroids and perverted calcium metabolism.

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[1] The Guide to Current Medical Literature may be obtained from the Association office, either in single copies (50 cents each) or by annual subscription (75 cents a year).

[2] Stiles, G. W.: Bacteriologic Examination of Shucked and Shell Oysters, Jour. Am. Pub. Health Assn., Sept., 1911, p. 623.

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[1] Falta, W., and Kahn, E.: Med. Klinik., Nov. 12, 1911, vii; abstr. in The Journal A. M. A., Dec. 16, 1911, p. 2033.

Vis Medicatrix Naturæ.—"We have no doubt that many well-instructed medical practitioners have not sufficiently considered what course a given disease would take if it were left to itself; and as to others, it is not possible that they should have any real knowledge on the subject. With the majority of persons a recovery will generally pass for a cure."—Sir Benjamin Collins Brodie, 1842.

Medical News

CALIFORNIA

Health Society in Los Angeles.—The Los Angeles Health Society was organized November 7, with the following officers: president, Dr. Luther M. Powers; vice-president, E. D. Ward, and secretary, Mr. A. J. Messier.

Public Health Association Meet.—At the December meeting of the Southern California Public Health Association held in San Diego, December 6, Dr. Charles C. Browning, Los Angeles, was elected president; Dr. Francis H. Mead, San Diego, vice-president, and Dr. John Ingram Clark, Santa Ana, secretary (reelected).

Personal.—Dr. John A. Reily has been appointed superintendent of the Southern California State Hospital, Patton.——Dr. H. D. Buchman has been appointed assistant superintendent of the Sacramento County Hospital.——Dr. H. Edward Castle has been elected president of the Scientific Department of the San Francisco Polyclinic, Dr. C. C. Mohun, treasurer, and Dr. Matilda Anne Feeley, secretary.——Dr. H. N. Kierulff, San Francisco, has been appointed physician to the state penitentiary, San Quentin.

Certified Dairies in San Diego.—A certified dairy has been opened in San Diego; a municipal laboratory has been established for the handling of all bacteriologic work, the testing of milk, etc., and Dr. Harold A. Thompson was placed in charge and a city ordinance has been passed to license dairies and distributors of milk. The proceeds, amounting to about $8,000 a year are to be applied to the health fund of the city.

Southern California Physicians Meet.—At the forty-fifth semi-annual meeting of the Southern California Medical Society, held in San Diego, December 7, the following officers were elected: president, Dr. Stanley P. Black, Pasadena; vice-presidents, Drs. Robert Leeper Doig, San Diego, and Thomas A. Stoddard, Santa Barbara; secretary-treasurer, Dr. John Adams Colliver, Los Angeles.

FLORIDA

Election.—The Escambia County Medical Association at its annual meeting held in Pensacola, elected Dr. Clarence E. Hutchinson, president; Dr. Clinton W. D'Alemberte, vice-president; Dr. F. A. Brink, secretary, and Dr. Warren E. Anderson, treasurer, all of Pensacola.

Sanitarium Opened.—Dr. Clyde C. Bohannon, Daytona, has opened a private general hospital and sanatorium. The house staff consists of Dr. Clyde C. Bohannon, chief surgeon; Dr. Frederick J. Walter, house physician; Dr. James E. Rawlings, associate, and Dr. Roy Howe, anesthetist.

GEORGIA

County Society Meetings.—At an open meeting of the Georgia Medical Society held in Savannah, November 14, Surgeon Claude H. Lavinder, U. S. P. H. and M.-H. Service, delivered an address on pellagra.——Richmond County Medical Society at its annual meeting held in Augusta, December 12, elected Dr. Thomas D. Coleman, president; Dr. Noel M. Moore, vice-president, and Dr. William C. Kellogg, secretary-treasurer, all of Augusta.

Personal.—Dr. James Edgar Paullin, Atlanta, has resigned as a member of the State Board of Health.——Dr. Stewart Ralph Roberts, Atlanta, has returned from Italy.——Dr. Frederick D. Patterson has been elected city physician of Cuthbert.——Dr. William V. Parramore has succeeded Dr. Edson W. Glidden, resigned, as superintendent of the Georgia State Tuberculosis Sanatorium, La Grange.——Dr. Joshua H. Gheesling, Greensboro, fell from a tree, recently, sustaining painful injuries.

District Society Meetings.—The Third District Medical Society in its meeting in Americus, elected Dr. Charles A. Greer, Oglethorpe, president, and Dr. Joseph E. L. Johnson, Roberta, vice-president.——The Eleventh District Medical Association held its annual meeting in Douglas and elected Dr. Henry C. Whelchel, Douglas, president; Dr. Wallace Williams, Folkton, vice-president, and Dr. T. J. Carswell, Waycross, secretary and treasurer.——At the annual meeting of the Sixth Medical Society, held in Macon, Dr. William J. Little, Macon, was elected president; Dr. E. B. Elder, Indian Springs, vice-president, and Dr. Irby Hammond Adams, Macon, secretary and treasurer (reelected).

ILLINOIS

Asks for City Laboratory.—The Winnebago County Medical Society at its meeting, December 12, adopted resolutions requesting the city council of Rockford to set aside a sufficient sum of money to equip and maintain a chemical and bacteriologic laboratory.

Personal.—Dr. Hartwell C. Howard, the oldest practitioner in Champaign, announces that he will retire from active practice, January 1. Dr. Howard was graduated from Starling Medical College in 1850 and has been a practitioner of Champaign County for fifty-six years.——Dr. William W. Wyatt has been elected president, Dr. William M. Cooley, vice-president, and Dr. Milo T. Easton, secretary-treasurer, of the medical staff of Deaconess Hospital, Peoria.——Dr. Elmer E. Nystrom has been elected physician of Peoria County and Dr. Charles E. Scullin, assistant.——Dr. William C. Bouton, Waukegan, sprained his ankle by a fall December 16.——In honor of Dr. George F. Butler, Wilmette, newly appointed physician of Cook County, a number of professional friends and associates gave him a luncheon at the Chicago Press Club, December 16.

Elections.—At the annual meeting of the Vermilion County Medical Society held in Danville, December 11, Dr. Lemuel B. Russell, Hoopeston, was elected president; Dr. Francis W. Barton, Danville, vice-president; Dr. Solomon Jones, Danville, secretary (reelected); Dr. Robert Clements, Danville, censor; Dr. Solomon Jones, delegate to the state society, and Dr. Elbert E. Clark, Danville, alternate.——The Monmouth Physicians' Club met December 8 and elected Dr. Harry L. Kampen, Monmouth, president, and Dr. Ralph Graham, Monmouth, secretary.——Champaign County Medical Society, at its annual meeting in Champaign, December 14, elected Dr. Theodore E. Walker, Gifford, president; Dr. Gordon W. Rice, Champaign, vice-president, and Dr. Jennie Lyons, Champaign, secretary.——Will County Medical Association, at its annual meeting in Joliet, December 14, elected Dr. Michael E. McGann, president; Dr. Hamilton T. King, vice-president, and Dr. Marion K. Bowles, secretary-treasurer.——Whiteside County Medical Society, at its annual meeting at Morrison, elected Dr. William K. Farley, Fulton, president; Dr. Edward W. Wahl, Tampico, vice-president, and Dr. William H. Perry, Sterling, secretary-treasurer.

Chicago

Appeal for Visiting Nurses.—The Visiting Nurses' Association has made its annual appeal for funds to aid in the prosecution of its work, and illustrates this appeal with a characteristic drawing by McCutcheon.

Intern Examination.—A committee of medical examiners, consisting of Drs. Alfred C. Cotton, Joseph M. Patton, Thomas A. Davis, Nathaniel A. Graves, Charles P. Caldwell, Anna M. Dwyer, W. Henry Wilson, Thomas J. Conley and William L. Noble, conducted an examination for members of the attending staff of Cook County Hospital, December 6.

The Ten-Hour Day for Nurses Upheld.—In a decision made by Municipal Judge Gemmill, December 12, the right of the city to employ women in its Contagious Diseases Hospital or any other public institution for periods longer than ten hours in a single day was denied. The prosecutions were brought under the recent amendments under the ten-hour law which seeks to regulate the hours for employment of females in public institutions in the city. The minimum fine was imposed, in the two cases cited.

IOWA

Southeastern Iowa Physicians Meet.—The thirty-sixth annual meeting of the Southeastern Iowa Medical Society was held in Washington, November 16, and the following officers were elected: president, Dr. Smith A. Spilman, Ottumwa; vice-presidents, Drs. John L. Overholt, Columbus Junction, and Samuel K. Davis, Libertyville; secretary and treasurer, Dr. Edward F. La Force, Burlington (reelected); and censors, Drs. Emmett T. Wickham, Washington; William S. McClellan, Morning Sun, and Charles H. McGee, Burlington.

Ill and Injured.—Dr. Edmund D. Russell, Clare, who has been confined for two weeks on account of injuries to his leg sustained when his horse fell with him, has resumed his professional duties.——Dr. Fred E. Bellinger, Council Bluffs, is reported to be a patient in Bellevue Hospital, New York City, suffering from injuries sustained in an attack several days ago.——Dr. Thomas F. Desmond, Webster City, is a patient in Mercy Hospital, Des Moines, suffering from blood poisoning.——Dr. John M. Knott, Sioux City, sustained a fracture of the nose recently while making a professional call.——Dr. Harry E. Kirschner, Oakdale, who was operated on in Rochester, Minn., recently, is reported to be convalescent.——Dr. Wayne L. Stillman, Anthon, fractured a rib in an automobile accident recently.

Society Notes.—At the meeting of the Buena Vista County Medical Association, December 12, influenza, pertussis, vaccine therapy and pleurisy were subjects for discussion.——The following societies have elected officers: Mills County Medical Association, at Malvern, December 7; Dr. Edgar Christie, Hastings, president; Dr. James R. Scott, Malvern, vice-president; Dr. James M. Donelan, Glenwood, secretary and treasurer; Dr. James G. McCue, Silver City, delegate to the state society; Dr. G. M. Agan, Glenwood, alternate; Dr. Samuel A. Campbell, Malvern, censor. Jefferson County Medical Association, at Fairfield, December 8; president, Dr. James S. Gaumer; vice-president, Dr. S. K. Davis; and secretary-treasurer, Dr. Lora D. Jones. Poweshiek County Medical Association, at Grinnell; president, Dr. James R. Lewis, Grinnell; vice-president, Dr. Evan S. Evans, Grinnell; and secretary-treasurer, Delano Wilcox, Malcolm. Webster County Medical Society, at Fort Dodge, December 5; president, Dr. Albert E. Acher; vice-president, Dr. William F. Carver; secretary-treasurer, Dr. John F. Studebaker; and delegate to the state society, Dr. Charles J. Saunders, all of Fort Dodge. Harrison County Medical Association, in Logan, November 24; Dr. Hans Hanson, Logan, president, and Dr. Charles S. Kennedy, Logan, secretary (reelected).

KANSAS

Personal.—Dr. Earl A. Davis, Chanute, who has been ill with suspected typhoid fever, has gone to Ottawa for rest and recuperation.——Dr. Charles Hedlinger, 90 years of age, and still in the practice of medicine, is said to be the oldest practitioner in the state.

Elections.—The Republic County Medical Association at its annual meeting held in Belleville, November 16, elected Dr. John B. Henry, Scandia, president; Dr. Thomas, Belleville, vice-president, and Dr. Jay C. Decker, Belleville, secretary-treasurer.——The Northwest Kansas Medical Society at its annual meeting held in Colby, elected Dr. Charles W. Winslow, Oakley, president, and Dr. Charles M. Miller, Oakley, vice-president.——Dr. Leon A. Jacobus, Coffeyville, was elected president; Dr. Mansure, Ulvane, vice-president; Dr. Clifford R. Spain, Arkansas City, secretary; Dr. Kelly, Winfield, treasurer, and Dr. Ralph W. James, Winfield, censor of Cowley County Medical Society, at its annual meeting held in Arkansas City, November 16.——At the annual meeting and banquet of the Shawnee County Medical Society held in Topeka, December 5, Samuel A. Johnson was elected president, and Dr. John N. Beasley, vice-president.——Harvey County Medical Society held its annual meeting in Newton, December 4, and reelected Dr. Richard S. Haury, president; Dr. Max Miller, vice-president, and Dr. Frank L. Abbey, secretary and treasurer. Dr. Miller was elected censor and Dr. Alfred E. Smolt delegate to the state medical society, all of Newton.——The Sixth District Medical Society held its annual meeting in Wichita, December 5. Dr. George K. Purves, Wichita, was selected as chairman and Dr. John J. Sippy, Belle Plaine, was reelected secretary.

MINNESOTA

Personal.—Dr. Charles H. Mayo, who was operated on in New York for appendicitis, underwent a second operation a week later. He is reported as doing well.

Alumni Association Formed.—The alumni of Jefferson Medical College, resident in Minnesota, met in St. Paul, December 14, and organized the Jefferson Association of Minnesota, with Dr. Samuel D. Flagg, St. Paul, as president, and Dr. Richard J. Hill, Minneapolis, as secretary and treasurer.

St. Louis County Election.—The annual meeting of the St. Louis County Medical Society was held in Duluth, December 14, and the following officers were elected: president, Dr. John A. McCuen, Duluth; vice-presidents, Drs. Alexander Barclay, Cloquet, and O. W. Parker, Ely; and secretary and treasurer, Dr. Albert G. Schulze, Duluth. The membership of the society includes physicians in St. Louis, Cook, Lake, Carlton and Itasca counties.

Tuberculosis Notes.—The St. Louis County Tuberculosis Sanatorium at Midway, about 10 miles west of Duluth, is approaching completion. This is the first sanatorium to be established in connection with the law approved in 1909, which gave to each county in the state the power to establish a public sanatorium for the treatment and care of persons afflicted with tuberculosis. The site consists of 80 acres, much of which is woodland, about 600 feet above Lake Superior. Two buildings are nearly completed. The main or administration building contains the offices, medical examining rooms, quarters for the staff and accommodation for about twenty patients, and the children's pavilion has four small wards each for four children, and an infirmary for bedfast children; rooms for nurses and teacher and a large and sunny open-air school room.——At the meeting of the Warren Antituberculosis Association, November 29, Dr. Theodore Bratrud, Warren, was elected a delegate to the state convention held in St. Paul last week.——Dr. B. D. Sallinger, superintendent of the State Tuberculosis Sanatorium, Walker, reports that the institution is in a flourishing condition and now has ninety patients.

MISSOURI

New Hospitals.—The new building of the German Hospital, Kansas City, constructed at a cost of $150,000, was formally opened November 21, with a reception to the public during the afternoon and evening.——Plans have been completed for a tuberculosis sanatorium for Jackson County to be located at the Leeds Farm, at a cost of $75,000. The building as planned will be five stories in height, with two three-story wings, and will accommodate seventy-five patients.

Societies Desire High Standard.—Greene County Medical Society has adopted resolutions providing that no one can become a member of the society who engages in contract practice or continues in such at less than the fee provided by the fee-bill, and no one shall become a member of the society or continue as such who is guilty of soliciting patronage or obtaining patients by division of fees. The society further recommends that the president appoint from time to time, at his discretion, committees to use their influence on any member who is guilty or believed to be guilty of practices not in accordance with the Principles of Ethics.——Livingston County Medical Society at its November meeting endorsed the action of the Jackson County Medical Association in condemning fee-splitting and also reaffirmed its indorsement of the Principles of Ethics.

Elections.—The Jackson County Medical Society, at its annual meeting in Kansas City, December 5, elected Dr. James Q. Chambers, Kansas City, president; Dr. Nimrod P. Wood, Independence, vice-president; Dr. Rush E. Castellaw, Kansas City, secretary; Dr. William F. Kuhn, Kansas City, treasurer; Drs. Jefferson D. Griffith, Franklin E. Murphy and William Frick, delegates to the state association, and Drs. Frank C. Neff, Frederick T. Van Eman and Scott P. Child, censors.——At the annual meeting of the St. Joseph-Buchanan-Andrew County Medical Society, December 6, in St. Joseph, the following officers were elected: president, Dr. John I. Byrne, St. Joseph; vice-presidents, Drs. Joseph J. Bansbach, St. Joseph, and Woodford Martin, Savannah; secretary, Dr. William F. Goetze, St. Joseph; treasurer, Dr. John M. Bell, St. Joseph (reelected); censor, Dr. Albert L. Gray, St. Joseph; delegate to the state association, Dr. Chas. Wood Fassett, St. Joseph, and alternate, Dr. Charles R. Woodson, St. Joseph.——Rolla District Medical Association held its seventy-third semi-annual session in Rolla, December 7, and elected Dr. William S. Smith, Rolla, president; Dr. Robert H. Finlay, Cuba, vice-president, and Dr. William H. Breuer, St. James, secretary and treasurer. The next meeting will be held in Cuba in May next.

St. Louis

Hospital Permit Issued.—A permit has been issued for the erection of St. John's Hospital, a five-story building on Euclid Avenue, to cost $300,000.

Hospital Saturday and Sunday.—The total collections for the Hospital Saturday and Sunday Association for 1911 amounted to $45,018.98, or about $500 more than the receipts for the preceding year.

Medical Reserve Corps Dinner.—The St. Louis Society Medical Reserve Corps, U. S. Army, gave a dinner at the St. Louis Club, November 21, at which the commandant of Jefferson Barracks and the officers of the Medical Corps of the Army and Navy on duty at St. Louis were guests of honor. Lieutenant Harvey G. Mudd acted as toastmaster.

NEBRASKA

Leaves Library to State Association.—The late Dr. Alonzo De Los Wilkinson, Lincoln, bequeathed his extensive library to the Nebraska State Medical Association.

Lodge Doctors Under Ban.—The Omaha-Douglas County Medical Society, which has already passed resolutions against contract practice, now threatens with ostracism any members of the society who still persist in remaining in contract practice.

Contract for Medical School.—The contract for the new medical building of the University of Nebraska, Omaha, was awarded November 25. An appropriation of $100,000 was made for this building by the last legislature.

Election.—At the annual meeting of the Lancaster County Medical Association held in Lincoln, December 2, the following officers were elected: president, Dr. Oliver W. Everett; vice-president, Dr. Edward W. Rowe; secretary-treasurer, Dr. Roy B. Adams; censor, Dr. Warwick M. Cowgill, and delegates to the state association, Drs. Artemas I. McKinnon and J. Stanley Welch, all of Lincoln.

NEVADA

Personal.—Dr. George McKenzie, Reno, is convalescent after an attack of typhoid fever.——Dr. John J. Sullivan, Virginia City, while making a professional call, had his buggy wrecked, sprained his back and cut his head severely, in an accident caused by a boulder which rolled down from a hill above the road.

Washoe Physicians Hold Meeting and Banquet.—The annual meeting of the Washoe County Medical Society was held in Reno, December 5, and the following officers were elected: president, Dr. John E. Pickard; vice-president, Dr. William H. Hood, and secretary-treasurer, Dr. Charles M. Steele, all of Reno. Dr. Sidney K. Morrison presided at the banquet as toastmaster.

NEW HAMPSHIRE

Personal.—Dr. Stephen Young, city physician of Dover, has resigned and has moved to Rochester.——Dr. Seth W. Jones defeated Dr. John W. Staples in the election for mayor for Franklin, November 28, by a margin of two votes.

Optometry Board.—The board appointed by the governor to regulate the practice of optometry consists of George H. Brown, Manchester, for a term of five years; W. E. Wright, Keene, for four years; C. Howard Edmunds, Claremont, for three years; Dr. Charles A. Sturtevant, Manchester, for two years, and Dr. Evariste C. Tremblay, Manchester, for one year.

Grafton Physicians Hold Meeting.—The eighth annual meeting of the Grafton Medical Society was held in Woodsville, December 13, and the following officers were elected: president, Dr. Hiram L. Johnson, Franconia; vice-president, Dr. Howard Nelson Kingsford, Hanover; secretary-treasurer, Dr. George Albert Weaver, Warren; censor, Dr. John Wheeler, Plymouth; delegate to the state medical society, Dr. William E. Lawrence, North Haverhill, and alternate, Dr. Daniel Robert Chase, Lebanon.

NEW JERSEY

Health Board Abolished.—It is reported that the commissioner of Public Safety of Trenton has abolished the local board of health on account of the slowness of its methods in the present typhoid emergency.

Typhoid Vaccination for Convicts.—The board of prison inspectors, in order to stop the spread of typhoid fever among the 1,400 prisoners in the New Jersey State Penitentiary, Trenton, has ordered that every one of the convicts be vaccinated.

Prevention of Blindness.—At a public meeting held December 8, at Paterson, under the auspices of the New Jersey Commission for the Blind, Douglas C. McMurtrie, secretary of the American Association for the Conservation of Vision, called attention to the extent of preventable blindness and described the Credé method of prophylaxis against ophthalmia neonatorum. He also urged legislation to compel the reporting of infantile conjunctivitis and the introduction of hygienic measures to check the spread of trachoma in certain sections, and spoke of the advances being made in the installation of safety devices for the prevention of injuries to the eye. Miss Lydia Y. Hayes, supervisor of work for the blind in New Jersey, described the educational and preventive activity in that state.

NEW MEXICO

Personal.—The Board of Health of Albuquerque on December 5, after hearing evidence in the charges preferred against Dr. Solomon L. Burton, city physician, on account of his allged failure to issue a certified copy of a death certificate, is said to have found him worthy of mild censure.——Dr. S. G. Sewell, manager and physician in charge of the Presbyterian Sanatorium, Albuquerque, has resigned to take effect January 1.——Dr. William T. Brown, superintendent of the Valmora Industrial Sanatorium, Watrous, spoke before the Chicago Medical Society, November 15, on the work of the sanatorium. The institution is sustained by Chicago business houses for the benefit of their employees.

Society Meetings.—At the annual meeting of the Santa Fe Medical Society held in Santa Fe, December 7, Dr. James A. Massie was elected president; Dr. James A. Rolls, vice-president, and Dr. S. G. Small, secretary.——The Bernalillo County Medical Association, at its annual meeting, December 5, elected the following officers: president, Dr. Charles A. Frank; vice-presidents, Drs. George S. McLandress and John A. Reidy; secretary, Dr. Frank E. Tull; treasurer, Dr. Frank R. De La Vergne; censor, Dr. Walter W. Spargo; delegates to the state association, Drs. Harry B. Kauffmann and Percy G. Cornish, and alternates, Drs. John W. Colbert, George S. McLandress, Abraham G. Shortle and Evelyn Frisbie, all of Albuquerque.

NEW YORK

Physical Training and Brain Power.—Mr. Ernest Hermann, director of physical training in the public schools of Boston, delivered a lecture to the students of the medical department of the University of Buffalo, December 8, on "Physical Training as a Means of Increasing Brain Power."

Personal.—Dr. Arthur C. Schaefer has been reappointed assistant health commissioner of Buffalo.——Dr. Charles Stover, Amsterdam, has been appointed a member of the board of trustees of the Ray Brook State Hospital.——Dr. F. H. Jenks, Saranac Lake, has resigned from the local board of health to take up bacteriologic research in the laboratory of Andirondack Cottage Sanatorium.——Dr. Montgomery E. Leary, Rochester, superintendent of the Iola Sanatorium, who was operated on recently for appendicitis, is reported to be convalescent.

Elections.—At its annual meeting December 6, the Elmira Academy of Medicine elected the following officers: president, Dr. Herbert W. Fudge; vice-president, Dr. John C. O'Brien; secretary, Dr. Charles Haase; treasurer, Dr. Charles G. R. Jennings; censors, Dr. Alfred John Westlake, Dr. Elliot T. Bush, Horsehead, N. Y., and Dr. John A. Bennett; trustees for three years, Dr. Sherman Voorhees, Dr. Ross George Loop and Dr. Charles G. R. Jennings.——The Medical Society of the County of Erie has endorsed a resolution to discontinue the evils of contract practice, especially contract lodge practice. Any member continuing this practice after Jan. 1, 1912, will be requested to resign his membership in the county society. The following officers were elected: president, Dr. Thomas H. McKee; vice-presidents, Drs. James F. Whitwell and John V. Woodruff; secretary, Dr. Franklin C. Cram; treasurer, Dr. Albert T. Lytle; censors, Drs. Irving W. Potter, Francis E. Fronczak, Arthur G. Bennett, Lawrence Hendee and John D. Bonnar; chairman Committee on Legislation, Dr. F. Park Lewis; chairman Committee on Public Health, Dr. Henry R. Hopkins; chairman Committee on Membership, Dr. Charles A. Wall, and delegates to Medical Society of the State of New York, Drs. Albert T. Lytle, Julius Ullman, Julius Richter and James F. Whitwell.

New York City

Old Instrument Maker Dies.—F. August Stohlmann, a veteran surgical instrument manufacturer, who entered the employment of the Tiemanns in 1841 and became a partner in the firm seven years later, died at his home in Brooklyn, December 17, aged 94.

Personal.—Dr. Frederick Gwyer, while at his farm near Sunset Lake, was thrown from his buggy and fractured several ribs.——Dr. John Henry Huddleston, secretary of the New York Academy of Medicine, has recovered after a four weeks' illness with pneumonia.

New Building for Medical Staff.—Plans have been filed with the building department for the erection of a three-story brick building at Clarkson Street and Albany Avenue, Brooklyn, at a cost of $72,000 and to be used as quarters for the medical staff of Kings County Hospital.

Banquets in Honor of Physicians.—A complimentary dinner was given by the executive committee of the Eastern Medical Society to Dr. Emil Altman, its retiring president, December 15.——The friends of Dr. Joseph E. Smith celebrated his elevation to the post of chief medical officer of the Brooklyn Fire Department, by a dinner given in his honor at the Brooklyn Club, December 14.

For Tuberculosis Hospitals.—The William McKinley Memorial Hospital League has opened offices at No. 1 Madison Avenue and announced that it is opening a campaign for the purpose of raising $7,000,000 to equip a hospital in New York City for the treatment of tuberculosis and to establish open-air camps at the seaside and in rural districts. McKinley one-cent stamps will be put on sale January 1, and private contributions will be solicited. The money will be disbursed by a committee composed of seven men who have given $10,000 and over toward the fund. There is a council of 100 and among these appear the names of twenty-nine governors of states and territories.

New Cancer Home Started.—The laying of the cornerstone of a new St. Rose's Home for Cancer Incurables took place on December 15. Mgr. Joseph F. Mooney, representing Cardinal Farley, officiating. The new building will stand at Jackson and Front Streets facing Corlear's Hook Park. The new home will accommodate 100 inmates, will cost about $91,000 and will be finished by June 1.

Hospital Reopened.—The Sydenham Hospital and Dispensary which has been closed for repairs since last July was reopened on December 14. Two new buildings have been added through the generosity of Isaac Guggenheim. Dr. Michael Michailovsky is president of the medical board, and other members of the staff are Dr. Max Rosenthal, Dr. Herman Jarecky, Dr. Robert Kunitzer, Dr. Harry Jarrmulowsky and Dr. Archibald E. Isaacs.

Birth- and Death-Rate.—There were 10,825 births in the greater city during the month of November, an increase of 236 over the number for November, 1910. The death-rate during the month of November was 13.73 per 1,000 population, which was lower than the average rate for November since the consolidation of Greater New York in 1898. The Health Department states that this represents 1,005 deaths prevented. The mortality for children under the age of 5 years decreased from 37.05 to 28.97 per 1,000 (or 22 per cent.).

Physicians Endorse Dr. Doty.—On Wednesday, December 13, about thirty-five of the leading physicians of this city, representing all branches of the profession, met at the New York Academy of Medicine to manifest their approval of Dr. Alvah H. Doty and to testify to his efficient administration of quarantine. A set of resolutions was adopted expressing admiration for his work, showing how effective it had been and how dangerous it would be to appoint a successor who may be inexperienced and not familiar with the work. These resolutions were presented to Governor Dix with the request that he reappoint Dr. Doty as health officer of this port.

Societies Elect.—The Clinical Society of the New York Post Graduate School elected these officers December 15: President, Dr. Henry Dawson Furniss; vice-president, Dr. Ward J. MacNeal; secretary, Dr. Ralph Tousey, and treasurer, Dr. Henry G. Bugbee.——The Manhattan Dermatological Society at its annual meeting elected Dr. Mihran B. Parounagian president; Dr. Ludwig Oulman, vice-president, and Dr. David L. Satenstein, secretary and treasurer.——The New Utrecht Medical Society has been formed in the Borough Park section of Brooklyn, with the following officers: president, Dr. J. H. Bertram Dowd; vice-president, Dr. Henry M. Kalvin; secretary, Dr. Murray B. Gordon, and treasurer, Dr. Max S. Ittelson.

The Prevention of Disease.—The Public Health Education Committee of the Medical Society of the County of New York and the Hygiene Committee of the New York City Federation of Women's Clubs, announce a series of lectures which form part of the New York work of the Public Health Education Committee of the American Medical Association. This series is to be given in Hosack Hall, New York Academy of Medicine, on alternate Wednesday evenings and Thursday afternoons, from January 10 to March 28, inclusive, and will be open to the public and general subjects are: "The Hygiene of Food"; "Alcohol in Relation to Efficiency"; "Effects of Home Medication"; "Contagions and Their Prevention"; "Sex Hygiene for Men"; "Child Hygiene"; "The Common Cold"; "Triumphs of Modern Surgery"; "Sex Hygiene for Women"; "Care of the Eye and Ear"; "Nerves in Their Relation to Efficiency", and "Causes and Prevention of Pelvic Disorders."

College Needs New Building.—President Nicholas Murray Butler of Columbia University in his annual report says that Columbia University owns property worth $52,433,183, and has 7,858 students and 767 teachers. He expresses the opinion that it would have been wiser to establish research institutions such as the Carnegie Institute in Washington and the Rockefeller Institute of Medical Research in New York, not apart from universities, but rather in connection with them. He also scorns the notion that a man engaged in teaching advanced students cannot find time for research work. The best work that has been done by scientists and scholars has been done by those not only engaged in teaching but literally overburdened with the work. In discussing the agreement between the Presbyterian Hospital and the College of Physicians and

Surgeons, Dr. Butler points out the urgent need of $6,000,000 in order that the university may carry out its part of the agreement.

PENNSYLVANIA

Public Schools Closed by Measles.—Six hundred well developed cases of measles forced the Wilkes-Barre health authorities, on December 21, to order all public schools closed. The epidemic started about two weeks ago, but there have been only a few deaths, although nearly all the cases have been severe.

Personal.—Dr. Frank P. McCarthy, who has been connected with the State Sanatorium, Mount Alto, for a year and a half, has resigned and removed to Erie.——At the November election, Dr. Leroy K. Leslie, Bareville, was elected prothonotary, and Dr. Elmore R. Miller, Stevens, coroner of Lancaster County.——Dr. James Earle Ash, has resigned as pathologist at the State Hospital for the Insane at Norristown, to accept a position as teacher of pathology in Harvard University.——Dr. Ella N. Ritter was elected treasurer and Drs. Jean Saylor Brown and Wesley F. Kunkle, members of the executive committee of the Williamsport Society for the Prevention of Social Diseases, at its annual meeting on November 14.——Dr. Anthony F. Myers, Blooming Glen, for many years secretary of the Bucks County Medical Society, has been made editor of the *Bucks County Medical Monthly,* to fill the place made vacant by the resignation of Dr. John B. Carrell.

County Meetings.—The sixty-third annual meeting of the Bucks County Medical Society was held at Doylestown, November 8, and the following officers were elected: president, Dr. Frank B. Swartzlander, Doylestown; vice-presidents, Drs. Harry L. Thomas, Langhorne, and Felix A. Murphy, Doylestown; secretary-treasurer, Dr. Anthony F. Myers, Blooming Glen; and censors, Drs. George M. Grim, Ottsville, William R. Cooper, Point Pleasant, and Walter H. Brown, Richlandtown.——At the annual meeting of the Columbia County Medical Society, at Bloomsburg, December 14, the following officers were elected for 1912: president, Dr. Ralph Eaton Miller; vice-presidents, Drs. J. Sidney Hoffa, Benton, and Dr. John T. McDonald; secretary, treasurer and reporter, Dr. Luther B. Kline, Catawissa, and librarian, Dr. J. Jordan Brown. Dr. Luther B. Kline, Catawissa, secretary and editor of the *Monthly Roster* was authorized to continue the publication for the year 1912, its management to be left to his care.

Philadelphia

Medical Examiners Meet.—The annual dinner and election of officers of the Philadelphia Medical Examiners Association was held December 5 and the following officers were elected: president, Dr. A. T. Gillard; vice-president, Dr. A. Wiese Hammer; secretary, Dr. J. H. Eisenbrey, and treasurer, Dr. George D. Morton.

Women Medical Inspectors.—Dr. Joseph Seal Neff, Director of Public Health and Charities, wishes to add women physicians for the girls' high school and girls' grammar schools to the corps of school medical inspectors, and as an inducement to women to accept such positions, Dr. Neff has under consideration a plan to require of them only three hours work on each school day, instead of five hours a day, as required at present, with a corresponding reduction in salary from $900 to $600 a year.

To Raise Million for Children's Hospital.—Officials of the Children's Hospital have planned to conduct a campaign shortly after January 1, for the purpose of raising $1,000,000 to erect and endow new hospital buildings on the site, Eighteenth and Fitzwater Streets. Richard Waterman has resigned as secretary of the City Club in order to take charge of the work of raising this fund. Two committees have been engaged in preparing for the campaign—the Building Committee and the Committee on Ways and Means.

Cocain Traffic Revived.—The peddling of cocain and opium apparently eliminated by the State Pharmaceutical Board last spring after a campaign lasting more than six months, has sprung up again. So quiet has been the work of venders as to attract little attention until, on December 20, a man wanted on suspicion of larceny, was arrested in Chinatown and when searched, was found to have more than $500 worth of cocain and $10 worth of opium on his person. He was arraigned before Magistrate Tracy and held in $1,000 bail for further hearing. State detective Joseph Giovanni has started an investigation and many warrants will be applied for as a result of his discoveries. The federal officials are also taking a hand in the present crusade and it is stated that the campaign will not end until every drug vender in the city is placed under arrest

Hospital Notes.—The Charity Hospital, 1731 Vine Street has just taken title to the adjoining property on Vine Street. The property is assessed for $7,000.——The managers of the Frederick Douglass Hospital, which is in sore straits, are making a final appeal to the public. The Philadelphia *Public Ledger* is in receipt of letters from Dr. S. Weir Mitchell, of the consulting staff, from Dr. John M. Baldy, chairman of the state medical board, from Drs. William W. Keen, James Tyson and Howard F. Hansell, all of whom are on the medical staff, speaking in highest terms of management of the institution and the good work it is doing. "The Frederick Douglass Hospital and Training School, which has been in operation at Lombard and Sixteenth Streets for fourteen years, is in sore straits and may be closed unless $15,000 is raised to liquidate a builder's mortgage. It is the largest and best-equipped hospital controlled by colored people in the United States, and is the only institution of the kind in this section of the country and the sole place where colored nurses can be trained or where colored patients can have nursing and treatment by their own race." The *Public Ledger* first published the letters of the physicians on December 13 and by December 15, more than $2,000 had already been received in contributions ranging from $500 to $1.

TEXAS

New Sanatoriums.—The State Tuberculosis Commission has awarded contracts for the establishment of a colony for the treatment of patients suffering from tuberculosis, at Carlsbad, near San Angelo, to be ready for occupancy in May.——Drs. Frank C. Floeckinger and others have incorporated Dr. Floeckinger's Sanitarium at Taylor, without capital stock.

County Society Elections.—The following are the results of recent elections in county societies: Jefferson County, at Beaumont, December 4, Dr. Ernest D. Mabry, Llano, president; Dr. Carmatte A. Cobb, Beaumont, vice-president; Dr. Wilbur F. Thomson, Beaumont, secretary (reelected).——Wichita County, at Wichita Falls, December 12, president, Dr. Michael M. Walker; vice-president, Dr. Charles R. Hartsook, Tulia; secretary and treasurer, Dr. Duane Meredith, Wichita Falls.——El Paso County, at El Paso, December 5, Dr. Felix P. Miller, El Paso, president; Dr. Samuel F. King, El Paso, vice-president, and Dr. William Klutz, El Paso, secretary.——McLennan County, at Waco, December 5, president, Dr. Hardy C. Black, Waco; vice-president, Dr. H. J. Germany, Speegleville; secretary-treasurer, Dr. Horace T. Aynesworth, Mesquite.——Hunt County, at Greenville, December 11, president, Dr. James J. Coppedge, Lone Oak (reelected); vice-president, Dr. William J. Wheeler, Commerce; secretary-treasurer, Dr. D. Richard Waddle, Greenville (reelected).——Potter County, at Amarillo, December 12, president, Dr. George T. Thomas, Amarillo; vice-presidents, Drs. J. J. Crume and John D. Jordan, Amarillo; secretary-treasurer, Dr. Robert M. Walker, Amarillo.——Lamar County, at Paris, December 9, president, Dr. Andrew J. Rush, Paris; vice-president, Dr. Job L. Hammond, Noble; secretary, Dr. Marcellus A. Walker, Paris.——Bell County, at Temple, December 7, president, Dr. S. A. Watts, Moffat; vice-president, Dr. Henry Hartman, Temple; secretary-treasurer, Dr. Edward J. Burns, Temple.——Grayson County, at Sherman, December 8, Dr. Reynolds May, Whitewright, president; Dr. Joseph R. Swafford, Bells, vice-president; Dr. Jack B. Stinson, Sherman, secretary-treasurer.——Johnson County, at Cleburne, December 5, Dr. R. E. Lee Yater, president; Drs. John I. Pearson, Joshua, and Daniel Strickland, Cleburne, vice-presidents; Dr. T. C. Honea, secretary-treasurer. —— Ellis County, at Waxahachie, December 6, Dr. James C. Loggins, Ennis, president; Dr. Antone L. Thomas, Ennis, vice-president; Dr. Howard E. Griffin, Ennis, secretary-treasurer.——Harrison County, at Marshall, December 6, Dr. George P. Rains, Marshall, president; Dr. John F. Gibson, Paris, vice-president; Dr. Frank S. Littlejohn, Marshall, secretary.——Collin County, at McKinney, December 6, Dr. Jefferson D. Burt, Farmersville, president; Dr. W. C. Bryant, McKinney, vice-president; Dr. Ben F. Largent, McKinney, secretary-treasurer.——Tarrant County, at Fort Worth, December 4, Dr. Isaac A. Withers, Fort Worth, president; Dr. Kent V. Kibbie, Fort Worth, vice-president; Dr. Frank G. Sanders, Fort Worth, secretary, and Dr. William R. Thompson, Fort Worth, treasurer.——Dallas County, at Dallas, December 2, Dr. Hugh L. Moore, president; Dr. R. W. Baird, vice-president; Dr. Bert E. Greer, secretary-treasurer, all of Dallas.——Denton County, at Denton, December 5, Dr. Priestly Lipscomb, Denton, president; Dr. Thomas M. Harris, Mustang, vice-president; Dr. Walter G. Kimbrough, Krum, secretary and treasurer.

WISCONSIN

Antitoxin at Cost.—The Wisconsin State Board of Health announces that it is prepared to furnish diphtheria antitoxin at actual cost, 40 cents per 1,000 units.

Date for State Society Fixed.—The next annual meeting of the Wisconsin State Medical Society is to be held in Wausau, May 22-24. Arrangements are under the charge of the Marathon County Medical Society.

More Money Needed.—Health Commissioner Kraft of Milwaukee has asked for an appropriation of $173,000 to carry on the work of the health department during 1912. This is $77,000 more than the allowance for 1911.

District Society Meeting.—The Tenth District (West Wisconsin) Medical Society held its annual meeting at Eau Claire, November 27, and elected Dr. John V. R. Lyman, president, and Dr. Eugene E. Tupper, secretary-treasurer, both of Eau Claire.

Twin City Club Meets.—The Neenah-Menasha Medical Club held its annual meeting in Menasha, December 12, and elected Dr. Frank M. Corry, Menasha, president; Dr. James R. Barnett, Jr., Neenah, vice-president, and Dr. Irving E. Ozanne, Neenah, secretary-treasurer.

To Prevent Blindness.—The Health Department of Milwaukee, acting on the urgent request of the Milwaukee Society for the Blind, announces that it will distribute free to the poor capsules containing nitrate of silver for the prevention of blindness of the new-born.

Personal.—Dr. Helen Binnie, Milwaukee, has been appointed a member of the staff of the Government Hospital, Washington.——Dr. Rudolph C. Teschan has been appointed a trustee of the Milwaukee Emergency Hospital.——Dr. Henry Blank, Milwaukee, has been reappointed a trustee of the hospital.——Dr. William N. Daniels has been appointed postmaster at Mossinee.——Dr. Franz Pfister, Milwaukee, announces that he will in future limit his practice to diseases of the ear, nose and throat.

Ill and Injured.—Dr. James W. St. John, Janesville, is reported to be seriously ill.——Dr. Herbert Saylor, Merrill, is convalescent after an attack of typhoid fever.——Dr. Ralph R. Chase, Eau Claire, fractured his leg in a runaway accident in Union, December 8, and is under treatment at the Sacred Heart Hospital.——Dr. Harry A. Vedder, Edgar, who has been ill with typhoid fever, is making a good recovery.——Dr. Herman E. Wolfe was operated on for appendicitis in the Lutheran Hospital at La Crosse, December 3.——Dr. William F. Whyte, Watertown, president of the State Board of Health, suffered severe injury to his knee on a hardwood floor in his home.

GENERAL

Personal.—Dr. Carlos Finlay, Havana, Cuba, has been elected a corresponding member of the Paris Academy of Medicine.——Major Clyde S. Ford, M. C., U. S. Army, who was operated on at Grant Hospital, Columbus, recently, is reported to have recovered and resumed his duties.

Public Health Officials Elect.—At the annual meeting of the American Public Health Association held in Havana, Cuba, December 4-9, the following officers were elected: president, Dr. John N. Hurty, Indianapolis, Ind.; vice-presidents, Drs. Frederick Torralbas, Havana, and Alexander J. Douglas, Winnipeg, Man.; secretary, Dr. William C. Woodward, Washington, D. C. (reelected), and treasurer, Dr. Frank W. Wright, New Haven, Conn.

Cotton Belt Surgeons Hold Meeting.—At the annual meeting of the Cotton Belt Surgeons' Association held in Texarkana, Ark., December 7, the following officers were elected: president, Dr. Warren B. De Jernett, Commerce, Tex.; vice-presidents, for states, Drs. Oleander Howton, Osceola, Ark.; N. O. Green, Dupo, Ill.; Louis Abramson, Shreveport, La.; William C. Curether, Mount Vernon, Tex.; and Thomas F. Kittrell, Texarkana, Ark., for Tennessee.

Gifts and Bequests.—The following gifts and bequests to hospitals are announced:

The New York, Ontario and Western Railroad has given $5,000 to Thrall Hospital, Middletown, N. Y.

The will of the late Margaret Bensel, Atlanta, Ga., bequeaths $1,000 to the same Institution.

The will of the late John J. Clancy bequeaths $25,000 each to Presbyterian, St. Vincent's and Mount Sinai hospitals, New York City.

The will of the late Anna M. Miles bequeaths the residue of her estate in equal parts to Bryn Mawr (Pa.) Hospital and the Children's Hospital of the Good Shepherd, Rosemont.

The will of the late J. Henry Cockran bequeaths $10,000 to the Williamsport Hospital.

Northwestern Surgeons Meet.—The fifth annual meeting of the Surgical Association of the Chicago and Northwestern Railway was held in Chicago, December 14, and the following officers were elected: president, Dr. Harper M. Workman, Tracy, Minn.; vice-presidents, Drs. Arthur L. Wright, Carroll, Ia., and Asa B. Bowen, Maquoketa, Ia.; secretary and treasurer, Dr. John D. Andrews, Chicago, and member of the executive committee, Dr. John W. Freeman, Lead, S. Dak.

FOREIGN

Death of Lannelongue.—The cable brings word of the death of Prof. O. M. Lannelongue of the university of Paris, president of the Académie de Médecine, aged 70. He became professor of surgical pathology in 1888 and has written a number of works on surgical and borderland subjects, especially osteomyelitis, and an interesting book describing his trip around the world in 1909.

LONDON LETTER

(From Our Regular Correspondent)

London, Dec. 16, 1911.

The National Insurance Bill

The national insurance bill has become law, but the question how it will be worked by the profession, and, indeed, whether it will be worked at all, remains open. Protest meetings are taking place all over the country and at several, notably one at Manchester attended by 2,000 doctors, resolutions to have nothing to do with the bill were carried. Much dissatisfaction is felt in the profession at the failure of the British Medical Association to obtain the insertion in the bill of the six points previously described in The Journal. This has been increased by the acceptance of the post of deputy-chairman of the insurance commissioners by Mr. Smith Whitaker, medical secretary of the British Medical Association, with the approval of the council. At a meeting of one of the metropolitan branches of the association (Fulham and Chelsea) to consider this appointment Sir Victor Horsley and other members of the council attended to explain why the council consented to the appointment. Sir Victor said that when it came to a real fight the council thought they might have had a man in the position who did not know the wishes of the profession and who would be hostile to their interests. It was therefore an advantage to have a man who represented the interests of the profession. A resolution demanding an early meeting of the representatives of the association to consider Mr. Smith Whitaker's appointment was carried, while an amendment embodying a vote of confidence in the council was lost. It may be explained that the council is the administrative body elected by the association and meets fortnightly, while the representatives, each representing a division, are the parliament of the association, and meet at long intervals. The hostility aroused against the association has led to the calling of a meeting of the profession, independently of the association, at one of the largest halls in London by Dr. F. J. Smith of the London Hospital, Sir Watson Cheyne and others, to consider what is called "the great betrayal."

Death of Sir Joseph Hooker

Sir Joseph Hooker, M.D., F.R.S., the eminent botanist, has died at his residence, Sunningdale, in his 94th year. The son of Sir J. W. Hooker, professor of botany at the University of Glasgow and subsequently Director of the Kew Gardens, he was perhaps the most distinguished botanist of his time. As a field botanist he had an unrivaled experience and studied plants in every quarter of the globe. He was educated at Glasgow, where he took a medical degree in 1839. He then began a series of travels. In the antarctic expedition of Sir James Clark Ross he was assistant surgeon and botanist. For three years he cruised about the southern seas, visiting New Zealand, Fuegia, the Falkland Islands, etc., where he gathered amid considerable hardships an enormous mass of botanical knowledge. On his return he was appointed botanist to the Geological Survey of Great Britain and did some excellent work in fossil botany. Then he went on a long journey to the northern frontiers of India, the expenses of which were partly defrayed by the government. The fruits of this were embodied in several valuable papers. In 1855 he was appointed assistant director of Kew Gardens and ten years later he succeeded his father as director, a position which he held until 1885, when he in turn was succeeded by his son-in-law Sir W. Thiselton Dyer. Other places explored by him were Palestine, Morocco and the Rocky Mountains, in 1877, in company with Prof. Asa Gray. He is perhaps best known to the general public for the part he played in the birth of Darwin's "Origin of Species." Darwin has expressed his great debt to him for his "large stores of knowledge and excellent judgment." It was owing to his persuasions that Darwin was induced to publish the first sketch of his theories which was communicated to the Linnaean Society jointly with a paper by Dr. Alfred Russell Wallace, who independently arrived at the same conclusion as Darwin. Each paper was sent in without any knowledge of the other. In 1873 he attained the highest scientific honor in this country—the presidency of the Royal Society. Among his more important works may be mentioned the "Student's Flora of the British Isles," "Genera Plantarum" (written with special reference to the specimens preserved in the herbaria of Kew), "Flora of Australia," and "Distribution of Arctic Plants." The later two works were largely instrumental in overthrowing the old doctrine of the immutability of species. While to De Candolle the fact that the same species were to be found in widely dissevered localities seemed a potent argument in favor of their multiple origin, Hooker showed in it a proof of the genetic relation of the floras of which the species are components. His notes on the glacial phenomena of the Himalayas supplied material to both Darwin and Lyell, and were useful not only to botanists but also to geographers, geologists and meteorologists.

Accident and Angina Pectoris

One of the difficult questions as to what constitutes an accident under the Workmen's Compensation Act has just been decided in court with the assistance of a medical referee. A man let down a bucket of water into a sewer, which was carried by the current to the next manhole, about 80 yards away. Then, with the assistance of a winch, he pulled back the bucket against the current. Before beginning this work he complained of pains in his chest. After working for some time he stopped, again complaining of pain. His comrades saw that he looked very ill and placed him on some sacks, where he died. The doctor who made the post-mortem examination found that except for fatty degeneration of the heart the man was healthy. He concluded that death was due to angina pectoris and that there was no reasonable doubt but that there was a connection between the effort exerted in his work and the man's death. Evidence was given as to the severe nature of the work, and two physicians stated that there was no doubt that the strain accelerated death. But it was admitted that the man had had two attacks of angina before starting work, when there was no exertion to account for them. Evidence was given by a consultant, Dr. Buzzard, that it was impossible to say whether the strain did or did not excite the attack, but in view of the fact that the man had had two previous attacks within a short time, independent of exertion, and that many attacks of angina had proved fatal apart from exertion, he thought that the fatal attack in this case was independent of strain. The opinion of the medical referee was against the applicant. In giving judgment against the applicant the judge laid stress on the fact that before starting work the man had had two other attacks, one in bed and the other while going to work.

Doctors and Certificates: Warning by the General Medical Council

The general medical council has issued a warning notice relative to the irregular issue of certificates, because it appears that some physicians have given and signed untrue, misleading or improper certificates of various kinds. Under this class the council places those certificates relating to births, deaths or the disposal of the dead; those under the lunacy, the vaccination and the factory acts; those in relation to children or to excusing school attendance; in connection with certain friendly societies, workmen's compensation and naval or merchant shipping; for procuring the issue of foreign office passports; and for excusing attendance in courts of justice, in the public services, in public offices or at ordinary employments. Any registered medical practitioner who shall be known to have given any untrue, misleading or improper certificate, whether relative to the above matters or otherwise, is liable to be adjudged by the council as guilty of infamous conduct in a professional respect, and to have his name erased from the medical register.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Dec. 8, 1911.

Personal

Dr. Paul Courmont, professor of general pathology and therapeutics at the Faculté de médecine de Lyon, has just been appointed, at his own request, professor of experimental and comparative medicine, to replace Dr. Arloing, who died last March.

The Opinion of Dr. Roux on the Reform of Medical Studies

In an interview on this subject, Dr. Roux, director of the Pasteur Institute, declared that the decree reorganizing medical studies mentioned in a previous letter (The Journal, Dec. 16, 1911, p. 2008) is far from being the great medical reform dreamed of, but constitutes nevertheless a step in advance. If it tends to develop practical instruction it will lead to better things. Dr. Roux considers the introduction of the students' record books a good reform, but thinks that, on the contrary, the multiplying of examinations (there will be twenty-seven) is regrettable. What is necessary to limit the number and increase the standards of practitioners is not to increase the number of examinations but to render them more practical and more serious. The examinations should be something quite different from a conversation between the examiner and the candidate. The clinical examination should, according to Dr. Roux, last several days. Pupils should be placed before patients and required to act as the physician in the presence of the professor, so that the latter may be able to take stock of the pupil's real knowledge.

Courses of Hygiene for Teachers

Normal courses of hygiene have recently been organized under the auspices of the Société d'enseignement moderne and under medical direction. Some of these courses are intended for female teachers and include, beside the study of general hygiene, that of puericulture, the hygiene of the young girl and first aid to the injured and the care of the sick. These studies are completed by practical work done each week at the infant consultations of the Union maternelle parisienne. The other part is intended for male teachers and comprises more especially the study of professional, social and colonial hygiene. Each year in April an examination closes the series of lessons. The diploma for fitness for instruction in hygiene is conferred on students who are considered worthy of it. Outside of these normal courses, the section of family medical instruction of the Société d'enseignement moderne has organized special courses for pupils of primary schools and courses for adults.

Prohibition of the Industrial Employment of Used Surgical Dressings

A decree has just been issued prohibiting the use in any industrial workshop of all substances which have been used for surgical dressings.

Disturbances at the Paris Medical School

Since the nomination of Professor Nicolas to the chair of anatomy, disturbances have occurred at the beginning of each school year. The complaints against the professor are trivial enough. The truth is that a grudge is felt against Professor Nicolas for being an *agrégé* of a provincial school (Nancy) and not of Paris. At any event, these troubles are serious enough to lead to the possible closing of the school, but this is a very serious measure since it would punish all the pupils indiscriminately. The dean, Professor Landouzy, therefore, is reluctant to have recourse to it. He has posted a notice warning students that all disturbances of the peace will be subject to disciplinary measures. Special measures have therefore been taken that every rioter shall be expelled and brought before the council of the university. Yesterday, December 7, the school was occupied by municipal guards and police agents placed at the entrances to the school and scattered throughout the grand amphitheater where the course in anatomy is held. The professor was greeted at his entrance by hoots and whistles; seven students were arrested and taken before the magistrate but were, however, immediately set at liberty and will have to undergo no other penalties than the disciplinary measures of the university council.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Dec. 7, 1911.

Personal

Professor von Wassermann, the eminent bacteriologist, has been appointed *ordentlicher Honorarprofessor*, a distinction the more noteworthy on account of his comparative youth, von Wassermann having only recently reached the age of 45.

Professor Trendelenburg and Professor Siegel of Leipsic have been made honorary members of the Leipsic Medizinische Gesellschaft (medical society).

The Bavarian Academy of Sciences has elected Professor Mollier of Munich a regular member, and Professor Roux of Halle and von Kries of Freiburg as corresponding members.

Oberstsabarzt Professor Ziemann has resigned the charge of the public health service in Cameroon, Africa, on account of his health. He has recently been elected honorary member of the English Society for Tropical Medicine.

Reorganization of the Berlin Municipal Public Health Department

The organized profession in Berlin has officially interfered in respect to the proposed reorganization of the public health department on a new basis, described in my letter of Nov. 2, 1911, p. 1777. After an extensive debate on the subject in the Geschäftsausschuss der Berliner ärztlichen Standesvereine, it was unanimously voted that a salaried municipal medical counselor should be placed at the head of the Stadtmedizinalwesen. The resolution which is to be presented to the city administration (*Magistrat*) states that the creation of the office of medical counselor to serve merely as consultant and advisor would by no means prove a satisfactory solution of the problem. The medical counselor should be a salaried member of the *Magistrat*, on an equal footing with the other members; this is a step advised by the Stadtverordnetenversammlung (city council) in a resolution adopted April 27.

Offer of the German Red Cross to Aid in the Campaign in Tripoli

The German Red Cross has tendered its assistance to the Italian Red Cross and the Turkish Red Crescent in the present campaign. While the Turkish government has accepted the offer with grateful appreciation, the Italian Red Cross has declined it with the remark that the patriotic support of the nation enables the society to answer all the demands of the situation. We can only wish for the Italians that the war may not drag out so long and require so many sacrifices among their troops, that they may finally find themselves compelled to beg for the aid of the German society which they are now rejecting.

Berlin Society for Microbiology

A society to discuss bacteriologic questions exclusively has just been founded at Berlin, although such subjects have long been treated also in other societies, as, for instance, in the German public health and hygiene associations. The Hygienische Vereinigung does not hold public meetings, but the members have always prized them highly, especially on account of the fact that Robert Koch was a member and often took part in the discussion.

Means to Combat Foot-and-Mouth Disease

The Prussian government is said to have appropriated a further sum for combating foot-and-mouth disease by the Löffler method. Professor Löffler of Greifswald has been studying means to protect cattle against this disease since 1898, but the latest experiments with his serum proved disappointing. He ascribed its failure to the fact that the doses were too small, and the appropriation just made is to enable him to carry on the experiments with larger doses. To date the practical application of the serum has to contend with the difficulty that the immunization of healthy cattle thus realized lasts only for a few weeks, while the serum is very expensive. It is to be hoped that the Greifswald bacteriologist may be able to improve the method in both of these directions.

Contract for Eddyite Treatment Declared Invalid

A man contracted with an Eddyite for the treatment of himself and his family and paid for this $15 (60 marks). He became convinced that the treatment had not accomplished much and brought suit for the repayment of his money. The court sustained his plea on the ground that the contract was invalid, the judge declaring that it would be totally subversive of sound social conditions to permit a business of contracts in which one party claimed to have special relations with God to enable him to control the health of others. The belief that one may by special divine gifts be able to heal the sick may be held in certain quarters; but the exercise of a trade based on the practice of prayer as a healing power cannot be granted the protection of the law. Besides this, such a trade conflicts with the interests of public health, as its practice interferes with the proper treatment, at the right time, by the physician, the professional protector of the public health. Consequently, contracts such as those concluded between the plaintiff and the defendant are invalid in law, and thus the plaintiff's demand for repayment of the sum paid is granted.

Arsenic in Gelatin Sold for Food

It has been shown by an investigation instituted in the imperial Gesundheitsamt (health office) that arsenic may be demonstrated in gelatin sold for food. As is well known, the hides of animals before being prepared for leather and especially for white kid gloves, etc., are frequently treated with arsenic sulphid. In the imperial health office it has now been established that the arsenic which has been applied to the raw hide is not separated in the further tanning process, but at least to some extent passes into the finished leather. Hence it is to be expected that it will be found in gelatin. Twelve samples from different factories contained arsenic, although only in imponderable traces in some. According to the conclusion of the report published in the Arbeiten aus dem Kaiserlichen Gesundheitsamt, the publication is intended only to arouse attention for the examination of foodstuffs as to the occurrence of the contamination of gelatin by arsenic, and to incite subsequent investigation in this field and the publication of the results of examinations. Ways and means for putting an end to such a condition of affairs must be considered later.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, Dec. 12, 1911.

A New Vaccination Institution

A very large, modern institution for the production and storage of cows' lymph for vaccination purposes has been opened recently and a few interesting data concerning it may be given. The ground space is 2,500 square meters, or 23,000 square feet. The laboratories are on the first floor of the main building, while the ground floor is occupied by a large apartment for public vaccination. An interesting museum is attached to the institution, containing objects pertaining to the history of vaccination, wax models showing the procedure itself and also that of obtaining the lymph from the cows. The stables for the cows or calves accommodate twenty animals, ten in the vaccine stables and ten in the observation stables. Each animal is kept under strict medical supervision, and if found not to be perfectly healthy, it is declared unfit for the purpose. The Vienna lymph is mixed with glycerin and stored on ice. The laboratory can produce 1,200 glass tubes of lymph daily, each containing material sufficient for from five to twenty vaccinations, according to the skill of the vaccinator. The demand for vaccine is great, although vaccination is not compulsory in this country. Some historical reminiscences may be mentioned here. May 10, 1799, three years after Jenner's first experiment on the human body, Dr. De Carro, a Viennese doctor, inoculated in Vienna a child with lymph sent him by Pearson from London and obtained from an inoculated English child. The Vienna child's inoculation "took" well, and from him lymph was obtained for further vaccination. This human lymph (Jenner's stock) was the only one for many years afterward in our city. It was continually propagated for scientific reasons, with especial care by Kaposi and Widerhofer, until, in 1889, it was finally allowed to die out. Of course, in Vienna public vaccination has been done only with bovine lymph ever since it was introduced into medicine as the routine practice, in 1885. But Jenner's lymph was still vigorous ninety years after its introduction.

The Austrian Cancer-Research Society

The above-named society is one of our most active medical organizations, and, although it is not quite a year old, it has more than 300 members. Large sums of money are donated to the society because of its important aims. Thus it was recently bequeathed $250,000 (1,000,000 kronen) by a philanthropic lady, which will be used for a cancer hospital. At the first general meeting of the society, a few days ago, the work done during the first year of its existence was reported on. Dr. Rosenfeld has edited "A Critical Review of the Cancer Statistics," and has published "Suggestions for Austrian Cancer Statistics." Professor Hartl and Dr. Smidt lectured on "Cancer of Household Animals." The next scientific enterprise is the organization of a serologic institute which will be located in the dermatologic clinic of Professor Riehl, and which will turn its special attention to the serologic reaction (Freund-Kaminer) of cancer patients whose disease has been thoroughly investigated before. The main object of the society at present is a home for cancer patients, to be called the Samaritan Home. The plan is nearly realized, for in the general hospital several wards and clinics have been evacuated by the transfer of patients into the new buildings of that institution. The government has consented to permit a temporary use of two of the old wards for the purpose of observation of curable and incurable cancer patients, for in this country the latter are not admitted into the hospitals. Nevertheless, medical experience, as has been said by Prof. A. Fraenkel, the secretary of the society, shows that the knowledge regarding incurability of cancer is sadly insufficient. Patients whose cases were apparently desperate have sometimes survived for years the lease of life allotted to them by medical knowledge.

Marriages

Grace Mabel Norris, M.D., Richfield Springs, N. Y., and Major Robert Ashton of London, England, in New York City.

Arthur Wheaton Ide, M.D., Brainerd, Minn., to Miss Florence Decker Millspaugh of Little Falls, Minn., December 6.

John Waring Lewis, M.D., Miller's Tavern, Va., to Miss Jennie May Reed of Clinton, Mass., at Manila, P. I., recently.

George Melville Crabb, M.D., Deer Lodge, Mont., to Miss Pauline Andrews of Marshalltown, Ia., December 7.

Arthur Allan Mitten, M.D., Buffalo, N. Y., to Miss Gertrude Lemon of Milwaukee, Wis., December 27.

Harry E. Isaacs, M.D., New York City, to Miss Elsie Lampke of Bloomfield, N. J., December 19.

Harry R. Carson, M.D., Princeton, Ill., to Miss Emily Sarlls of Mount Vernon, Ill., December 20.

Walter M. Dickerson, M.D., Renick, Mo., to Miss Harriet Fogel of Churubusco, Ind., November 29.

Lawrence T. Sidwell, M.D., to Miss Florence Miller, both of Glenwood, Ia., at Omaha, December 7.

Charles Addison Elliott, M.D. to Miss Genevieve Cole, both of Chicago, December 20.

Augustus Caillé, M.D., to Miss Rita E. Siebold, both of New York City, December 16.

Abraham L. Levin, M.D., to Miss Bessie Goldman, both of New Orleans, recently.

George Rubin, M.D., to Miss Erma Weill, both of Chicago, December 19.

Deaths

John Franklin Young, M.D. College of Physicians and Surgeons, New York City, 1868; a member of the American Medical Association; since 1884 a member of the staff of the Anna Jaques Hospital, Newburyport, Mass.; a member of the local board of health for six years; a member of the Massachusetts Medical Society, and its president in 1896-97; for twelve years a member and for several terms president of the local board of education; a member of the consulting board of the Danvers State Insane Hospital; died at his home in Newburyport, December 3, aged 69.

Walter E. Carll, M.D. Harvard Medical School, 1885; a member and once president of the Oregon State Medical Association; visiting physician to the Oregon City Hospital; formerly treasurer of the Oregon State Board of Medical Examiners; local surgeon of the Southern Pacific System; died at his home in Oregon City, November 29, aged 53.

Sydney Buffington, M.D. Medico-Chirurgical College of Philadelphia, 1911; died in his room in Philadelphia, December 5, less than two hours after receiving his certificate of graduation, from the effects of a gunshot wound of the head, self-inflicted it is believed with suicidal intent while suffering from acute melancholia, aged 23.

Ezra B. Pratt, M.D. New York University, New York City, 1869; sometime president, and trustee of the village of Fairport, N. Y., and president of the board of education; health officer of the town of Perinton since 1907; a medical cadet during the Civil War; died at his home in Fairport, November 30, from pneumonia, aged 66.

Oliver Fairfield Wadsworth, M.D. Harvard Medical School 1865; a member of the American Medical Association; instructor in ophthalmoscopy in his alma mater from 1881 to 1891; professor of ophthalmology from 1891 to 1898, and Williams professor of ophthalmology from 1898 to 1903; ophthalmic surgeon at the Boston Hospital since 1870; consulting surgeon to the Massachusetts Charitable Eye and Ear Infirmary and Massachusetts General Hospital; formerly president of the American Ophthalmological Society; surgeon of volunteers during the Civil War; secretary to the Boston Medical Library; died at his home in Boston, November 29, from carcinoma, aged 73.

James C. Egan, M.D. New York University, New York City, 1846; a member of the American Medical Association and the first president of the Louisiana State Medical Society after the Civil War; a member and vice-president of the State Board of Medical Examiners and the State Board of Health; surgeon in the Confederate service during the Civil War, and during the last two years surgeon in charge of military hospitals; chairman of the Shreveport Board of Health and health officer of the city; died at the home of his daughter, in Mount Lebanon, La., December 15, aged 89.

Max P. Vander Horck, M.D. Jefferson Medical College, 1885; one of the gold medalists of his year; a member of the American Medical Association; professor of dermatology and genito-urinary diseases in the University of Minnesota; consulting dermatologist to the Asbury, St. Barnabas, St. Mary's, the City and Northwestern hospitals; died suddenly at his home in Minneapolis, December 5, from heart disease, aged 49. At his funeral the pallbearers, both active and honorary, were members of the faculty of the Medical Department of the University of Minnesota.

Renwick Hill Montgomery, M.D. New York University, New York City, 1887; a member of the American Medical Association; formerly president of the Mahoning County Medical Society and a member of the consulting staff of the Youngstown City Hospital; died at his home in Youngstown, October 24, from cerebral tumor, aged 49.

John S. McGrew, M.D. Medical College of Ohio, Cincinnati, 1860; surgeon of the Eighty-Third Ohio Volunteer Infantry during the Civil War; a resident of Hawaii for forty-six years and known in Honolulu as the "father of Hawaiian annexation;" died at his home in Honolulu, November 17, from injuries received in a fall, aged 86.

Albion Stinson Whitmore, M.D. College of Physicians and Surgeons, New York City, 1878; a member of the American Medical Association; of Brookline, Mass.; consulting surgeon to the New England Peabody Home for Crippled Children and the Home for Aged Couples; died in the Deaconess Hospital, Boston, December 1, aged 59.

Truman E. Loope, M.D. Rush Medical College, 1866; a member of the American Medical Association; a practitioner of Winnebago County, Wis., more than forty years; for fourteen years a member of the county board; a fruit grower of note; died at his home in Eureka, recently, and was buried December 3, aged 69.

Gustav Arnold Ferdinand Reinhard, M.D. University of Marburg, Germany, 1863; a member of the Medical and Chirurgical Faculty of Maryland; one of the founders of the German Aged Home; surgeon in the Austro-Prussian War in 1866 and 1867; died at his home in Baltimore, December 2, aged 71.

John Quincy Wilbur, M.D. Medical College of the State of South Carolina, Charleston, 1849; of Waterloo; a member of the South Carolina Medical Association; a surgeon in the Confederate service during the Civil War; died at the home of his daughter in Cross Hill Township, December 4, aged 81.

John Joseph Martin, M.D. Dartmouth Medical School, Hanover, N. H., 1892; chairman of the board of health and school physician of Beverly, Mass.; at one time assistant surgeon of the Eighth Infantry, M. V. N.; died at his home, October 25, from retroperitoneal carcinoma, aged 49.

Bishop McMillan, M.D. Eclectic Medical Institute, Cincinnati, 1881; emeritus professor of nervous and mental diseases in his alma mater; superintendent of the McMillan Sanitarium for Mental Diseases at Shepard, O.; died in that institution November 15, from spinal disease, aged 54.

James Franklin Gaddie, M.D. Hospital College of Medicine, Louisville, Ky. 1906; a member of the Kentucky State Medical Association; formerly of Hardyville, Ky., but for three years a resident of Grandy, Mo.; died suddenly in that town, December 7, from heart disease, aged 33.

John D. Brownell, M.D. Long Island College Hospital, Brooklyn, 1891; a member of the Medical Society of the State of New York, and a charter member and trustee of the Newburgh Bay Medical Society; for several years a member of the board of education of Walden and health officer of the village for seven years; died in the New York Hospital, December 2, from nephritis, aged 54.

Abraham L. Miller, M.D. State University of Iowa, Iowa City, 1888; formerly a member of the American Medical Association; attending physician to the Dixon (Ill.) Public Hospital; a member of the board of directors of Carthage College; district surgeon of the Illinois Central system; died at his home, December 11, from heart disease, aged 51.

James Martin Rushton, M.D. Medical College of Georgia, Augusta, 1899; a member of the South Carolina Medical Association and president of the Edgefield County (S. C.) Medical Association; died at his home in Johnston, November 28, from nephritis, aged 37.

Alfred James Inloes, M.D. Washington University, Baltimore, 1869; a Confederate veteran; since 1893 a member and secretary of the board of education of Binghamton, N. Y.; died in his home in that city, October 5, from cerebral hemorrhage, aged 71.

Harlan Pomeroy, M.D. Cleveland University of Medicine and Surgery, 1879; a member of the staff of the Huron Street Hospital, Cleveland, and president of the Maternity Home; died at his home in Cleveland, December 4, from heart disease, aged 58.

Conway Blaine Ackley, M.D. Northwestern University Medical School, Chicago, 1900; a member of the Colorado State Medical Society; formerly of Bloomer, Wis.; died at his home in Denver, December 6, from tuberculosis, aged 34.

Laughlin O'Neal, M.D. Cincinnati College of Medicine and Surgery, 1876; surgeon of the 153rd Indiana Volunteer Infantry during the Civil War; died at his home in Somerset, Ind., November 23, from senile gangrene, aged 87.

Henry Phelps Perkins, M.D. Harvard Medical School, 1881; a member of the staff of the Newton (Mass.) Hospital for fifteen years; died at his home in West Newton, Mass., November 26, from heart disease, aged 51.

Marion H. Parker, M.D. St. Louis College of Physicians and Surgeons, 1891; a veteran of the Civil War; for many years principal of public schools in Oregon; died at his home in Greenville, Ore., November 29, aged 65.

Frank Thomas Vinal, M.D. Harvard Medical School, 1872; a member of the Massachusetts Medical Society; of Scituate; died in the Massachusetts General Hospital Boston, October 11, from cerebral hemorrhage, aged 66.

Darwin E. Brown, M.D. College of Physicians and Surgeons, 1898; a member of the American Medical Association and physician of Albany County, Wyo.; died at his home in Laramie, November 28, aged 41.

William Frederick Schultz, M.D. Medical College of Ohio, Cincinnati, 1897; a member of the Academy of Medicine of Cincinnati; died in his apartment in that city, November 13, from pneumonia, aged 44.

Fielding Alexander Combs, M.D. Transylvania University, Lexington, Ky., 1848; health officer of Visalia, Cal., for nearly twenty years; died at his home in Visalia, October 5, from senile debility, aged 84.

Andrew J. Mayfield, M.D. St. Louis College of Physicians and Surgeons, 1885; formerly of Fredericktown, Mo.; died at his home in Lutesville, Mo., November 11, from cerebral hemorrhage, aged 66.

Beecher B. Powell, M.D. Indiana Eclectic Medical College, Indianapolis, 1882; a veteran of the Civil War; died at his home in Logansport, Ind., November 27, from cerebral hemorrhage, aged 67.

William Henry Abernathy, M.D. Kentucky School of Medicine, Louisville, 1848; a member of the Medical Association of the State of Alabama; died at his home in Flomaton, December 4, aged 83.

Orien Erle Maddox, M.D. Hahnemann Medical College, 1897; health officer of Rockville, Ind.; died at the home of his parents in Indianapolis, December 2, from ptomain posioning, aged 37.

James H. Manahan, M.D. Kansas City (Mo.) Medical College, 1898; of Enterprise, Kan.; formerly police surgeon and city physician of Kansas City; died in Topeka, November 29, aged 42

Charles N. Branch, M.D. Castleton (Vt.) Medical College, 1846; a member of the state legislature in 1884; died at his home in Anderson, Ind., December 8, from cerebral hemorrhage, aged 91.

Stephen Brown (license, Kansas, 1901); of Great Bend; for thirty years a practitioner of the state; died on a Santa Fe train near Newton, Kan., December 8, from heart disease, aged 70.

Joseph E. MacNeill, M.D. Northwestern University Medical School, 1878; formerly of Denver; died at the home of his cousin in Waukesha, Wis., December 3, from heart disease, aged 74.

Isaac H. Reece (license, Texas, 1900, and Oklahoma, 1905); a member of the American Medical Association; died at his home in Manard, Okla., November 18, from pneumonia, aged 35.

Edward Hall, M.D. Eclectic Medical Institute, Cincinnati, 1864; a practitioner for fifty-eight years; died at his home in St. Joseph, Mich., October 15, from cancer of the lip, aged 81.

W. F. Orndorff (license, Ohio, years of practice, 1896); for many years a practitioner of Sonora; died at his home in Zanesville, November 23, from senile debility, aged 85.

John B. Logan, M.D. Kansas City (Mo.) Medical College, 1882; of St. Louis, Mo.; died in the Baptist Sanitarium, St. Louis, November 30, from cerebral hemorrhage, aged 63.

Andrew C. Dukes, M.D. University of Maryland, Baltimore, 1871; of Orangeburg, S. C.; died in a hospital in Columbia, S. C., November 30, after a surgical operation, aged 61.

Will Fred Speers, M.D. Memphis Hospital Medical College, 1911; of Marmaduke, Ark.; died in the Paragould (Ark.) Sanatorium, October 17, from typhoid fever, aged 24.

E. Henry Monk, M.D. American Medical College, (Eclectic), St. Louis, 1875; of Nevada, Ia.; died in the Iowa Sanatorium, Marshalltown, December 4, from nephritis, aged 62.

William Lynn Reed, M.D. Detroit (Mich.) Medical College, 1872; of St. Louis; died in the Memorial Home in that city, December 4, from cerebral hemorrhage, aged 77.

Otto Frank Zacherle, M.D. Jefferson Medical College, 1887; a member of the Medicolegal Society of Philadelphia; died at his home in that city, November 6, aged 48.

Ernest C. Scholer, M.D. Chicago Homeopathic Medical College, 1888; Harvey Medical College, Chicago, 1898; died at his home in Chicago, November 22, aged 48.

Carl G. R. Montoux, M.D. Hospital College of Medicine, Louisville, 1877; died at his home in Evansville, Ind., November 30, from heart disease, aged 73.

George F. Prowell, M.D. Jefferson Medical College, 1871; a veteran of the Civil War; died at his home in Burnside, Pa., November 11, aged 68.

George Campbell Ogden, M.D. Medical College of Ohio, Cincinnati, 1866; of College Hill, O.; died at his home in College Hill, Cincinnati, December 2.

Benjamin J. Shipley, M.D. University of Louisville, Ky., 1873; of Glasgow, Ky.; died at his home near Oil City, Ky., November 12, aged 69.

Alexander C. McNeil, M.D. Michigan Homeopathic Medical College, Lansing, 1871; died recently at his home in San Francisco, aged 70.

Joseph F. O'Neal, M.D. Eclectic Medical Institute, Cincinnati, O., 1874; died at his home in Chicago, December 9, from nephritis, aged 68.

Lewis C. McFatridge, M.D. Medical College of Indiana, Indianapolis, 1880; of Atlanta, Ind.; died November 13, from tuberculosis.

Joseph Iddings McKee, M.D. Miami Medical College, Cincinnati, 1876; died at his home in Wilkinsburg, Pa., November 9, aged 62.

Solomon D. Johnson, M.D. Hahnemann Medical College, Chicago, 1879; died in his home in Milwaukee, November 20, aged 59.

Thomas Edison Oglevee, M.D. Jefferson Medical College, 1903; died at his home in Pittsburgh, Pa., November 20, aged 33.

Nathan T. Noble, M.D. Medical College of Ohio, Cincinnati, 1869; died at his home in St. Marys, O., December 4, aged 69.

William F. Hengst, M.D. University of Maryland, Baltimore, 1876; died at his home in Baltimore, December 4, aged 57.

Wilson McGrew (license, Indiana, 1899); died at his home in Clinton, November 14.

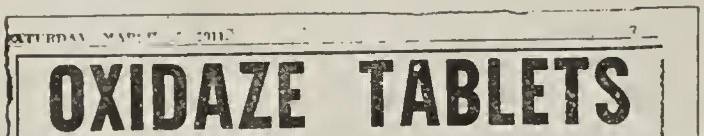
The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

OXIDAZE

The Latest Name of the Odoriferous Sugar Cure for Consumption

Most of our readers, doubtless, remember the exposés we have published of a special type of "consumption cure" humbug consisting essentially of ordinary cane sugar and some volatile oils. The nostrum has been sold by various individuals and under various names. To refresh the memory, the following recapitulation of the facts concerning the "sugar cure" for consumption will prove of value:[1] In 1907, a "consumption cure" was put on the market under the name "Hydrocine." Hydrocine—at first—was said to be a "hyper-oxidized hydro-carbon;" later it was referred to as an "oxidized carbohydrate." It was analyzed by the Association's chemists, who reported that they found that "each 29.5 grain Hydrocine tablet contains 28 grains of cane sugar and small quantities of volatile oils and a trace of pancreatin." This preparation seems to have originated with a C. E. Getsinger who organized what was known as the Medical Food Company. The commercial possibilities in selling an odoriferous sugar mixture as a "consumption cure" apparently appealed to one Charles S. Roberts, a physician of Syracuse, N. Y., who, with the help of Charles H. Goddard and others, incorporated the Hydrocine Company for the purpose of exploiting Getsinger's "treatment." Goddard, it will be remembered, was the man who organized the cooperative "patent-medicine" concern known as the A. D. S.—American Druggists Syndicate.



ATURDAY, MAR 1911 7

OXIDAZE TABLETS

Something Everyone Should Know

How to help stamp out Tuberculosis. How to quickly relieve Pneumonia. How to relieve Paroxysms of Asthma.

How to relieve Acute Chronic Bronchitis, Catarrh, Laryngitis and Whooping Cough. How to keep the voice of singers and public speakers clear and strong. How to restore the voice when overworked or impaired. How to fortify the body against the invasion of all germs of infection of whatever name or nature.

While scientists are wrangling over theories concerning these matters, we are producing results. Suffering humanity demands no fine spun theories, but simply asks for quick and tangible results. Our testimonials speak volumes, not theories, but of actual results obtained from the use of OXIDAZE TABLETS

Here is a Statement Made to The American Oxidaze Co. by a Prominent Physician of Worcester County Who Has a Very Extensive Practice.

The results obtained with Oxidaze Tablets by prominent and thoroughly reliable physicians, are so satisfactory that they steadfastly continue to prescribe them. Their orders to us are now by the thousands, where at first were only for the hundred trial box. No fair minded physician will condemn Oxidaze Tablets who has ever given them a fair trial.

We cordially invite all physicians of whatever school, to give this remedy a fair, practical trial in any of the above mentioned diseases, allowing the results obtained to prove and declare their real merit.

American Oxidaze Company

CAPITAL $250,000

Massachusetts Charter.

Eugene Howard, M. D., President

Henry H. Merriam, Treasurer

F. P. Knowles,

F. H. Hamblin,

Gen. C. W. Wood.

E. J. Ross,

Henry H. Merriam

Object of Corporation—The manufacture and distribution of the Oxidaze Remedies for Tuberculosis, Pneumonia, Asthma, Bronchitis and other affections of the Throat and Lungs

Home Office · Old Telegram Building

Worcester, Mass.

Oxidaze Tablets are on sale at your druggist.—If not found there they can be obtained at the office of the Company. Box 100 Tablets $3.00 Box 50 Tablets $1.50 Trial Box Tablets 35c

Photographic reproduction (much reduced) of a newspaper advertisement of Oxidaze, the latest name for Getsinger's product. This stuff is now being sold direct to the laity.

Getsinger and Roberts later seemed to have had a disagreement and Getsinger marketed his own product under the name of "Oxydase." Roberts changed the name of Hydrocine to "Oleozone" and apparently had the stuff made by the A. D. S.—or at least it bore the same serial number as that given the A. D. S. products.

Coincident with these changes in the name of the "hyper-oxidized hydro-carbon," another concern came into existence—the Cowles Institute, said to be operated by one H. L. Cowles. This also dispensed "oxygenated products" for the cure of consumption. A little later Cowles seems to have changed the name of his concern to the Hemavitæ Company and to have rechristened his product, "Hemavitæ."

The latest change in the name of Getsinger's product is "Oxidaze" put out by the American Oxidaze Company. This company claims to have purchased the formula of Getsinger who is no longer connected with the business.

The Oxidaze concern sells its product direct to the public. The nostrum is recommended for tuberculosis, pneumonia, asthma, bronchitis, catarrh, laryngitis, whooping-cough, etc., and this evil-smelling mixture is said "to fortify the body against the invasion of all germs or infection, of whatever name or nature." While most of the men connected with this new company seem to be laymen, one individual—its president—claims to be a physician, and his facsimile signature appears on the advertising matter and the packages of the nostrum. This man is Eugene Howard, M.D., who asserts that he was graduated by the St. Louis Medical College in 1874. The dean of this college reports that he is unable to find any record of a Eugene Howard having been graduated by that institution. Eugene Howard is not registered in Massachusetts, neither has he applied for registration.

To determine the composition of this latest form of the "sugar cure" for consumption so that it might be compared with its predecessors, an analysis of the stuff was made in the Chemical Laboratory of the American Medical Association. The chemists' report follows:

LABORATORY REPORT

"The tablets received in a carton labelled 'Oxidaze Tablets No. 1 Dark. A most effective remedy in the treatment of Tuberculosis, Pneumonia, Asthma . . . etc. . . . prepared for American Oxidaze Company, Worcester, Mass.,' are dark brown in color possessing a strong odor and taste of essential oils. A general separation of ingredients yielded the following results:

Chloroform-soluble matter..........	10.98	per cent.
Water-insoluble matter..............	7.86	per cent.
Water-soluble matter (by difference).	81.16	per cent.
	100.00	

"The chloroform-soluble matter appears to be, at least in large part, a mixture of volatile oils.

"The water-soluble portion appears to consist of sugar containing some dye and a trace of potassium iodid, the latter amounting to 0.14 per cent. of the tablet.

"The water-insoluble matter consists almost entirely of corn starch.

"The specimen of Oxidaze tablets examined may then be said to consist essentially of sugar containing a small amount of volatile oils, starch and a trace of potassium iodid."

From this analysis, it is evident that the tablets now sold as Oxidaze are of the same character as those formerly exploited as Hydrocine. The substitution of a little starch for some of the sugar, the addition of a little more oil and the presence of a minute quantity of potassium iodid mark the only essential difference between the Oxidaze tablet and its prototype, Hydrocine. In spite, then, of its nomenclatorial evolution, the "sugar cure" for consumption remains just as worthless and just as silly as it was before it sprang newborn from the fertile brain of its inventor. So long, however, as the public clings to the old belief that any preparation that tastes bad and smells worse must have therapeutic value, so long will the J. Rufus Wallingfords of the pharmaceutical world continue to capitalize the hopefulness and credulity of ignorance.

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[1] Those who want to have a more detailed account of the nomenclatorial evolution of this "consumption cure" should send 4 cents for the pamphlet "Oxidaze-Oleozone-Hydrocine."

Correspondence

The Plan of the Medicolegal Department of the Journal

To the Editor:—I beg to call your attention to an error of omission in THE JOURNAL, November 18, so serious as to render substantially incorrect the article in which it occurs. Under the heading of "Validity of Provision for Medical Examination and Treatment of Prostitutes," you state that the Appellate Division of the Supreme Court, First Department, holds constitutional the enactment for the medical examination and treatment of prostitutes (Sec. 79, Inferior Courts Act). This is correct as far as it goes, but you fail to state that in June of this year, the case to which you refer, People ex rel. Barone vs. Fox, 129 N. Y. Suppl. 646, was reversed by the Court of Appeals, the court of last resort in this state, and that the enactment referred to is, therefore, now held unconstitutional, and that the medical examinations under it have been discontinued since June. In giving this decision the court did not hand down an opinion, but reversed the Appellate Division on the dissenting opinion of Judge Clarke in that court. I speak with some authority on this subject, as I was the attorney for the relator in the case mentioned.

May I further call your attention to a slight inaccuracy in your argument? It was never contended by the persons opposed to this law that the health department or other proper authorities should not have full power to deal with venereal diseases as with any other contagious or infectious diseases. Our contention was simply that in dealing with this disease they could no more isolate certain victims of it and subject them to special treatment, than they could isolate certain persons afflicted with small-pox, allowing other persons so afflicted to be at large. You state further "that public prostitution applies only to women, and every person convicted of public prostitution is within the act." Our argument was that, although the laws of New York State recognize the existence of the male prostitute as a criminal, yet he was not placed within the operation of this act.

BERTHA REMBAUGH, New York.

[COMMENT.—Our correspondent seems to misapprehend somewhat the scope of the Medicolegal Department. The argument to which she takes exception was not ours, but that of the court. THE JOURNAL simply states—as correctly as it can in the limits of the space available—what the courts say and decide on the point or points that are deemed of interest to our readers. If we have anything to say about any decision, we say it in the Editorial Department, or else plainly separated by brackets from the abstract itself.

Taking up the first point raised by our correspondent, THE JOURNAL, in its Medicolegal Department, occupying approximately a page a week, gives as nearly as possible the new and most important things that the higher courts are deciding that physicians as such, as members of boards of health, etc., want to know. Occasionally, practically the full opinion is given, although generally, even in the fuller reports, the matter is selected and put into as readable form as it can be without sacrificing accuracy of statement.

Decisions of intermediate appellate courts are treated the same as those of courts of last resort, when reported in the advance sheets for the National Reporter System, because they then become, for whatever they may be worth, a part of the recognized and available case law of the land. They have a certain value of their own, regardless of whether some of them are subsequently directly indorsed or rejected by reviewing courts.

It would be impracticable to try to keep track systematically of their future history. He who wants it must look for that for each individual case in its appropriate place. The only exception is when the affirming or reversing decision comes to the attention of THE JOURNAL with something in it that at the time it is thought should be reported for its own sake.

Neither are the reports in the Medicolegal Department augmented by search for, or use of, information extraneous to the advance-sheet or official reports from which they are prepared.

Along these lines, in something over a column, THE JOURNAL gave in its Medicolegal Department, Nov. 18, 1911, what it thought its readers would be most interested in from a six-page decision of the First Appellate Division of the Supreme Court of New York in the case of People vs. Fox, or, more fully, People ex rel. Barone vs. Fox, 129 N. Y. S. 646, which had a three-page dissenting opinion attached. And at the date of the receipt of the above communication, a special search failed to show that any official or other report had been received, or was discoverable, showing the reversal stated, although the memorandum report of that may come later.

The last paragraph of the discussion in the opinion from which quotation criticized was made reads: "It is also claimed that this act relates to women only, and not to men, who are suffering from these diseases. But it was clearly a question for the legislature to say whether the public interests or the public health required that a woman afflicted with a venereal disease should be treated differently from a man. But public prostitution only applied to women, and every person convicted of public prostitution is within the act. Nor do I think this can be said to be an unreasonable exercise of the police power."—EDITOR.]

The Petition to Restore the Canteen

To the Medical Profession of America: In THE JOURNAL of the American Medical Association, December 16, was published in full (but, of course, without the 275 signatures of leading medical men all over the country) a petition to Congress to pass the Bartholdt bill restoring the canteen in the Army. The petition explains fully what the canteen really is.

My own position in the matter is this: I never place wine on my table on any social occasions whatever; I did not do so even at the weddings of my daughters and I never partake of it at any dinner or on other social occasions. If I had autocratic sway in America, I should nail up the doors of every saloon and put on them a placard "To RENT for some decent business"; and yet I am in favor of allowing beer (and be it noted that beer only would be provided in the canteen) to be sold to the soldiers. As a surgeon I am bitterly opposed to mutilating the body of any fellowman by amputating a leg, but when I have met with the alternative that the man must either lose his leg or lose his life, I have unhesitatingly sacrificed the leg in order to save the life.

It is by a precisely similar course of reasoning that I have reached the conclusion that the canteen should be restored. As I have read over for some years the reports of the Surgeon-General of the Army I have been deeply stirred by the recent enormous increase in the prevalence of venereal diseases to nearly 20 per cent. of the army annually. In my personal relations as a surgeon I have known no less than five of my warm professional friends who have suffered from an innocent syphilitic infection which has destroyed their health or their lives. My old friend, the late Dr. Nevins Hyde of Chicago, when I was discussing the matter with him one day told me that he had at that moment seven physicians under his care for an accidental syphilitic infection, and he mentioned several cases of physicians of his acquaintance who had committed suicide as a result of such an infection.

The wives and the children of our soldiers are much more subject to accidental and innocent infection than physicians. Many of their wives are inevitably infected either with gonorrhea or syphilis and their lives made miserable and the community deprived of healthy child-bearing women. Many of their children are doomed to blindness from gonorrheal infection in the very act of birth, many of them are rendered hopeless and wretched subjects of inherited syphilis; and in turn both father, mother and children may infect others.

When I read in the *North American Review* of March, 1911, an article by the Hon. James H. Blount summarizing and collecting much of this information, I was not content simply to raise my eyes to Heaven and piously sigh "What a dreadful state of affairs!" and go to sleep; but I asked myself at once "What is *my* duty as a citizen, a surgeon, and a Christian toward the men in the Army, toward their wives and children, and toward the community?"

After thinking the matter over very carefully and again referring to the Surgeon-General's Reports, I concluded that there was laid on me a duty to try to influence Congress to repeal the bill prohibiting the sale of beer in the Army posts and that the most powerful influence I could bring on Congress would be a petition from medical men alone and based on medical grounds. Accordingly I drew up the petition that is published in The Journal and sent it to a number of medical men all over the country.

I selected them from lists of our various national societies as men of unusual prominence and influence in their communities. I sent them a copy of the petition with a request to read it carefully and, if they approved of it, to sign it. A number, of course, neglected it entirely, some, I happen to know, from absence, illness and other causes.

I have received 278 signatures, three too late to be included in the petition. I have received only three refusals to sign: one because of want of information, a second because that correspondent's brother had died as a result of dissipation, the last because the third correspondent was opposed *in toto* even to the use of beer, no matter what the consequences in other respects might be.*

The verdict, therefore, of the profession at large, it seems to me, is very clear. Our petition referred only incidentally to the benefits of temperance, which we all would approve, to the diminution of the number of desertions and courts-martial for infractions of discipline which certainly would be diminished by the restoration of the canteen. Our main plea was a purely surgical and humanitarian one, viz., the alarming increase of venereal diseases and their results to the soldier, his wife and children and to the community and the nation. On these points we speak "with authority and not as the scribes" and Pharisees.

To my mind the alternative is simply this: Reestablish the canteen in which simply beer may be sold, and sold under supervision of the military officers of each post; or, on the other hand, abolish the canteen and drive our soldiers to the vile saloons just outside the military reservations, resorts, which are brothels as well as saloons, where the soldiers are supplied with the vilest kinds of whiskey, not seldom drugged, robbed of their scanty pay, and infected with either gonorrhea or syphilis, which in turn they transmit to their wives and children, and it may be to others who are entirely innocent.

Between these two alternatives any sensible man, it seems to me, cannot hesitate which one to choose.

Before I took any step in this matter I carefully counted the cost to myself. I knew that I should be misrepresented, that I should be abused and possibly even that my motives might be assailed. The above statement as made to my colleagues of the profession is the absolute truth from beginning to end. I accept the consequences.

If you, my colleagues, approve of the stand taken in the petition, I hope that you will write immediately to your representative and your senator, and to any other in either house of Congress whom you may know, or on whom you can exert any influence, and that you will especially write to the chairman of the Committee on Military Affairs of the House and also the chairman of the same committee of the Senate. Public opinion rules in America and while there are undoubtedly a number of members of either house of Congress who may be afraid of the bitter assaults that would be made on them by the ultratemperance advocates of the country, I believe that there are enough men of independent sound judgment in each house of Congress who will vote conscientiously and in accordance with their sincere convictions after careful investigation of the subject. More than this we cannot ask. Less than this we should not be willing to accept.

W. W. Keen, 1729 Chestnut Street, Philadelphia.

The Subperitoneal Plexus

To the Editor:—I note, in an abstract in The Journal (Dec. 16, 1911, p. 2034) of Gobiet's article on "Thrombosis of Mesenteric Arteries and Veins" (*Wien. klin. Wehnschr.*, xxiv, 45), the sentence: "A spontaneous cure is possible if the obstruction occurs so slowly that a collateral circulation can develop."

I do not think it is generally known, because not generally taught or referred to in the text-books, that in occlusion of these vessels a collateral circulation with spontaneous cure may be established. According to Da Costa, this occurs in about 5 per cent. of cases.

Sir William Turner, in 1863 (*Brit. and For. Med. Chir. Rev.*, 1863, xxxii, 222), demonstrated the existence of what he named the "subperitoneal arterial plexus," which communicates, on the one hand, with the arteries of the abdominal viscera, and, on the other, with the arteries of the different parts of the abdominal wall, such as the phrenic, intercostals and lumbar. In regard to the vessels which we are considering, he states: "It [this plexus] passed downward between the folds of the mesentery, reaching as far as the coils of small intestine *and communicated with the branches of the superior mesenteric artery.*"

Six years later, Dr. John Chiene (*Jour. Anat. and Physiol.*, 1869, iii, 65) described in detail a case of complete obliteration of the celiac and mesenteric arteries, the viscera receiving their blood-supply through this subperitoneal arterial plexus. This patient had died of paralysis, the result of a large aneurysm which extended from the bifurcation of the aorta upward to the crossing of the left renal vein. Although the branches of the celiac and mesenteric arteries were fully injected, the main trunks were completely obliterated at their origins, the obliteration in each case extending to the first branch. They were plugged by organized clots. In the case of the celiac axis a plexus connected the left phrenic and pancreaticoduodenal with the renal and suprarenal arteries. In the case of the mesenteric vessels, their branches were filled through the superior hemorrhoidal, which equaled the size of the femoral, and inosculated below with the internal iliacs, and above with the left and middle colic arteries. The last dorsal inosculated with the ileocolic, and the lumbar arteries with each other and with the ileolumbar and circumflex iliac arteries.

Thus, contrary to prevailing statements, these arteries are not end-arteries, as are those of the brain, but may, under favorable conditions, form efficient functional inosculations.

It seems to me that our forefathers had something on us in blood-letting, an art which has fallen into innocuous desuetude. Following along the lines of thought in this letter, while in the case of the thrombosed vessels the interest may be more academic than practical, yet it becomes purely practical when we see relief follow generous wet cuppings of the loins in nephritis, enteritis and other conditions that are reasonably amenable to such therapy.

Penn G. Skillern, Jr., Philadelphia.

Cellular Emphysema in Obstetric Cases

To the Editor:—In The Journal for July 22, p. 285, is the report, by Dr. Siegelstein, of a case of emphysema during labor, and an editorial note refers to the rarity of the affection. I refer you to a case reported by myself to the Ohio

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* My attention has been called to the fact that this paragraph may produce the erroneous impression in the minds of some readers that not many more than 281 petitions were sent out, of which only three were returned with a refusal to sign. I, therefore, went over the list of those to whom the petition was sent and found that 484 had been sent out, 281 were returned as mentioned in the letter, leaving 203 from whom no word was received. These non-signers should be divided into four classes:

1. Those who approve of the petition but did not wish to be drawn into the controversy or to be annoyed, attacked, and even ostracized, especially in communities where the local anticanteen spirit was very pronounced. Judging by the results of the known returns (278 to 3), it is my opinion that these may be set down as over one-half of the 203.

2. Those who did not approve of the petition but also preferred not to be drawn into the controversy.

3. The indifferent, many of whom very possibly did not even read the petition.

4. Those who by reason of change of residence, absence, etc., did not receive the petition or received it so late that they thought it useless. The early copies of the petition were sent out just as many were starting for Denver and Los Angeles to the meetings of the American Surgical Association and the American Medical Association and a considerable number were starting for their summer holiday. While writing this footnote one of the June petitions has reached me, duly signed, making, therefore, 282 heard from and 202 unheard from.

How many belonged to each of these four classes I do not know.

May I add also the closing paragraph from General Leonard Wood's annual report, just issued: "It is the consensus of opinion in the Army that the canteen should be reestablished. This opinion is concurred in by the undersigned."

This is the judgment of an army officer who is a physician as well, and one who also knows the sentiments of the Army.—W. W. K.

Co. (W. Va.) Medical Society in 1908, and recorded in the *West Virginia Medical Journal* of March, page 315, as follows: "Dr. Jepson reported a recent case of subcutaneous emphysema in a primipara after a hard labor, the only case of this very rare kind he had met with in forty years' practice. Immediately after the child was delivered the patient exclaimed: 'Oh, I am choking!' and examining for the cause the doctor found the cheeks and the neck and shoulders on a line with the clavicles, greatly swollen. This swelling was at once found to be due to the presence of air in the subcutaneous tissues. A soft crepitation exactly like that felt in a fresh lung was present all over the area named. But few works on obstetrics allude to this as the result of hard voluntary efforts of the patients, although this and other hard expulsive efforts are recognized as causes.

"Only two methods of bringing about this peculiar condition are named, aside from the well-known cases following traumatism, especially rib fractures. One is, that during the violent expulsive efforts of the parturient woman rupture of the air cells of the lungs occurs, the air escaping first into the interlobular tissue, thence by the root of the lung to the mediastinum, and then to the loose tissue about the root of the neck and on indefinitely. Death has occurred from interlobular emphysema. The other explanation is, that there may be an ulcer of the trachea, or other solution of continuity within the mouth or below it, and the air is forced into the cellular tissue by the patient's violent bearing-down efforts. The doctor failed to find the latter in the case reported, although he searched for it. He said that an English physician—name forgotten—had suggested that this condition might be voluntarily brought about by a person in the water, and thus drowning be prevented, by cutting the mucous membrane of the buccal cavity."

I may add that the emphysema in this case disappeared in a day or two, no remedy being used except gentle rubbing.

S. L. Jepson, M.D., Wheeling, W. Va.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FULGURATION IN CANCER

To the Editor:—Please refer me to some literature on the subject of fulguration in the treatment of cancer. L.

Answer.—The reply to our correspondent will doubtless be of interest to others, because of the newspaper publicity which has been given to this subject through the visit to this country of Dr. De Keating-Hart, of France. He has visited New York, Montreal, Philadelphia and other cities, and has demonstrated his method. In brief it may be described as a treatment by burning with an electric spark. He calls it "fulguration", from the Latin word for "lightning". The spark is passed through sterilized air to cool it. The spark is said to act on the tissue on which the cancer grows without destroying the tissue, but nevertheless preventing recurrence. We express no opinion on the value of the procedure. Those who wish further information can consult any of the following articles:

De Keating-Hart: Fulguration and Its Results Compared with Those of Other Methods of Cancer Therapy, *Interstate Med. Jour.*, June, 1910.

De Keating-Hart and Pozzi, S.: Electricity in Treatment of Cancer, *Bull. d. l'Acad. d. Méd.*, July 30, 1907.

Venus, E.: Elektrotherapie des Carcinoms. Sammel-Referat, *Centralbl. f. Grenzgeb. d. Med. u. Chir.*, 1910, xiii, 747.

MacKee, G. M.: Fulguration—The Local Application of a Current of High-Frequency by Means of a Pointed Metallic Electrode—Its Use in Dermatology, *Jour. Cutan. Dis.*, June, 1909.

Rivière, J. A.: High-Frequency Cytolysis and Fulguration of Cancer, *Med. Press and Circular,* June 2, 1909.

Buerger, L., and Wolbarst, A. L.: Fulguration Treatment of Papillomata of the Bladder, *New York Med. Jour.*, Oct. 29, 1910; abstr. in The Journal, Nov. 12, 1910, p. 1759.

Wiesner, B.: Fulguration According to Keating-Hart, *München. med. Wchnschr.*, March 17, 1908.

Abel: Apparatus for Fulguration Treatment, *Deutsch. med. Wchnschr.*, April 23, 1908.

Dessauer, F.: Apparatus for Keating-Hart's Fulguration, *Med. Klin.*, June 14, 1908.

Arndt, G., and Laqueur, A.: Experimental Study of Keating-Hart's "Fulguration" of Vital Organs, *München. med. Wchnschr.*, Aug. 3, 1908.

Schultze, K.: Conditions After Fulguration Treatment of Cancer, *Deutsch. med. Wchnschr.*, Oct. 8, 1908.

Schultze, K.: Fulguration Treatment of Cancer, *München. med. Wchnschr.*, Oct. 27, 1908.

Zimmern, A.: Courants de haute fréquence et action autoplastique, *Presse méd.*, Jan. 27, 1909.

Fredet, P.: Treatment of Cancer by Fulguration, *Presse méd.*, March 6, 1909.

Czerny, V.: Fulguration and Radium Emanation in Cancer, *Arch. f. klin. Chir.*, 1909, xc, No. 1.

Nieuwenhuyse, P.: Experimental Research on Action of High-Frequency Electric Currents, *Arch. f. klin. Chir.*, 1909, xc, No. 3.

Richter, A.: Fulguration in Gynecology, *München. med. Wchnschr.*, April 26, 1910; abstr. in The Journal, June 4, 1910, p. 1912.

Telemann, W.: The High-Frequency Electric Current in Medicine, *Deutsch. med. Wchnschr.*, May 4, 1911.

Czerny, V.: Treatment of Cancer, *Deutsch. med. Wchnschr.*, Nov. 2, 1911; abstr. in The Journal, Dec. 9, 1911, p. 1953.

Czerny, V., and Caan, A.: Treatment of Cancer with Radio-Active Substances, Especially Actinium, *München. med. Wchnschr.*, Aug. 22, 1911.

Berg, J.: Fulguration in Thirty-Two Cases of Cancer, *Nord. Med. Ark.*, xlii, surg. sect. No. 3; abstr. in The Journal, Aug. 6, 1910, p. 546.

Werner, R., and Caan, A.: Temporary Eventration of Intra-Abdominal Organs for Roentgen-Ray Examination and Treatment, *München. med. Wchnschr.*, March 14, 1911; abstr. in The Journal, April 22, 1911, p. 1234.

Werner, R., and Caan, A.: Combined Electric and Roentgen Treatment of Cancer, *München. med. Wchnschr.*, June 6, 1911; abstr. in The Journal, July 15, 1911, p. 255.

TUBERCULOUS GLANDS OF THE NECK

To the Editor:—Kindly outline the present views most generally held regarding the treatment of tuberculous glands of the neck. Some surgeons recommend prompt and, so far as possible, complete extirpation of all the glands in the region, others partial excision or incision, others tuberculin treatment without surgery. Is one method to be preferred to another and what principles are to guide the general practitioner in choice of treatment? L.

Answer.—In children, tuberculous lymphadenitis tends to remain localized and to break down early to form abscesses. In this form of the disease incision of the abscess with subsequent drainage, combined with general hygienic measures, will usually effect a cure. In some instances a sinus may persist after drainage, necessitating removal of the diseased glands.

In adults both the superficial and deep lymph-nodes may become infected and the tendency is involvement of the entire chain of lymph-nodes. Most surgeons advise, in these cases of extensive tuberculosis of cervical lymph-nodes, a radical removal of all the nodes. The primary mortality is low, and the nodes may be entirely removed. Some advise tuberculin but the results from this treatment are not nearly as sure and the treatment must be continued for a long period of time.

In adults in whom there is a tendency to localization and caseation a conservative operation may be advisable. There is not the tendency in the adult as in the child, however, for tuberculous lymphadenitis to remain localized and suppurative.

TREATMENT OF HYPERTENSION

To the Editor:—In The Journal, December 2, Dr. William B. Snow of New York, in discussing Dr. Visscher's paper on "The Treatment of Chronic Hypertension," says that "the d'Arsonval method of treating hypertension is one of the greatest boons to humanity." Please give information regarding this method, or state where a full description of it can be found.

J. H. Howell, Welland, Ontario.

Answer.—The d'Arsonval method of treating hypertension is the same as the treatment with high-frequency currents or autocondensation, which is mentioned by Dr. Snow. A description of this method may be found in works on medical electricity and especially in "High-Frequency Currents in the Treatment of Some Diseases," by Chisholm Williams (published by Rebman, New York). The method is approved by several writers on the treatment of arteriosclerosis.

BITES OF SNAKES, SPIDERS AND OTHER NOXIOUS CREATURES

To the Editor:—In answer to an inquiry in The Journal (Sept. 30, 1911, p. 1153) with reference to spider bites, I will say that we have in Southern California a small black spider with red spots on the abdomen, found in outdoor closets and known as *Latrodectus mactans*.

The bite of this spider causes little if any local pain or swelling, but within five or ten minutes after being bitten the patient notices that the muscles of the abdomen become very tense and he becomes very nervous. In some cases the short muscles of the thighs become involved. The recti of the abdomen are the muscles principally involved and the patient complains of feeling as though they were being pulled from their attachments.

I have seen two cases; the spasm of the muscles lasted about forty-eight hours and was not relieved by a quantity of morphin sufficient to relieve distress. Reference may be had to the *South. California Pract.*, 1895, x, 451; 1897, xii, 169, and 1901, xvi, 291, for other articles. H. A. Atwood, M.D., Riverside, Cal.

VALUE OF CHOCOLATE AND COCOA

To the Editor:—Will you kindly advise me of the views of authorities on the food value of chocolate and cocoa, and whether or not they contain any injurious alkaloids.

A. O. Squire, New York.

Answer.—The food value of chocolate and cocoa depends chiefly on their content of carbohydrates and fat. Cocoa contains about 15 per cent. of nitrogenous matter, but this is not all of a nutritious character. The amount of fat varies greatly, since a considerable portion of it is removed in the process of preparation for use as food. In the native cocoa it amounts from 45 to 50 per cent. If we estimate the carbohydrates and nitrogenous material in prepared cocoa at 25 per cent. and the fat at 25 per cent., the nutritive value of 100 gm. of cocoa would be approximately 325 calories. As the amount commonly used for a cup of the beverage is about 5 gm., the nutritive value due to the amount of cocoa in the cup would be about 16 calories.

Chocolate contains 15 per cent. of fat, 5 per cent. of nitrogenous substance and about 60 per cent. of sugar. The nutritive value of 100 gm. of chocolate would therefore be approximately 410 calories. If 5 gm. of chocolate be used to make a cup of the beverage, the nutritive value of the chocolate employed would be approximately 20 calories.

The basic substance contained in cocoa and chocolate is theobromin or dimethyl-xanthin, a substance related to uric acid. It is a slight stimulant to the nervous system and an active stimulant of the heart and muscles. It is also an active diuretic. It stimulates the nerves less than caffein and hence the beverages which contain it are less disturbing than coffee. The amount of theobromin ordinarily taken is so small that its physiologic action is insignificant. Long-continued use, however, is said to be liable to produce gastric disturbances.

PAPYRACEOUS FETUS

To the Editor:—Mrs. O. B., on the evening of Aug. 25, 1911, after an uneventful labor, gave birth to a full-time, living child. After completion of the third stage, as is customary with me, I took the placenta in my hands to ascertain if any part of it had been retained. Being struck with the unusual hardness of a part of its periphery, which resembled calcification, I made a closer examination, and on opening the sac found it to be a case of papyraceous fetus. The fetus was apparently of between three and four months' gestation and entirely mummified. At no time during pregnancy were there any symptoms of death of fetus, as pains or hemorrhage, except a slight bloody discharge about a month before the birth of the full-time child.

James F. E. Colgan, Philadelphia.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

MORE GOOD WORK IN BUNCOMBE COUNTY

We recently commented on[1] the excellent work done by the Buncombe County (N. C.) Medical Society and commended it to the attention of other county societies. Evidently the physicians of this county realize their duty to the public and to the profession, and are as active in promoting good health conditions as they are in driving out swindlers and fakers. In the December number of the *Bulletin of the North Carolina Board of Health* is an article by the secretary on "What the County Medical Societies are Doing as Organized Forces for Their Countries." The entire article is worthy of careful reading by all interested in county society work, and only lack of space prevents its reproduction in full. The secretary of the State Board of Health says that he wrote to the secretary of each county society, asking for a report on the health activities of the society. After stating that only seven of the sixty-nine county societies replied, the article continues:

"One of the many striking sayings of ex-Governor Aycock, in his effective campaign for better educational facilities and provisions in North Carolina, was with reference to our state being, then, with the single exception of South Carolina, the most illiterate state in the Union. When he called attention to this fact he always said, 'Thank God for South Carolina.' And so, in calling attention to the fact that only seven of sixty-nine county societies even took notice of our letter, and only two of the seven report any definite work, we feel when we come to a real live county medical society, one that has cooperative power, knows how to use it, and does things, like saying, 'Thank God for Buncombe.'

"We herewith append the questions and answers as given by the Buncombe County Medical Society:

"Q. 1. Does your county medical society, as an organization, consider that it is under any special obligation to the cause of public health?

"A. 1. Yes, and we live up to our obligation as we see it.

"Q. 2. What definite work has your county medical society in contemplation for the cause of public health?

"A. 2. The immediate work we have on hand at this time is through a committee of five to bring pressure to bear on the county commissioners to get them to employ the county health officer for all his time. We are constantly alert for anything we can do to advance the interests of the public health by the education of the people, by the passage of new laws, and in any and every other way that may present.

"Q. 3. What definite work has your county medical society accomplished for the advancement of public health in your county or state?

"A. 3. 1. Through Dr. J. A. Burroughs, deceased, as chairman of the committee, our society secured the passage of an anti-expectoration ordinance. This was the first ordinance of the kind to be passed by any municipality, and it has been copied throughout the world.

"2. Securing the passage of an ordinance making tuberculosis a reportable disease.

"3. Securing the passage of an ordinance requiring the fumigation of rooms by the board of health that have been vacated by persons suffering with tuberculosis, with a penalty for using the rooms until they have been so fumigated. These laws are enforced, too, and while the physicians of the town generally cooperate with the health department, it may not be amiss to state that more than one physician has been prosecuted for failing to report contagious diseases.

"4. Securing the passage of an ordinance requiring milk and dairy inspection, and the tuberculin testing of all cows furnishing milk to Asheville. Dr. C. V. Reynolds was health officer at this time and took a very active part in securing the passage of the milk and dairy inspection ordinance. Dr. Minor and Dr. Reynolds were the committee from the Buncombe County Medical Society.

"5. Dr. C. P. Ambler was chairman of the committee that fought for several years through the city council and through the legislature for the passage of a meat inspection law rigidly enforced, the equal of any city.

"6. In the fall of 1905 the Buncombe County Medical Society began the study of the life-cycle and habits of the house-fly, and on March 6, 1906, secured the passage of an ordinance requiring that proper manure bins be built in connection with every stable, and that the manure be removed without the city once in every seven days. Mr. L. M. McCormick, who is now connected with our health department, lectured before the society on the house-fly, and conducted the campaign against the house-fly during the summer of 1906. The ordinance was passed with the understanding and agreement with the board of health and the committee from the medical society that the board of aldermen would not appropriate any money for the fly campaign. Dr. C. V. Reynolds, who was at the time health officer, secured enough money by subscription, a large part of which came from the members of the Buncombe County Medical Society, to conduct the campaign during that summer.

"7. The Buncombe County Medical Society, in connection with Dr. C. V. Reynolds, health officer, and the board of health, secured the passage of an ordinance making typhoid fever a reportable disease.

"8. The Buncombe County Medical Society secured an appropriation of $5,000, half of it from the city and half from the county, to establish an isolation hospital to be conducted in connection with the Asheville Mission Hospital. This, however, failed of establishment because the board of managers of the Asheville Mission Hospital turned the proposition down.

"9. In 1906 a committee from the Buncombe County Medical Society, with Dr. L. B. McBrayer as chairman, acting through the State School Book Commission, secured the addition of a chapter, being Chapter 13 of Book Two of Lippincott's 'Physiology,' on the prevention of tuberculosis. This chapter was published only in the books sold in North Carolina. The Florida State Board of Health in its bulletin last year complained because the publishers did not publish this chapter in the books used in Florida.

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[1] The Journal A. M. A., November 4, pp. 1543, 1553.

"10. Our society has a standing committee on legislation, who cooperate at all times with the committee on legislation and public policy from the state medical society in the furtherance of the aims of the said state medical society through its committee, and makes a specialty of thoroughly informing members of the legislature from this county on matters relating to public health that will be presented to the next session of the legislature.

"11. Our society has a committee to look after illegal practitioners, and have recently chased out of the city some fakers styling themselves as 'Radio-Active Doctors.'

"12. In connection with the health officer, Dr. C. V. Reynolds, and the city board of health, our society secured the erection of a small-pox hospital by the city and county.

"13. In the recent imbroglio between Secretary Wilson, Solicitor McCabe and Dr. Harvey Wiley, our society sent President Taft a telegram urging him to give the matter careful consideration, and affirming our belief in the scientific ability and thorough honesty of Dr. Wiley.

"14. Our society agitated the establishment of a municipal laboratory by the health department for some time, and has recently seen an appropriation of $500 made for the purpose of further equipping the same.

"15. In 1885 our society, through Dr. H. B. Weaver, secured the passage of the first law in the United States making it a misdemeanor to practice medicine without a license. The bill was drawn by Dr. Weaver and the Hon. H. A. Gudger, who was at that time state senator but who is now judge of the Supreme Court in Panama. In the year 1889 the legislature passed a law allowing any physician from any state who was practicing medicine prior to the passage of our law in 1885, to register his diploma and thereby become a legal practitioner in this state. At the next session of the legislature our society, through Dr. W. P. Whittington, secured the repeal of this law. Our society sent him to Raleigh and paid his expenses. The committee on legislation and public policy of the state medical society, advised him that the above-mentioned law could not be repealed and advised him strongly that he do not attempt it. However, he went to work and secured the repeal of the law without any trouble; likewise without any assistance on the part of the committee from the state medical society.

"16. The gravity line, which is now the pride of our city, was advocated in one of the sessions of the medical society long before it was ever considered seriously by the board of aldermen, at which time Dr. C. P. Ambler had an option on a large part of the property now owned by the city as a watershed and offered to turn the same over to the city.

"17. The Appalachian Forest Reserve was frequently discussed in our society meetings, the main idea, of course, being the protection and conservation of the potable waters of our nation. A committee was appointed with Dr. C. P. Ambler as chairman, and the activities of Dr. Ambler along this line were perhaps solely responsible for the widespread attention that the subject has received and the culmination of the idea which now seems to be in sight.

"18. The matter of sick people, especially tuberculous people, handling breadstuffs, meats, etc., for the retail trade was discussed at length, Dr. C. P. Ambler mentioning a specific case, with the result that proceedings for damages were instituted against Dr. Ambler by the party so reported, with the final result that Dr. Ambler won out and the complainant had to pay the cost.

"All of which is respectfully submitted.

L. B. McBrayer,
H. B. Weaver,
C. V. Reynolds,
Committee Buncombe County Medical Society."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

General Subject for the Month: Fractures and Dislocations

Fifth Month—First Weekly Meeting

Anatomy of Bones

Classify bones as to shape. General structure of bone. (a) Physical, (b) chemical properties of bone. Demonstrate fresh specimen. Periosteum and its functions. Cancellous structure. Nutrient blood-vessels. Influence on location of suppurative or tuberculous degenerations. Lymphatic vessels. Distribution. Nerve supply of bone.

Histology of Bone

Haversian system, its canals, lacunæ, canaliculi, etc. Contents of each. Demonstrate microscopic sections. Development of bone. Ossification in membrane. Ossification in cartilage.

Anatomy of Joints

Synarthrosis, amphiarthrosis, diarthrosis; subdivisions of each. Structure of true joints; articular surfaces, articular cartilages, capsular and accessory ligaments, synovial membrane, synovial fluid, synovial fringes, intra-articular ligaments. Blood-vessels, lymphatics and nerves of joints. Fixation of joints by ligaments, muscles, cohesion and atmospheric pressure.

Dislocations

Classification: Compound, complicated, multiple, complete and incomplete, traumatic, pathologic, congenital, ancient or unreduced, recurrent, spontaneous.

Etiology: Predisposing causes, anatomic peculiarities, age, sex, occupation; exciting causes, indirect or direct violence, muscular action.

Pathology: Injury to ligaments and capsule, injury to bone and cartilage, to blood-vessels, to nerves.

Treatment: Anesthetic, reduction; obstacles to reduction, portions of capsule, muscle, tendon, bone.

REFERENCE BOOKS FOR THE FIFTH MONTH

Stimson: Fractures and Dislocations.
Scudder: Treatment of Fractures.
Keen's Surgery, vol. ii.
American Practice of Surgery, Bryant and Buck, vol. iii.
Beck: Fractures.
Cotton: Dislocations and Joint Fractures.
Ashhurst: Fractures of the Elbow.
Text-Books on surgery: Da Costa, International Text-Book. Fowler, Mumford, Wyeth, Park.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 23, 1911.

McAlister, John A., Jr., dental surgeon, December 14, reported for duty at Jefferson Barracks, Mo.

Worthington, Joseph A., captain, December 15, ordered to report for temporary duty as surgeon of the transport *Sheridan*, about Jan. 5, 1912, to Philippine Islands and return.

Feely, James F., acting dental surgeon, December 18, relieved from duty at Fort Slocum, N. Y., and ordered to Fort Hamilton, N. Y., for duty.

Sherwood, Charles E., acting dental surgeon, December 18, relieved from duty at Columbus Barracks, Ohio, and ordered to presidio of Monterey, Cal., for duty.

Bowman, M. H., M.R.C., December 18, leave of absence extended one month.

Crosby, William D., lieut. colonel, December 18, granted two months' leave of absence.

Fauntleroy, P. C., major, December 18, ordered, in addition to his other duties, to perform the duties of surgeon at the Soldiers' Home, Washington, D. C.

Ferenbaugh, Thomas L., lieut., December 19, relieved from duty at Fort Des Moines, Iowa, and ordered to Fort Sill, Okla., for duty.

Bayley, Edmund W., M.R.C., December 19, relieved from duty at Fort Sill, Okla., and ordered to Fort Leavenworth, Kan., for duty.

Hill, Eben C., lieut., December 19, is ordered to report in person to Major-General William H. Carter, U. S. Army, president army retiring board at Washington, D. C., for examination by the board.

Stone, Frank H., dental surgeon, December 17, reports for temporary duty at Fort Oglethorpe, Ga.

Medical Corps, U. S. Navy

Changes during the week ended Dec. 16, 1911.

Ryder, C. E., P. A. surgeon, detached from the naval hospital, Naval Home, Philadelphia, and ordered to duty at the naval hospital, Puget Sound, Wash.

Stone, E. P., medical inspector, ordered to the naval hospital, Las Animas, Colo., for treatment.

Johnson, L. W., P. A. surgeon, detached from duty in connection with the reserve torpedo division, navy-yard, Charleston, S. C., and ordered to duty at the naval hospital, Naval Home, Philadelphia.

Gill, J. E., P. A. surgeon, detached from the *Des Moines* and ordered to the *North Dakota*.

Smith, C. W., asst. surgeon, detached from the *Nashville* and ordered to duty at the naval hospital, Naval Home, Philadelphia.

Pollard, J. B., asst. surgeon, detached from the *North Dakota* and ordered to duty at the naval hospital, New York.

Jenkins, H. E., asst. surgeon, detached from the *Ohio* and ordered to the *Nashville*.

Webb, U. R., surgeon, ordered to duty at the naval hospital, Canacao, P. I.

Changes during the week ended Dec. 23, 1911.

Cottle, G. F., P. A. surgeon, commissioned passed assistant surgeon from Oct. 3, 1911.

Williams, G. B., and Noble, D. H., P. A. surgeons, commissioned passed assistant surgeons from Oct. 12, 1911.

Dorsey, B. H., P. A. surgeon, detached from the naval hospital, Puget Sound, Wash., and ordered home to await orders.

Wilson, G. B., medical inspector, detached from duty as fleet surgeon of the Asiatic fleet and ordered home to await orders.

Lowndes, C. H. T., medical inspector, detached from the navy recruiting station, Baltimore, and ordered to duty on board the *Saratoga* as fleet surgeon of the Asiatic fleet.

Iden, J. H., surgeon, orders of November 9 revoked.

Warner, R. A., P. A. surgeon, detached from the New York Nautical Training Ship *Newport*, December 26, and ordered to the *Yankton*.

Cole, H. W., P. A. surgeon, detached from the *Yankton* and ordered home to await orders.

Cottle, G. F., P. A. surgeon, ordered to duty at the naval hospital, naval training station, North Chicago, Ill.

Pugh, W. S., Jr., P. A. surgeon, detached from the naval hospital, Boston, December 26, and ordered to duty at the naval hospital, Puget Sound, Wash.

McDonnell, W. N., P. A. surgeon, orders of November 9 revoked.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Alabama: Montgomery, Jan. 10. Chairman, Dr. W. H. Sanders.

Arizona: Phoenix, January 2-3. Sec., Dr. Ancil Martin.

Colorado: State Capitol Building, Denver, January 2. Sec., Dr. David A. Strickler, 612 Empire Building.

District of Columbia: Washington, January 9. Sec., Dr. George C. Ober, 125 B St. S.-E.

Illinois: Coliseum Annex, Chicago, January 17-19. Sec., Dr. James A. Egan, Springfield.

Indiana: State House, Indianapolis, January 9-11. Sec., Dr. W. T. Gott, 57 State House.

Minnesota: State University in Minneapolis, January 2-5. Sec., Dr. W. S. Fullerton, 214 American National Bank Building, St. Paul.

New Hampshire: State House, Concord, January 9-10. Regent, Mr. H. C. Morrison, State Library.

New Mexico: The Capitol, Santa Fé, January 14. Sec., Dr. J. A. Massie.

New York: January 30-February 2. Chief of Examinations Division, Mr. Harlan H. Horner, Albany.

North Dakota: Grand Forks, Jan. 2. Sec., Dr. G. M. Williamson.

Oklahoma: Oklahoma City, January 9-12. Sec., Dr. John W. Duke, Guthrie.

Oregon: Portland, January 2-4. Sec., Dr. E. B. McDaniel, 704 Electric Building.

Rhode Island: State House, Providence, January 4-5. Sec., Dr. Gardner T. Swarts.

South Dakota: Huron, January 10-11. Sec., Dr. L. G. Hill, Watertown.

Utah: Salt Lake City, January 1. Sec., Dr. G. F. Harding, 310 Templeton Building.

Vermont: Montpelier, January 8-11. Sec., Dr. W. Scott Nay, Underhill.

Washington: Spokane, January 2. Sec., Dr. F. P. Witter, Traders' Block.

Wisconsin: Milwaukee, January 9-11. Sec., Dr. John M. Beffel, 3200 Clybourn Street.

Maine November Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, November 14-15, 1911. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 29, of whom 25 passed and 4 failed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1909)	75
Medical School of Maine	(1911)	83, 89
Maryland Medical College	(1910)	81
Johns Hopkins University	(1911)	86
Tufts College Medical School (1910) 78, 78; (1911) 79, 82, 84, 85.		
College of Physicians and Surgeons, Boston (1907) 90; (1910) 82; (1911) 76, 85.		
Boston University	(1909)	88
Harvard Medical School	(1910) 86, 88; (1911)	83
Dartmouth Medical School	(1908)	90
Fordham University	(1911)	81
Hahnemann Medical Coll. and Hosp., Philadelphia	(1910)	93
Jefferson Medical College	(1910)	84
University of Vermont	(1911)	90
University of Virginia	(1909)	85

FAILED

College	Year Grad.	Per Cent.
Baltimore Medical College	(1911)*	78
Maryland Medical College	(1911)*	75
Laval University, Montreal, Canada	(1910)	65, 73

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Woman's Medical College of Pennsylvania	(1911)	Maryland
Vanderbilt University	(1906)	Tennessee
University of Vermont	(1911)	Vermont

* Fell below 60 in one or more branches.

Nevada November Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, November 6-8, 1911. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, of whom 4 passed and 1 failed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Missouri Medical College	(1890)	80.6
Long Island College Hospital	(1899)	87.4
University of Oregon	(1911)	92.5
University of Pennsylvania	(1910)	94.8

FAILED

College	Year Grad.	Per Cent.
Ohio Medical University	(1904)	61.9

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1906)	Illinois
Northwestern University Medical School	(1910)	Illinois
Chicago College of Medicine and Surgery	(1910)	Illinois

Montana October Report

Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written and oral examination held at Helena, Oct. 3-5, 1911. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 36, of whom 24 passed and 12 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1899)	77.9
Rush Medical College	(1903)	82.2
College of Physicians and Surgeons, Chicago	(1900)	77
Northwestern University Medical School (1902) 75.7; (1908) 75.2; (1909) 75.2; (1910) 77, 80.1; (1911) 76.3.		
University of Michigan, College of Medicine	(1911)	78.9, 83.6
University of Minnesota, College of Medicine and Surgery (1896)* 65.8; (1909) 77.7.		
St. Louis University	(1907)	76.5
University Medical College, Kansas City	(1882)	75.7
Creighton Medical College	(1911)	79.7, 83
Jefferson Medical College	(1910)	75.3
Memphis Hospital Medical College	(1910)	77.1
University College of Medicine, Richmond	(1900)	77.8
University of Wisconsin	(1908)	81.1
McGill University, Quebec	(1907)	81.6
Western University, London, Ontario	(1909)	79.6
University of Christiania, Norway	(1895)*	66.9

FAILED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1906)	68.5
College of Phys. and Surgs., Chicago	(1905) 66.5; (1910)	65.2
Keokuk Medical College, College of Phys. and Surgs.	(1907)	67.8
University of Louisville	(1911)	60.1
Baltimore Medical College	(1903)	68.3
Michigan College of Medicine and Surgery	(1901)	68.6
University of Minnesota, College of Med. and Surg.	(1905)	73.5
Minneapolis College of Physicians and Surgeons	(1907)	69.8
St. Louis College of Physicians and Surgeons	(1911)	61.8
Milwaukee Medical College	(1897)	68.4
Laval University, Quebec	(1903)	63.2

* Passed on account of years of practice.

New Jersey October Report

Dr. H. G. Horton, secretary of the New Jersey State Board of Medical Examiners, reports the written examinations held at Trenton, Oct. 17-18, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 52, of whom 41 passed and 9 failed. Two candidates did not complete the examination. Nine candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1911)	81.2
Kentucky School of Medicine	(1892)	75.1
College of Physicians and Surgeons, Baltimore	(1910)	76.1
Baltimore Medical College	(1908)	75.8
Univ. of Maryland	(1905) 85.3; (1909) 81.5; (1911)	76.5
Harvard Medical School	(1882) 80.2; (1911)	81.1
University of Michigan, College of Medicine	(1880)	77
Cornell University Medical College	(1911) 82.3, 83.5,	84.5
Columbia Univ. Coll. of P. and S.	(1910) 80.2; (1911)	84.2
Long Island College Hospital	(1910) 77.9, 86.3; (1911) 79.7,	80
Albany Medical College	(1907)	80.8
Eclectic Med. Coll. of the City of New York	(1911)	76.4
University and Bellevue Hospital Medical College	(1908) 80.4; (1910) 90.3; (1911) 86.3, 86.6.	
Hahnemann Medical College and Hospital, Philadelphia	(1910) 78.2; (1911) 81.1.	
University of Pennsylvania	(1910) 86.4; (1911) 75.1, 80.8, 81.3, 81.6, 82.8, 84.	
Jefferson Medical College	(1909) 76.6; (1911) 80.5,	80.5
Medico-Chirurgical College, Philadelphia	(1907)	83.8
University College of Medicine, Richmond	(1910)	76.7
McGill University, Quebec	(1910)	80
University of Naples, Italy	(1910)	77.1

FAILED

College	Year Grad.	Per Cent.
Kentucky School of Medicine	(1906)	71
Baltimore Medical College	(1910)	68.7
University of Maryland	(1910)	69.6
New York University Medical College	(1891)	66.9
Long Island College Hospital	(1908)	73
Hahnemann Med. Coll. and Hosp., Philadelphia	(1910)	72.9
University of Naples, Italy	(1895) 69.2; (1905) 67.5; (1906) 72.4.	

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Denver and Gross College of Medicine	(1908)	Colorado
Baltimore Med. College	(1906) (1910) Maine; (1911)	Delaware
College of Physicians and Surgeons, Baltimore	(1904)	W. Virginia
University of Pennsylvania	(1908) Illinois; (1888)	Maine
University of Virginia	(1908)	W. Virginia
University of Vermont	(1900)	Vermont

Oklahoma October Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Muskogee, Oct. 10-12, 1911. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 37, of whom 26 passed, including 1 osteopath, and 11 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1911)	88.5
University of Arkansas	(1911) 76, 76,	78
Rush Medical College	(1907)	87
College of Physicians and Surgeons, Chicago	(1908)	74.8
Louisville Medical College	(1880)	75
Johns Hopkins University	(1907)	78.5
Ensworth Medical College	(1911)	74
Medico-Chirurgical College, Kansas City	(1905)	83.5
College of Physicians and Surgeons, Kansas City	(1904)	77.5
Leonard Medical School	(1911)	72
University of Oklahoma	(1911) 74, 79,	81
Hahnemann Med. Coll. and Hospital, Philadelphia	(1896)	87.5
Tennessee Medical College	(1905)	70
University of the South	(1899)	77
Memphis Hospital Medical College	(1911) 70, 79,	80.7
Meharry Medical College	(1910) 75; (1911)	77, 78.5
Marquette University, Milwaukee	(1911)	75.9

FAILED

College	Year Grad.	Per Cent.
University of Arkansas	(1909)	*75.9
Coll. of P. and S., Little Rock	(1908) 70;* (1911)	64.7
Howard University, Washington, D. C.	(1891)	65
Keokuk Med. Coll., Coll. of P. and S.	(1903)	68
College of Physicians and Surgeons, Keokuk	(1887)	45
University of Louisville	(1892)	69
University of the South	(1875)	*73
University of West Tennessee	(1907) 59.6 (1911)	65
Memphis Hospital Medical College	(1911)	65.9

* Fell below 50 in one or more branches.

Connecticut Eclectic November Report

Dr. Thomas S. Hodge, secretary of the Connecticut Eclectic Board of Medical Examiners, reports that at the meeting held at New Haven, Nov. 14, 1911, two candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College.	Year Grad.	Reciprocity with
Eclectic Med. College of the City of New York	(1910, 2)	New York

West Virginia November Report

Dr. H. A. Barbee, secretary of the West Virginia Board of Health, reports the written examination held at Clarksburg, Nov. 13-15, 1911. The number of subjects examined in was 16; total number of questions asked, 170; percentage required to pass, 80. The total number of candidates examined was 23, of whom 14 passed and 9 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1910) 80; (1911)	85
University of Louisville	(1895) 86; (1911)	80
Johns Hopkins University	(1910) 89; (1911)	87
Baltimore Medical College	(1911) 84,	84
Maryland Medical College	(1911)	80
College of Phys. and Surgs., Baltimore	(1892) 87; (1910)	92
Leonard Medical School	(1911)	80
University College of Medicine, Richmond	(1911)	85
Royal University of Naples, Italy	(1903)	82

FAILED

College	Year Grad.	Per Cent.
University of Louisville	(1910) 73; (1911)	78
Maryland Medical College	(1910) 77; (1911) 73, 76, 76.	
Leonard Medical School	(1911)	75
Eclectic Medical College, Cincinnati	(1910)*	..
Lincoln Memorial University	(1911)	67

* "Caught using key and dismissed."

Connecticut November Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, Nov. 14-15, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 38, of whom 29 passed, 8 failed and 1 withdrew. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale Medical School	(1907) 78.5; (1909) 79; (1910) 84.9; (1911) 78.7, 78.7, 80.7, 81.8, 82.5, 84.6.	
Baltimore Medical College	(1911) 77,	84.9
College of Physicians and Surgeons, Baltimore	(1910) 78.9, 80.3; (1911) 76.3, 78.6.	
Johns Hopkins University	(1909) 78.7; (1910)	77.2
Harvard Medical School	(1910)	86.2
Albany Medical College	(1909)	75:4
Cornell University Medical College	(1904) 85.3; (1909)	83.8
Long Island College Hospital	(1910)	81.5
University and Bellevue Hospital Medical College	(1909)	86.4
Jefferson Medical College	(1911) 79.1,	80.5
University of Vermont	(1907) 77.6; (1911) 78.9,	79.3
University College of Medicine, Richmond	(1905)	81.8

FAILED

College	Year Grad.	Per Cent.
Yale University	(1909)	72.2
Georgetown University	(1911)	73.9
Baltimore Medical College	(1903) 70.7; (1909)	72.2
College of Physicians and Surgeons, Baltimore	(1911) 69.2,	74.4
University of North Carolina	(1910)	73.4
Temple University, Philadelphia	(1909)	73.5

Connecticut Homeopathic November Report

Dr. E. C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, Nov. 14, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. Only one candidate, a graduate of the New York Homeopathic Medical College, 1910, appeared for examination and he passed with a grade of 92. One candidate, a graduate of Boston University School of Medicine, 1902, was licensed through reciprocity with New York.

Requirement of Maternity Cases

The examining boards of two states, Rhode Island and Wisconsin have decided that hereafter every applicant for license to practice medicine in those states must have personally attended and taken entire charge of at least six maternity cases. The requirement of six cases is too few rather than too many; but it is encouraging to know that there are at least two state licensing bodies that appreciate the necessities of the times.

Book Notices

A PRACTICAL HANDBOOK OF THE DISEASES OF THE EAR. For Senior Students and Practitioners. By William Milligan, M.D., Aurist and Laryngologist to the Royal Infirmary, Manchester, and Wyatt Wingrave, M.D., Pathologist (Lately Physician) to the Central Throat and Ear Hospital, London. Cloth. Price, $5 net. Pp. 596, with 293 illustrations. New York: Macmillan Co., 1911.

This text-book on diseases of the ear brings the subject reasonably well up to the present time. The book is well written and takes up the subject in a clear and instructive manner. It does not assume that the reader knows a great deal about the subject and still it goes into each subject with sufficient fulness for even an aural specialist. The different subjects are well paragraphed and therefore essential features of each chapter can be readily found. Some features of this specialty are found in the book that are not usually dwelt on in the general run of books on diseases of the ear. There is an exceptionally clear and interesting chapter on the bacteriology of discharges from the ear. The authors set forth with great clearness and minuteness the characteristics of all kinds of aural discharges, and describe carefully the intracranial complications of middle-ear diseases, including the various forms of meningitis, brain abscess, etc. There is also found an excellent description of the proper manner of making lumbar punctures, a matter not described in most text-books on this subject, yet of great value, being a procedure which should be frequently used. A short but interesting chapter on diseases of the ear in relation to general medicine written by Purves Stewart treats of such matters as cerebral embolism, thrombosis, aphasia, intrapontine vascular lesions, meningitis, tumors, tabes, disseminating sclerosis, epilepsy, etc. Not as much attention has been paid to deaf-mutism as this subject deserves. The chapter on diseases of the nasal accessory sinuses is an important one not only to nose surgeons but also to ophthalmologists. Although some ophthalmologists are skeptical as to the relation between some diseases of the eye and diseases of the accessory nasal sinuses there can be no question as to their inter dependence, as indicated by the exhaustive work of Killian, Turner, Hajek, Grant, Brawley and others. The tests for pathologic conditions of the conductive and perceptive apparatus according to the methods of Barany, Neumann and others are stated with great lucidity. It is a matter of surprise to the reviewer to find reference to artificial tampons for the improvement of hearing, which have long since been discarded in America, and that the idea should be given that the Stacke protector should always be used in the radical mastoid operation. While it is intended to protect the facial nerve, it is believed that it may be a source of injury by crowding its protective foot-plate into the aditus. With a proper technic a protector has been found unnecessary. The book is, for the most part, well illustrated, but with the perfection of present-day illustrations, it is disappointing to find many of the old imperfect pictures from Quain, Politzer and others. Many of them convey no intelligent idea of what they are intended to illustrate. For instance, the figure intended to illustrate the use of Allport's self-retaining retractors conveys no rational idea as to their use. Aside from these minor shortcomings the book is one of the best on the subject of the ear in the English language and can safely be recommended to all having an interest in these topics.

DISEASES OF INFANCY AND CHILDHOOD. Their Dietetic, Hygienic and Medical Treatment. A Text-Book Designed for Practitioners and Students in Medicine. By Louis Fischer, M.D., Attending Physician to the Willard Parker and Riverside Hospitals of New York. Fourth Edition. Cloth. Price, $6.50 net. Pp. 980, with 308 illustrations. Philadelphia: F. A. Davis Co., 1911.

Knowledge concerning the diseases of children has advanced at a rapid rate recently, notably in poliomyelitis and meningitis, but particularly with reference to the metabolism or nutritional disorders of infants. It is in this respect that most of the changes in this edition of Fischer's well-known book have been made. The newer conception of foods and infant feeding are carefully set forth, along with other changes demanded by the growing knowledge of children's diseases.

THE BLOOD AND ITS THIRD ANATOMICAL ELEMENT. Application of the Microzymian theory of the living organization to the study of the anatomical and chemical constitution of the blood and to that of the anatomical and physiologic causes of the phenomena of its coagulation and of its other spontaneous changes. By A. Béchamp, Formerly Professor in the Medical Faculty of Montpellier (France). Translated from the French by Montague R. Leverson, M.D., of the Baltimore Medical School and M.A. and Ph.D. of the University of Gottingen. Cloth. Price, $1.50. Pp. 440. Philadelphia: Boericke & Tafel, 1911.

This book is controversial, attempting to bring before the public once more and to substantiate theories first promulgated about half a century ago. The author and translator accuse Pasteur of appropriating Béchamp's views and of instigating a "conspiracy of silence" about them. Béchamp's observations were interesting and, when made, were new and important. On them he founded a theory which if accepted would displace modern bacteriology. The following quotations will give an idea of the theory and will enable the reader to judge somewhat whether Pasteur's conclusions encroached on Béchamp's theory. It is true that the two worked at the same time on the same problems and independently observed the same phenomena but each drew very different conclusions from their observations.

In 1863 Béchamp isolated a soluble ferment from yeast and called it a zymas. Later he observed in various tissues and cellular organisms minute bodies just discoverable with the microscope which contained zymases and which he called a microzyma. Later he built up the microzymian theory:

"1. The microzymas of the animal organism proceed from the vitellin microzymas, which are autonomous anatomic elements.

"2. The number of anatomic species of microzymas is enormous.

"3. The essential biologic characters of microzymas are to be creators of cellules by synthesis and of vibrioniens by evolution.

"4. The physiologic and chemical characters of microzymas are to produce the zymases and to be themselves ferments having a determined form."

Not only does the author find all cells and tissues composed of microzymas and strangely transmutable but he finds them in rock, the products of life in past ages. "It is to be borne in mind that I gave the name of microzyma at first to the geological figured ferment of the chalk of Sens and of another calcareous earth. I have discovered this ferment in other calcareous rocks, always in a spherical form, very brilliant, having the Brownian movement and smaller than all the vibrioniens described by authors."

There are described in this book interesting bits of scientific history, and very many interesting experiments and observations. The book will interest students who wish to see from all sides the development of our knowledge of ferments and especially those interested in theories which have not been accepted by scientific men.

DISEASES OF THE STOMACH, WITH SPECIAL REFERENCE TO TREATMENT. By C. D. Aaron, Sc.D., M.D., Professor of Gastro-Enterology and Adjunct Professor of Dietetics in the Detroit College of Medicine. Cloth. Price, $4.75 net. Pp. 555, with 42 illustrations. Philadelphia: Lea & Febiger, 1911.

The utility of the present work to the busy practitioner is greatly enhanced by the fact that no space is wasted in the consideration of historical questions or theoretic discussions having no practical bearing on treatment. After brief chapters on physiology and laboratory methods of examination, the author takes up the discussion of general method of treatment, to which about one-third of the book is devoted. Individual diseases are next considered; and here again the greater amount of space is given to the neuroses and functional conditions, together with gastritis. The work is completed by short chapters on gastric ulcer, hemorrhage, syphilis, tuberculosis, carcinoma and other tumors. In the general sections on treatment, considerable attention is given to massage, electricity and the use of mineral waters. The indications for surgical intervention are thoroughly discussed in a separate chapter. The treatment of enteroptosis by mechanical support receives especial attention and the technic of applying bandages and corsets is very thoroughly described and profusely illustrated. In the chapter on examination of the stomach contents, only those tests have been included which, in the opinion of the author, will best assist the practitioner in diagnosis and treatment.

In its emphasis on the functional diseases and neuroses of the stomach the work seems to meet exactly the needs of the general practitioner, who undoubtedly experiences greater difficulty in determining what to do with the nervous dyspeptic than in making a diagnosis of ulcer or carcinoma. The latter subjects, however, are not neglected and the author has introduced the latest proposed tests for carcinoma, such as the peptid and hemolytic.

A Cross-Section Anatomy. By Albert C. Eycleshymer, B.S., Ph.D., M.D., Professor of Anatomy, St. Louis University, and Daniel M. Schoemaker, B.S., M.D., Associate Professor of Anatomy, St. Louis University. Average Position of Organs from Eleven Reconstructions, by Peter Potter, A.M., M.D., Formerly Associate Professor of Anatomy, St. Louis University; Sections of the Female Pelvis, by Carroll Smith, A.B., M.D., Instructor in Anatomy, St. Louis University; Drawings, by Tom Jones, Instructor in Drawing, St. Louis University. Half morocco. Price, $20. Pp. 373. New York: D. Appleton & Co., 1911.

This work consists of an atlas of cross-sections of the human body. There are fourteen key-figures, most of them in colors, showing the various levels at which the sections have been made, with 113 sections including both the male and the female pelvis. The sections are not views taken from a single body which might have shown variations from the normal type but are reconstructions made up from a large number of dissections and therefore represent the average normal form. The sections are all four-fifths life size, large enough to give one an accurate conception of the actual size of the various organs and structures. This method of illustrating anatomy possesses great value as it gives one an idea of perspective not so easily obtained in any other way. The body to the practical anatomist (physician) should be in a sense transparent. One should be able not only to see with his minds-eye the various organs and structures in a topographic sense but should also have a clear idea as to their depth from the surface and their relative size. A careful study of cross-section anatomy is one of the best aids to acquiring this faculty. Following the sections is a chapter on the topography of organs. A short description is found opposite each section. The illustrations are good and the work a very commendable one.

A Text-Book of Physiological Chemistry. By Olof Hammarsten, Emeritus Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized Translation from the Author's Enlarged and Revised Seventh German Edition by John A. Mandel, Sc.D., Professor of Chemistry in the New York University and Bellevue Hospital Medical College. Sixth Edition. Cloth. Price, $4 net. Pp. 964. New York: John Wiley & Sons, 1911.

In the seventh German edition from which the present American edition is translated, a change has been made by the introduction of a chapter on physical chemistry in biology written by Prof. S. G. Hedin of Upsala. This has necessitated the omission of a chapter of the earlier editions, with a redistribution of the matter contained in it. As the author states, the numerous publications in physiologic chemistry which have appeared since the publication of the sixth edition have necessitated a thorough revision and rewriting of all the chapters. The book is in consequence somewhat enlarged. As heretofore, it constitutes a complete and thoroughly standard work on this important subject.

Medical Jurisprudence, Forensic Medicine and Toxicology. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Toxicology and Medical Jurisprudence in Cornell University, and Tracy C. Becker, A.B., LL.B., Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. With the Collaboration of Various Authors. Second Edition. Volume 4. Cloth. Price, $7. Pp. 1261. New York: William Wood & Co., 1911.

The fourth volume of this work, now before us, is by Professor Witthaus and covers the subject of toxicology. The general subject of poisons is introduced by a historical summary followed by an extensive bibliography of books and pamphlets treating of poisoning. The classification and general methods of detection of poisons and the forensic questions likely to arise in any trial for criminal poisoning are considered. Medical men will be especially interested in the sections dealing with the duty of the physician in case of suspected poisoning, the proper conduct of the autopsy on such cases, and the forensic questions involved. The analytic details are, of course, of interest chiefly to the professional toxicologist. In the chapters dealing with special toxicology the wealth of references bears testimony to the industry and care of the author. The mode of action of the various poisons is considered in separate sections. The treatment is fully detailed and renders the book of great value to practitioners. Inspection of the chemical sections indicates that the author has performed his arduous task with accuracy and presents a very clear description and discussion of the various methods and their limitations and fallacies.

Applied Anatomy and Oral Surgery. For Dental Students. By Robert H. Ivy, M.D., D.D.S., Assistant Oral Surgeon at the Philadelphia General Hospital. Cloth. Price, $1.50 net. Pp. 280, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

This little work is written with a view to giving the dental student a limited knowledge of the anatomy and surgery of the head, face, jaws and surrounding parts. While it is concise and well written, its usefulness is lost from the fact that it does not cover all that is necessary for a clear understanding of the etiology, pathology and bacteriology so necessary in surgical procedure. Thus nothing is said in regard to the treatment of the mouth before and after operations for a successful issue. If the student is eventually to perform such operations, why should he not study the subject in a thorough manner from well-prepared surgical works? If he is not expected to perform such operations, why burden the student with unnecessary labor and expense?

Diseases of Infants and Children. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, and Godfrey Roger Pisek, M.D., Professor of Diseases of Children, University of Vermont. Second Edition. Cloth. Price, $4.50 net. Pp. 636, with 181 illustrations. New York: William Wood & Co., 1911.

This book in its second edition still retains its well-balanced character as a condensed and practical work on the diseases of children. Without material increase in its size there have been included in it the recent advances in pediatrics, including a brief practical description of vaccine treatment and a scheme for dosage of vaccines, and of the newer arsenic therapy. This treatise has many admirable features and should be a satisfactory working book for the practitioner and the student.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Texas State Journal of Medicine, Fort Worth

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1 Non-Suppurative Sinusitis. A. H. Andrews, Chicago.
2 Fracture of True Pelvis and Treatment. A. B. Small, Dallas.
3 Puerperal Convulsions. I. L. Van Zandt, Fort Worth.
4 Proper Enforcement of Sanitary Laws Against Physicians and Others. C. W. Trueheart, Galveston.
5 *New Method of Cure for Pelvic Infections in Women. J. F Kuhn, Oklahoma City, Okla.
6 Glandular Fever. K. H. Beall, Fort Worth.

5. **Cure for Pelvic Infections in Women.**—Kuhn lays special stress on treatment through the rectum with normal saline solution. His plan is not similar to the Murphy-Ochsner one. By the method he suggests the rectum is distended at six-hour periods, with from 1 to 4 pints of the solution at 105 F. increasing the quantity gradually as tolerance for a larger amount is established. Intermittent periods of hyperemia are thus produced, hastening the destruction of the infecting organisms, inducing more rapid absorption of the resultant plastic lymph and preventing the formation of the dense adhesions so commonly seen in neglected cases. Kuhn claims for his method that it has all of the other advantages of normal saline; stimulating and aiding the emunctories in ridding the system of the products of infection; fortifying the system during its struggle to produce antibodies and by the action of heat, locally, relieving the patient of the distressing pain which is the chief complaint.

Boston Medical and Surgical Journal

December 7, CLXV, No. 23, pp. 859-898

7 Massachusetts Medical Society and Public Service. A. T. Cabot, Boston.
8 *Why and When to Operate on Fractures. F. J. Cotton, Boston.
9 Management of Heart in Acute Infectious Diseases and Chronic Heart Disease. E. G. Cutler, Boston.
10 *Relation of Tuberculosis of Kidney to Tuberculosis of Lungs. J. H. Cunningham, Boston.
11 Diagnosis and Treatment of Inguinal Bubo. W. P. Coues, Boston.
12 Recent Progress in Genito-Urinary Surgery. F. S. Watson and P. Thorndike, Boston.

8. **Why and When to Operate on Fractures.**—The following summation of the operative handling of recent fractures is given by Cotton.

(1) Operable as a routine: (a) Compound fractures, (b) fractures complicated with vessel lesions, (c) fractures complicated with nerve lesions, (d) patella fractures, (e) olecranon fractures, (f) fracture luxations, especially at the shoulder, (g) acromioclavicular luxations. (2) Usually operable after trial of milder methods: (a) Carpal injuries, (b) fractures of the femoral shaft. (3) Often operable: (a) Humerus fractures, (b) leg fractures. (4) Operable on occasion: All fractures in fit patients that promise a bad result as they lie, even though they have had good care, provided that we can show good reasons for expecting a better result from operation. Cotton says that, in general, fractures of the wrist, forearm, hip, knee, ankle and foot call for better non-operative treatment than they get to-day; fractures of the carpus, humerus, shoulder, shaft of femur and lower leg call for more and better operative work than we have given them.

10. **Tuberculosis of Kidney and Tuberculosis of Lungs.**—The total number of cases of tuberculosis of the lungs from which Cunningham's analysis was made was 825. The kidney was found infected with tuberculosis in seventy of this number, or 8 per cent. Of these seventy cases, the disease was unilateral in eleven, or 15 per cent., plus the left kidney four times and the right kidney seven times. The lesions were caseous in all. Both kidneys were found to be infected in fifty-nine instances, 84 per cent. Of these fifty-nine bilateral cases, forty-six were miliary infections, 78 per cent., and thirteen were caseous tuberculosis, 22 per cent. Of the whole number of cases of kidney infection, the bladder was involved in fourteen, or 20 per cent.

There was no instance of tuberculosis of the ureter associated with tuberculosis of the kidney in which the bladder was not also infected.

There were ten instances of associated kidney, ureter and bladder tuberculosis. There were two instances of tuberculosis of the bladder without infection of the kidney or ureter, both instances being infection of the bladder from continuity with a tuberculous focus of the genital organs, one in a female in which there was tuberculosis of the Fallopian tube and the other from tuberculosis of the prostate and seminal vesicles. There were three cases of tuberculosis of the adrenal gland without tuberculosis of the kidney. In two instances, it appeared as a bilateral infection, miliary in character. In the third, it was unilateral and caseous in character. There were four cases of tuberculosis of the adrenal and kidney. Three were bilateral and miliary in character, both in the adrenal and kidney. One was unilateral, caseous in character, the processes in the two structures being continuous. There were five cases of acute miliary infection of the liver and spleen, in three instances including the intestines also, without any tubercles in the kidneys.

Cunningham infers from his experiments that it is not common for the tubercle bacillus to be eliminated through the kidneys without affecting the organ in patients suffering from pulmonary tuberculosis.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

November, XIV, No. 11, pp. 641-704

13 *Bromatotherapy. H. W. Wiley, Washington, D. C.
14 Radical Removal of Conditions Causing Arterial Changes Leading to Non-Psychogenic Disturbances of Nervous System. T. A. Williams, Washington, D. C.
15 *Facts as to City Dust. A. Gehrmann, Chicago.
16 Classification of Nervous and Mental Diseases. B. Sidis, Portsmouth, N. H.
17 Development of Medical Student. J. C. Applegate, Philadelphia.

13. Abstracted in The Journal, June 3, 1911, p. 1676.

15. **City Dust.**—Few people, Gehrmann says, take notice of dust and fewer yet understand that dust should be removed without being disturbed. It will probably be long before the public conscience reaches this sanitary qualification. Demonstrations by city and other sanitary authorities will do more than any other agitation. The greatest sanitary problems now before our authorities are city dust and the air-borne diseases, bronchitis, tuberculosis, pneumonia and influenza. Drink and foods are practically free from excrement, but everything within reach is smeared with sputum. In the country one can safely spit on the ground; disease bacteria have little chance there, but in public places and the home it is different. Present-day intelligence demands that the sputum be removed in designated receptacles. The air-borne diseases cannot be conquered until this principle is general. Dirt and dust suppression should be a part of the campaign for health preservation.

American Medicine, Burlington, Vt.

November, VI, No. 11, pp. 565-620

18 Division of Professional Fees. R. A. Henderson, Brooklyn.
19 Removal of Tonsils as Prophylactic Measure. H. H. Forbes, New York.
20 Ocular Inflammation and Nephritis. A. O'Malley, Philadelphia.
21 Some Suggestions in Preventive Medicine. W. Moser, Brooklyn.
22 *Epinephrin in Cardiovascular Complications of Lobar Pneumonia. S. A. Brown, New York.
23 Therapeutic Uses of Chloral Hydrate. W. J. Murphy, New York.

22. **Epinephrin in Cardiovascular Complications of Lobar Pneumonia.**—Brown advises the intermuscular injection of epinephrin only in cases of impending pulmonary edema if they present the clinical picture wherein is needed some substance which will quickly cause a contraction of the peripheral vessels and act as a governor. It is necessary that this peripheral resistance should be sustained for some time to be of any great value. To determine whether adrenalin possessed this property, he conducted a series of experimental injections, selecting the intermuscular administration in preference to administration by mouth, because of the uncertainty of action when used in this latter way; and in preference to the intravenous method, because of its slow absorption from the muscles. For these experiments he selected patients between the ages of 20 and 50 whose arteries should still retain the possibilities of contraction and dilatation. All of these patients were given 15 minims, every twenty minutes, for four doses, the pressure being taken every hour thereafter until it returned to the low point. He found the pressure would be maintained above the point recorded before the injection for about four hours and the rise would be noticeable about fifteen minutes after the first injection, the maximum pressure being reached in about one and three-quarters to two hours from the time of the first injection. A second series was given to some of these patients resulting in a second rise, sustained for about the same length of time, thereby demonstrating that the blood-pressure would be maintained for a considerable period and a perfect response to a second series if it became necessary to maintain the pressure for a longer period of time.

American Journal of Urology, New York

November, VII, No. 11, pp. 417-458

24 *Experimental and Clinical Study of B. Coli Infections of the Urinary Tract. I. S. Koll, Chicago.
25 Unilateral Chyluria Due to Filaria Bancrofti Infection. D. J. Kaliski, New York.
26 Pseudo-Hemaphroditism. H. J. Scherck, St. Louis.

24. **Colon Bacillus Infections of Urinary Tract.**—Clinical observations in twenty-seven cases lead Koll to believe that colon bacillus infections of the kidney pelvis, urinary bladder and male urethra are more promptly ameliorated by a 2 per cent. aluminum acetate solution than by any other therapeutic measure. The bacteria in the urethral discharge disappear in from thirty-six to forty-eight hours following instillation with the liquor, although other astringents may be necessary to

"dry up" the discharge. Koll says that care must be exercised in the preparation of the liquor aluminum acetate as an excess of free acetic acid will produce unpleasant subjective symptoms. The solution must not be more than a week to ten days old when used. Before it is used the colon bacillus must be proven by culture to be present.

Bulletin Johns Hopkins Hospital, Baltimore

December, XXII, No. 250

27 Life and Work of Robert Koch. W. W. Ford, Baltimore.
28 Robert Koch, the Father of Modern Science of Tuberculosis. S. A. Knopp, New York.
29 *Blood-Picture in Tuberculosis. M. R. Lewis, Baltimore.

29. **Blood-Picture in Tuberculosis.**—Lewis concludes that the neutrophil is an organism which reacts quickly and definitely to its environment, and the condition of the nucleus, as shown by the number of lobes, may be taken as an indication of the condition of the neutrophil. Under normal conditions the nucleus does not show more than five lobes, but the presence of certain abnormal conditions may cause it to show as high as eight or ten lobes, while certain other conditions, such as tuberculosis, may prevent it from having more than one, two or three lobes. These changes of the nucleus, together with the other blood-cells and the number of white blood-cells, form a picture which can be used to determine the condition of the patient. This neutrophilic blood-picture together with the differential blood-count is of great value in prognosis in tuberculosis, but not of much value in diagnosis. It is of value in determining the presence of pyogenic bacteria in pneumonia or an abscess and may be of value in detecting a purulent condition of the appendix. In connection with the number of white blood-cells and the number of lymphocytes it is of value in distinguishing between a case of poor resolution in pneumonia and tuberculosis. It is of especial value in the prognosis of any disease where it is of use to determine the metabolic activity of the patient or the resistance to disease, as any condition of lowered vitality is quickly detected by this blood-picture.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

November 25, No. 2656, pp. 1393-1456

1 *Unicellula Cancri: The Parasite of Cancer. H. Butlin.
2 Non-Valvular Heart Disease. H. L. McKisack.
3 *Case of Cardiac Failure Treated by Cane Sugar. A. H. Carter.
4 Enucleation of Tonsils with Guillotine. S. S. Whillis and F. C. Pybus.
5 *Use of Hypertonic Salines Controlled by Estimations of Specific Gravity of Blood in Infantile Diarrhea. L. Rogers.
6 Sphincteric Control of Bladder After Prostatectomy. C. Wallace and C. M. Page.
7 A Danger in Elevating Lower Third Molar. F. St. J. Steadman.
8 Congenital Elevation of Scapula; Sprengel's Deformity. A. Mitchell.

December 2, No. 2657, pp. 1457-1516

9 *Unicellula Cancri: The Parasite of Cancer. H. Butlin.
10 *Some Manifestations of Pituitary Tumors. J. J. Evans.
11 *Vaccine Treatment of Gonococcal Arthritis. R. Stockman.
12 Albumin Reaction in Tuberculous Sputum. N. Raw.
13 Epidemic Paralysis (Polio-encephalomyelitis). S. C. Hounsfield.
14 *Ophthalmo-Reaction in Diagnosis of Chronic Pulmonary Tuberculosis. A. S. MacNalty.
15 Use of Sphygmo-Oscillometer of Pachon. H. L. Watson-Wemyss.

1. Abstracted in The Journal, Dec. 23, 1911, p. 2108.

3. **Treatment of Cardiac Failure.**—The heart in Carter's case was obviously hypertrophied and dilated. The symptoms were marked. The blood-pressure was 175 mm. Hg, but rapidly came down to normal under treatment and was not at any time markedly abnormal. The urine was in all respects normal. There was no edema. The usual cardiac tonics, such as strychnin, strontium iodid, arsenic and strophanthus and fresh air were employed but the patient did not seem to improve. The patient was then given 2 ounces of cane sugar daily. Her improvement began to be obvious after the middle of the second week and by the end of the fifth week it was remarkable. The pulse was steady and stronger, and normally 72 to 78; it was not abnormally altered by exertion and quickly resumed its normal rate after rest. The first mitral sound was stronger and altogether of better quality. She could walk nearly 3 miles without a rest or undue fatigue and a very short rest completely restored her. Her mental vigor was quite reestablished and her feeling of well-being and fitness after the months of weariness and lassitude was really extraordinary. She is still taking 2 ounces of sugar daily and maintaining her great improvement.

5. **Use of Hypertonic Salines.**—The principle which Rogers introduced in the treatment of cholera, of basing the frequency and amount of saline to be injected on the degree of loss of fluid from the blood as indicated by its specific gravity, was adapted to the treatment of infantile diarrhea. The saline solution was given subcutaneously by means of the thermos flask arrangement. The solution contained 120 gr. of sodium chlorid and 4 gr. of calcium chlorid to 1 pint of sterile water. The subcutaneous injection of 7 ounces in an infant always reduced the specific gravity several points and the injections were repeated two or three times in the twenty-four hours until the specific gravity had fallen to a little below the normal point, to allow some margin for further loss of fluid. Further, from ½ to 1 gr. of calcium permanganate was added to each pint of the fluid, with which the stomach and large bowel were washed out on the admission of the patient, in order to destroy and remove as much as possible of the toxic products in the gastro-intestinal tract. The methods furnished sufficiently promising results to make further trial a matter of great interest and importance.

9. **Parasite of Cancer.**—The cancer cell in Butlin's opinion is nearest to the protozoa; so near, indeed, that it is difficult to keep it out of the protozoa. Every new observation of the last six years, every new discovery, has brought it nearer to the protozoa. He proposes for it the name *Unicellula cancri.* And, for the different varieties, the shape of the cell can be expressed in simple terms which will be familiar to us all. On the one hand, Unicellula (cancri) squamosa, Unicellula spheroidalis, etc.; on the other hand, Unicellula (cancri) fusiformis, Unicellula rotunda, and so on.

10. **Manifestations of Pituitary Growths.**—Evans classifies the manifestations of pituitary neoplasms into (1) those which may be ascribed to excessive action of the glandular epithelium of the anterior lobe, hyperpituitarism; (2) those which may be ascribed to a diminished functional activity of the anterior lobe, hypopituitarism. In view of our incomplete knowledge of the physiology and pathology of the pituitary and other ductless glands, it is possible he says that these two classes of symptoms may be due to perverted action and interaction of several ductless organs, a polyglandular syndrome.

11. **Treatment of Gonococcal Arthritis.**—Nine cases of gonococcal arthritis are cited by Stockman. In all, the gonococcus was isolated from the urethra, vagina or a joint, and cultures made. Autogenous vaccines were mostly used, but not exclusively. Three of the patients were treated at first with salicylates to make sure that they were not cases of true rheumatism; in the others vaccine treatment was begun at once. They were all cases of moderate, ordinary severity, the patients otherwise in good health. In all, the treatment was at first employed exclusively by the vaccine, but in most of the cases no distinct improvement followed and after waiting a reasonable time ordinary local treatment was usually superadded or substituted. This was always followed by an immediate and distinct improvement in the local and general conditions and was what finally led to cure. Only in one case did recovery take place under vaccine treatment alone, but improvement was so rapid and so marked after only one dose that, on comparing it with the results in the other cases, Stockman felt that the vaccine had nothing to do with it.

14. **Diagnosis of Chronic Pulmonary Tuberculosis.**—A trial was made of the ophthalmo-reaction in fifty-two cases (tuber-

culous and non-tuberculous); of these twenty-four gave a positive and twenty-eight a negative result. Thirty-five cases of chronic pulmonary tuberculosis were selected. Out of eleven cases with no physical signs six patients gave a positive, five a negative reaction; of the positive cases four patients gave the tuberculo-cutaneous reaction (von Pirquet) and were subsequently found to have tubercle bacilli in the sputum; and two up to the present time have never displayed any other pathologic or physical sign of pulmonary tuberculosis; of the negative cases three patients had tubercle bacilli in the sputum, while the two remaining patients reacted to a subcutaneous injection of Koch's Old Tuberculin. With physical signs: (a) Cases of infiltration and consolidation: (1) With one lobe affected, 11 cases; 8 gave a positive and 3 a negative result. (2) With two lobes affected, 7 cases; 5 gave a positive and 2 a negative result. (3) With three lobes affected, 2 cases; 1 gave a positive and 1 a negative result. (b) Cases of excavation: Two cases; 1 patient had 1 lobe affected, the other 4 lobes. In both instances the reaction was positive. (c) Cases of pleurisy, with effusion: Two cases, in both of which the fluid, when aspirated, showed a lymphocytosis; one gave a positive and one a negative reaction. The ophthalmo-reaction was applied in seventeen non-tuberculous cases with the following results: Three cases of mitral regurgitation; two positive, one negative. One case of double mitral disease; positive. The reaction was negative in the remaining cases.

Archives Générales de Chirurgie, Paris

October, V, No. 10, pp. 1081-1200

16 Gastritis and Duodenal Ulcer in Cats from Experimental Retrograde Venous Embolism. (Gastrite et ulcère duodénal par embolie veineuse rétrograde.) Wilkie.
17 Primary Ovarian Melano-Sarcoma; Sixth on Record. (Le sarcome mélanique primitif de l'ovaire.) Soubeyran and Rives.

Bulletin de l'Académie de Médecine, Paris

November 21, LXXV, No. 38, pp. 233-240

18 *Evil Consequences of Reliance on Salvarsan. (Conséquences funestes de la confiance dans le traitement par le 606.) E. Gaucher.
19 *Two New Fatalities After Salvarsan. (Deux nouveaux cas de mort par le 606.) E. Gaucher.

18 and 19. Gaucher's communications were summarized in the Paris Letter, December 16, page 2007.

Presse Médicale, Paris

November 18, XIX, No. 92, pp. 937-952

20 Decreased Consumption of Brandy in French Cities. (Diminution récente de la consommation d'eau-de-vie dans les villes françaises.) J. Bertillon.
21 Origin of Local Eosinophilia. (Sur l'origine histiogène de l'éosinophilie locale.) M. C. Pascheff.
22 Efficacy of Calcium Chlorid as a Diuretic and in Promotion of Elimination of Chlorids. (Le chlorure de calcium. Médicament diurétique et déchlorurant.) S. Bonnamour and A. Imbert.

Semaine Médicale, Paris

November 29, XXXI, No. 48, pp. 565-576

23 *Treatment of Habitual Vomiting in Infants. (Le traitement des vomissements habituels des nourrissons.) L. Cheinisse.

23. **Habitual Vomiting in Infants.**—Cheinisse reviews the international literature on this subject, most of which has already been summarized in these columns. Troitzky has recently called attention to the fact that in infants under 6 months old the liver lies over the stomach so that percussion gives misleading findings. He states further that the capacity of the stomach at the third month is twice, and towards the end of the nursing period, five times that at birth. This disproportion between the increase in the capacity of the stomach and the growth of the body as a whole continues into childhood. Habitual vomiting, while it is generally due to overfeeding, in some cases may be the result of insufficient nourishment; in others of nervous hyperexcitability of the gastric mucosa. In this latter case sedatives to soothe the innervation of the stomach may give relief. Cheinisse states that about 600 cases are on record of stenosis from hypertrophy of the pylorus. Spasm and inflammation may aggravate the condition and these may yield to medical measures alone.

Berliner klinische Wochenschrift

November 27, XLVIII, No. 48, pp. 2145-2192

24 *Social Pathology. (Soziale Pathologie.) A. Grotjahn.
25 *Seroprognosis. (Ueber Seroprognostik.) H. Lüdke and J. Sturm.
26 Salvarsan in Abortive Treatment of Syphilis; Seventy-Five Cases. (Unsere bisherigen Erfahrungen über die Abortivbehandlung der Syphilis mit Salvarsan.) A. Géronne and C. Gutmann.
27 Cultivation of the Spirochæta Pallida. (Die Reinzüchtung der Spirochæte pallida.) Hoffmann.
28 Determination of Diphtheria Toxin in the Blood in Diphtheria. (Ueber den Nachweis des Diptheriegiftes im Blute Diphtheriekranker.) P. Aaser.
29 Febrile, Streptococcus Furry Coating of Mucous Membrane in the Mouth. (Streptomycosis oralis febrilis.) F. Fleischer.
30 *United Twins; Pygopagus. (Fall von lebenden zusammengewachsenen Zwillingen—Pygopagen—mit bes. Berücksichtigung der operativen Trennung.) P. Bockenheimer.

24. **Social Pathology.**—Grothahn discusses the influence of social conditions on the predisposition to disease, on the conditions favoring and starting disease, and on the course of disease. He states that half of the total male population are found physically unfit for military service, and that at least 40 per cent. of all children have some physical defect, while a large percentage of women are incapable of lactation.

25. **Seroprognosis.**—Lüdke and Sturm present an important contribution to this question which requires extensive statistics for its solution. The main points for research in this line are, they say, the determination of the titration values of the specific reaction substances, the repeated leukocyte count, the increase of the titration values after injection of vaccines, and the increase of the antibody values as determined in the course of the infection by repeated examinations of the blood.

30. **Living Pygopagus.**—Bockenheimer gives an illustrated description of the English Hilton twins, united only at the base of the spine, with a single rectum and anus. The children are now over 3 years old, and otherwise well formed. The connection between them is being constantly stretched and loosened by the movements of the twins, so that it is proposed to separate them after two or three years.

Deutsche medizinische Wochenschrift, Berlin

November 23, XXXVII, No. 47, pp. 2162-2208

31 *Exophthalmic Goiter. (Experimentelles zur Theorie des Morbus Basedowii.) R. Gottlieb. (Ueber die anatomischen Befunde bei Morbus Basedowii.) M. Simmonds. (Klinik der Formes frustes des Morbus Basedowii—Thyreotoxikosen.) H. Starck. (Die chirurgische Behandlung der Basedowschen Krankheit.) L. Rehn.
32 Laryngo-rhinology in the Medical Curriculum. (Die Laryngo-Rhinologie als Gegenstand des medizinischen Unterrichts.) G. Killian.

31. **Exophthalmic Goiter.**—Gottlieb discusses exophthalmic goiter from the experimental point of view and reports some reasearch which supplements Reid Hunt's findings in this line. He repeated with morphin Hunt's experiments, graduating the amounts for both normal and thyroidectomized rats and feeding exophthalmic goiter blood. The blood acted on the morphin metabolism the same as thyroid substance.

Starck states that goiter and the exophthalmic form are particularly prevalent in Baden. He found 39 per cent. of all his female patients and 12 per cent. of the male to have more or less enlargement of the thyroid, and in his private practice the percentage was even higher. In his 170 cases of exophthalmic goiter, some followed for years, thirty-two of the patients were men. In thirty cases the exophthalmic goiter was in an abortive, incomplete form and the symptoms varied from time to time. He compares the disturbances to dice; they may fall so as to present the picture of exophthalmic goiter or they may combine in the incomplete form, merely a thyrotoxicosis, but even the mild forms are liable to run a chronic course. The gravity of the case depends on the heart, the weakness of the muscles and the psychic disturbances. Puberty, pregnancy or lactation is liable to rouse the trouble from a latent into an active stage. His severest case was in a child nearly 3 years old five years ago, but the trouble has kept in a latent stage since. In certain other cases all the symptoms have retrogressed. The characteristic blood-findings were constant in 65 per cent. of the 240 patients examined; the blood has since returned to normal only in the quite recent cases. The eye symptoms in the abortive forms are the retraction of the upper lid, thus showing more of the eye-ball than usual even when there is no actual protrusion, a peculiar brilliancy of the eye, the lack of coordination in the movement of the eye-ball and upper lid as the patient looks down, insufficiency of convergence, and Kocher's sign, that is, the quicker upward movement of the upper lid, before the eye-ball moves upward, when the patient's hand is held on a level with his eyes and then suddenly raised. The cardiovascular symptoms are similar to those in pronounced exophthalmic goiter, only in a mitigated form; the slightest physical or emotional stress may send the pulse-rate up by 20 or 30 beats. In one case there was apparently typical angina pectoris. Severe and recurring depression is almost constant; the memory is impaired at times and the patient is extremely irritable and restless. Inability to sleep is an early symptom of thyrotoxic disturbance and the hair is liable to fall; the subsidence of this symptom is a favorable sign. All the trophic, vasomotor and secretory disturbances of exophthalmic goiter are liable to be encountered at some time in the attenuated forms. In most of the cases the disturbances could be traced to some severe nervous shock; the nervous shock started overfunctioning on the part of the thyroid, and this in turn reacted on the nervous system, setting up a vicious circle. The main point in treatment is to restore tone to the nervous system; for this absolute physical repose and freedom from care and mental stress are imperative. Ordinary office consultation is not enough for these patients, the physician must acquaint himself with their home and inner life and see and advise them again and again. It may even be necessary to interfere in family matters to ensure absolute repose—the mother-in-law question may have a bearing on the subject. Dietetic measures and possibly arsenic may also prove useful. Digitalis does no good unless myocarditis is already installed. If medical measures fail, operative treatment might be considered in the second or third year unless the exophthalmos requires this sooner. In conclusion Starek discusses the points useful in differentiation from tuberculosis, chlorosis, neurasthenia and mental disease. Treatment has to be directly the reverse of that ordered for neurasthenia, repose instead of diversion. If the disturbances are ascribed to hysteria and treatment applied on this basis, irreparable harm may be done. The important factor for successful treatment is to begin it early.

Rehn reiterates what he said thirty years ago, namely, that if it were possible to remove the entire thyroid gland, all patients with exophthalmic goiter would be completely cured. As this is not feasible, he removes half of the gland and usually ligates the afferent artery on the other side at one or two sittings. He has thus treated sixty-one patients and cured 75.5 per cent. It is most important in the technic to avoid loss of blood, to protect the parathyroids and to leave the recurrent nerve undisturbed. In two of his cases the patients were in actual Basedow mania at the time of the operation but both were promptly cured by it. He tabulates the details of recent reexaminations of fifty-three of his patients; marked improvement was evident in every instance. Recurrence of disturbances in some of the most inveterate cases is recorded, but in some the symptoms retrogressed spontaneously; the recurrence is probably due to the growing again of the thyroid. But this does not always bring trouble.

Medizinische Klinik, Berlin

November 26, VII, No. 48, pp. 1813-1878 and Supplement

33 Manic-Depressive Insanity. (Streifzüge durch die Klinik des manischdepressiven Irreseins.) E. Stransky.
34 Training as Factor in Neurology and Psychology. (Ueber den Erziehungsbegriff in der Neuro- und Psychopathologie.) Bayerthal.
35 Technic for Roentgenoscopy of Esophagus and Cardia. (Eine Methode, auch den unterhalb des Zwerchfells gelegenen Teil der Speiseröhre und die Gegend des Mageneingangs der Röntgenuntersuchung zugänglich zu machen.) Stuertz.
36 Elimination of Iodin and Chlorin After Administration of Iodin Salts. (Ueber Jod- und Chlorausscheidungen bei Verabreichung von Jodpräparaten.) E. Herzfeld and P. Helmann.
37 Diagnosis of Diseases of the Ear. (Leitfaden der Hörprüfungen und Diagnostik der Erkrankungen des Gehörapparates.) G. Tiefenthal.

Münchener medizinische Wochenschrift

November 21, LVIII, No. 47, pp. 2481-2536

38 Salvarsan. (Ueber Salvarsan.) P. Ehrlich.
39 *Intermittent Claudication. (Zur Klinik des intermittierenden Hinkens.) W. Erb.
40 *Immobilization of Tuberculous Lung by Resection of Ribs or Cartilages. (Eine neue Methode zur Verengerung des Thorax bei Lungentuberkulose und Totalempyem nach Wilms.) K. Kolb.
41 *Local Operative Treatment of Spastic Paralysis. (Eine neue Operation zur Beseitigung der spastischen Lähmung.) A. Stoffel.
42 Salvarsan in Syphilis. (Zur Indikation und Wirkung kleinster Salvarsandosen.) L. Waelsch. (Zur viszeralen Syphilis—Pancreatitis syphilitica mit Diabetes, akute gelbe Leberatrophie—und ihrer Heilung durch Salvarsan.) F. Umber.
43 Salt Edema in Children Without Heart or Kidney Disease. (Ueber Salzödeme bei älteren Kindern.) F. Hamburger.
44 Lupus from Rhinologist's Standpoint. (Lupusbekämpfung und Nasenvorhof.) P. H. Gerber.
45 Electric Preparation of Skin for Roentgen Therapy. (Die unipolare Arsonvalisation der Haut als Vorbehandlung nachfolgender Röntgenbestrahlung.) C. Kaestle.
46 Endonasal Removal of Hypophysis Tumor. (Tumor der Hypophysengegend auf endonasalem Wege erfolgreich operiert.) G. Spiess.
47 Cicatricial Apron Growth Reaching from Eighth Ribs to Knees After Burn. (Seltener Fall von Narbenbildung nach schwerer Verbrennung.) T. Papaioannou.
48 Autoresearch on Belladonna Poisoning. (Eine Vergiftung durch Beeren der Atropo Belladonna.) F. Kanngiesser.
49 *How Can We Prevent and Limit Recurrence After Gall-Stone Operations? (Wie können wir Rezidive nach Gallensteinoperationen vermeiden und einschranken?) H. Kehr. Commenced in No. 46.
50 Should Patient Be Told He Has Cancer? (Soll man dem Krebskranken und seinen Angehörigen die Art des Leidens mitteilen?) A. Krecke.

39. **Intermittent Limp.**—Erb reports fourteen new cases of intermittent limping which confirm anew, he says, the importance of abuse of tobacco as a factor. Among these fourteen, 28.6 per cent. were enormous smokers, 50 per cent. great, and 14 per cent. moderate smokers, leaving only 7 per cent. of the total who did not use tobacco. In his control statistics of 500 patients from his private practice, all men of the so-called upper classes, 44.8 per cent. did not use tobacco, 31.6 per cent. were moderate, 17.8 per cent. great smokers and only 5.8 per cent. smoked immoderately. He thinks that this preponderance of 78.6 per cent. of immoderate smokers in his last fourteen cases of intermittent claudication settles the causal importance of abuse of tobacco. (His previous communication on the subject was summarized in THE JOURNAL, July 16, 1910, p. 261.) In the present series there was no history of extreme exposure to cold except that one patient had for years been in the habit of taking cold foot baths on retiring. In conclusion he gives the details of a case in which the arteriosclerotic process involved the femoral artery. The femoral pulse was weak or entirely lacking at times although the stethoscope showed that there was still a little circulation in the artery. Erb adds that in the case of intermittent limping following acute arteritis in the right femoral region which he published a year ago, the pulse in the femoral artery has returned while the circulation in the limb is fairly satisfactory. The intermittent disturbances have become slighter and occur at longer intervals, so the patient is able to attend to an extensive medical practice. In another case the intermittent disturbance was in the arm instead of the leg, although it was brought on each time by walking. He ascribes it to a toxic arteriosclerosis of all the branches of the first part of the aorta, with excessive irritability of the vasomotors, causing a vasomotor neurosis. On ceasing the use of tobacco the vasomotor neurosis promptly subsided while the arteriosclerosis persists unmodified.

40. **Operative Compression of the Tuberculous Lung.**—Wilm's method of immobilization of the lung by rear resection of ribs or cartilage was described in THE JOURNAL, May 20, 1911, page 1518. Three cases are here reported as brought down to date and the excellent outcome emphasized. The tuberculous process was located exclusively in the upper lobe of one lung. By resection of ribs at the rear, supplemented by cutting the cartilages in front, the chest wall sinks in and the lung is immobilized, promoting the healing in the chronic indurative cases or in the fibrous cases with cavities. Wilms states that the obliteration of the cavities puts an end to the cough and expectoration, as they seem to be maintained by the stretching of the walls of the cavity and they subside entirely

in the course of three or four weeks after the cavity has been obliterated. He thinks that this fact suggests the advisability of applying this operative compression of the lung when there is a tendency to cavity production with bilateral apical tuberculous processes. It is easily done by mobilizing the two or three upper ribs, under local anesthesia, by resecting a few small pieces. The purpose of the operation is thus exactly the reverse of Freund's chondrotomy. The operation scarcely modifies the shape of the thorax to the eye as the shoulder is not affected, but the chest measures about 6 cm. less on this side than on the unoperated side.

41. **Operative Treatment of Spastic Paralysis.**—Stoffel reports from the orthopedic clinic at Heidelberg in charge of Vulpius excellent results from an operation on the nerve of the region, severing certain of its fibers, leaving only enough intact to balance the antagonist muscle. He shows in illustrations how the nerve divides so that the different fibers in turn pass to the different layers of the muscle in order, and how it is an easy matter to apply electric tests and thus separate out the special fibers passing to certain layers. The operation aims to weaken the contracted muscle by depriving it of a certain part of its innervation, while at the same time the antagonist muscle is strengthened by massage and exercises. Seventeen illustrations of children "before and after," show the excellent results obtained to date in his twelve cases. The operation was done twelve times on the combined gastrocneimus and soleus, six times on the adductors of the thigh, and on the pronators and flexors of the hand, three times on the toe flexors and once each on the flexor digitorum, the quadriceps femoris and the tibialis anticus and posticus. The children with pes equinus were able to use the foot almost normally three hours after the operation. Stoffel adds that the text-books do not show the anatomy of the nerves on transverse section, so it has to be studied on the cadaver.

49. **Recurrence of Gall-Stones After Operations.**—Kehr thinks that true recurrence is extremely rare; incomplete operations are responsible for most of the supposed recurrences. The ultimate outcome depends on the thoroughness of the operation and revision of neighboring organs.

Wiener klinische Wochenschrift, Vienna

November 23, XXIV, No. 47, pp. 1623-1658

51 *Acute Myeloid Leukemia. (Akute myeloische Leukämie.) C. Sternberg.
52 *Steam Treatment of Acute Gonorrheal Conjunctivitis. (Neue Behandlungsmethode der akuten gonorrhoischen Konjunktivalblennorrhoe.) W. Goldzieher.
53 *Saline Infusion in Cholera Infantum. (Zur Therapie vorgeschrittenster Fälle von Sommerdiarrhoe bei Säuglingen.) W. Löbisch.
54 Benefit from Massage Treatment of Subacute Tendonitis. (Die subakute Sehnenscheidenentzündung und ihre Behandlung.) A. Bum.

51. **Acute Myeloid Leukemia.**—Sternberg reports some experiences which throw light on the connection between acute leukemia and bacterial infections. Two previously healthy children with apparently mild scarlet fever developed varicella during convalescence and in connection with this a severe hemorrhagic sepsis, fatal in a week. The necropsy findings were those of acute myeloid leukemia. Animals inoculated with cultures from the two children confirmed the diagnosis of a streptococcus sepsis which was also evident in a third case, the patient a young woman sick only one week, the symptoms and necropsy findings being merely those of typical acute myeloid leukemia with a suppurative glandular affection in the neck. Sternberg reviews the various explanations that have been offered for acute myeloid leukemia, comparing them with the results of his extensive experimental research, his final conclusion being that it is not a clinical entity but merely an ordinary general infection with unusual involvement of the blood-producing apparatus.

52. **Steam in Treatment of Gonorrheal Conjunctivitis.**—Goldzieher applies a jet of steam to the mucosa of the everted lids to destroy the gonococci by the heat, and states that the results were extremely satisfactory in the fifteen eyes thus treated. The nozzle is held at a distance of 3 or 4 cm. from the eye; the temperature of the steam which is 80 C. as it emerges from the nozzle is only 45 C. when it strikes the eye, not high enough, he says, to damage the tissues. The method is not always successful but the results far surpass those obtained with silver nitrate treatment. The nitrate is unable to penetrate into the tissues, its caustic action making at once a barrier beyond which it cannot pass.

53. **Saline Infusion in Treatment of Summer Diarrhea in Infants.**—The experiences related by Löbisch confirm the view that the main point in treatment is to supply fluids anew without delay. This can be done best and quickest, he insists, by intravenous injection of from 150 to 230 c.c. of a 1.5 per cent. salt solution.

Zentralblatt für Chirurgie, Leipsic

November 25, XXXVIII, No. 47, pp. 1529-1560

55 *Importance of Inhalation of Oxygen in Operations on the Thorax. (Bedeutung der Sauerstoffatmung in der Thoraxchirurgie.) M. Tiegel.
56 Technic for Resection of the Stomach. (Zur Behandlung des Duodenalstumpfes bei der Resektionsmethode Billroth. II.) F. v. Faykiss.

55. **Oxygen Inhalation in Operations on the Thorax.**—Tiegel became convinced that the chief danger of pneumothorax during an operation is from lack of oxygen on account of the insufficient ventilation of the lungs. The indication, therefore, is to supply oxygen as in other dyspneic conditions. Experiments on animals confirmed the correctness of this assumption, oxygen under minimal pressure being able to keep the blood arterialized even when there was an extensive pneumothorax. In his operations on the thorax the lung collapsed but inhalation of oxygen kept the blood bright red and there was no dyspnea or cyanosis; the respiration was natural but the patient breathed oxygen instead of air. He thinks this method of oxygen inhalation renders the differential atmospheric pressure procedures unnecessary. In any event, it is wise to have an oxygen tank ready even with a differential pressure apparatus, especially when only part of the lung is functioning.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 14, XXXII, No. 137, pp. 1451-1458

57 Experimental Research on Nuclein Metabolism. (Il ricambio nucleinico sotto l'influenza dell'anidride carbonica.) L. Preti.

November 19, No. 139, pp. 1467-1482

58 Typhoid Fever at Trieste; Water-Supply Not Responsible. (La febbre tifoide a Trieste e il provvedimento d'acqua.) M. Gioseffi.

November 21, No. 140, pp. 1483-1490

59 Rupture of Abdominal Organs in Crushing Accidents. (Rotture multiple di organi addominali per tamponamento.) R. Pellegrini.

November 23, No. 141, pp. 1491-1498

60 *Lime and Tendency to Convulsions. (Sali di calcio e sostanze convulsivanti.) T. Silvestri.

60. **Lime in Treatment of Tendency to Convulsions.**—Silvestri has continued his research on the action of lime in increasing the resistance of laboratory animals to strychnin. Dogs and cats bore without harm the fatal dose of strychnin by the mouth if they were given from 100 to 180 c.c. of a 5 per cent. solution of calcium lactate or acetate at the same time or three or four minutes later. Later than this, the calcium salt by the mouth had to be supplemented by intravenous injection in order to save the animals. Similar action in increasing the resistance of the animals was apparent when the calcium salt was given with or soon after the animals had been injected with blood-serum from patients with eclampsia or uremia. Comparing these with clinical experiences sustains the assumption that a lack of calcium is a prominent factor in the production of convulsions, and that supplying large amounts of calcium may render inactive the substance causing the convulsions. It should be given a trial in cases of convulsions as it can do no harm and may do great good, while it seems to have no by-effects on the brain. In strychnin poisoning it should be the routine measure to give large doses of calcium salts by the mouth and by intravenous injection, he says, as also in prophylaxis and treatment of tetany, while it is worth a trial in epilepsy.

Society Proceedings

CHICAGO MEDICAL SOCIETY

Regular Meeting, held Nov. 15, 1911

The President, Dr. J. M. Patton, in the Chair

SYMPOSIUM ON CHRONIC FOCAL INFECTIONS

Their Relation to Disease of the Heart, Kidneys and Joints

Dr. Frank Billings: These chronic focal infections due to an at one time acute local infection elsewhere in the body are far more frequent than is generally supposed. The lymphoid tissue of the mouth, nose and pharynx often is the seat of such an infection, and frequently may be shown to explain the existence of other infections, such as acute rheumatic fever, infective chorea in the earlier periods of life, endocarditis, arthritis and nephritis later in life. An infection may lie latent in the tonsil for years. Disease of the gums, teeth and alveolar sockets may cause systemic disease; likewise disease of the accessory sinuses of the nose and head. Bronchiectasis, and other chronic local infections of the lung, gastro-intestinal disturbances, chronic appendicitis, cholecystitis and cholangitis, chronic disease of the pelvis, of the kidney, bladder and prostate, the female genital tract, and local septic submucous and subcutaneous foci anywhere in the body may be the source of systemic disease.

Chronic arthritis is one of the most common results of such infection, also nephritis, acute and chronic cardiovascular degeneration, chronic neuritis and myalgia. Such patients should always be examined carefully and search made for some latent or chronic focal infection. When such a focus has been located and seems rationally related to the systemic infection, it should be removed, if possible. The skilled specialist should be called on for assistance, and none but he should perform any necessary operation. If the tonsils are the offenders, they should be removed thoroughly, enucleated, not mutilated, so that no tonsil tissue is left behind. Adhesions between the tonsils and the pillars of the fauces frequently wall in foci of infection in the peritonsillar tissues; spaces in the jaws, between the roots of the teeth are also favorable seats for focal infections. Cultures and careful bacteriologic examinations must be made.

More than thirty patients have been under close observation in whom the original focus of infection appeared to be in the tonsillar tissue. These patients suffered from nephritis, neuritis and arthritis deformans. The result of the treatment was in the majority of cases beneficial. In two cases of well advanced chronic arthritis deformans, the patients were not much benefited. These cases showed conclusively that any or all of these chronic conditions may be the result of an unrecognized focal infection to which attention was not attracted because of the absence of symptoms pointing in that direction. Many persons suffer from chronic tonsil disease, sinusitis and other similar conditions for years without having their attention called to the ailment in a way which would lead them to consult a physician. There is no doubt that insidious degenerative processes do occur in persons well along in years which are caused by slow intoxications from chronic focal infections variously located. The result of the removal of these infections is astonishing. There seems no better reason for the prevalence of rheumatic fever or endocarditis in children than the frequency of focal infections in the throat and nose. So far the experimental work we have done has confirmed the truth of what I have said with reference to the relationship existing between these unrecognized focal infections and systemic disease.

Bacteriology of Chronic Tonsil Disease

Dr. D. J. Davis: The extirpated tonsils from 113 patients were examined. They were removed from patients with a variety of clinical conditions, chiefly joint lesions, nephritis, heart disease and recurring tonsillitis. There were twenty-eight cases of arthritis, ranging from simple joint pains to chronic arthritis. Hemolytic streptococci were found as the predominating organism in twenty-five; in two cases the pneumococcus predominated, and in one case the *Streptococcus mucosus*, but hemolytic streptococci were also present. Rabbits were inoculated intravenously with streptococci from seventeen; joint lesions were produced in fifteen; endocarditis in one with arthritis. Pneumococci from five cases were injected, and in one instance a fatal arthritis developed. In nine out of ten cases of nephritis the streptococci predominated in the tonsils. In some a few pneumococci were present. Streptococci from eight of these cases were injected into rabbits and produced joint lesions. The kidneys were negative. Ten cases of endocarditis complicated by arthritis showed hemolytic streptococci predominating in six and pneumococci in four. Streptococci from four cases were injected into rabbits and produced arthritis. Pneumococci from three cases were injected and endocarditis developed in two instances. Joint lesions did not occur.

Out of the fifty cases of recurrent tonsillitis hemolytic streptococci predominated in all but two, in which pneumococci predominated. In a few cases other streptococci, influenza bacilli, were also present. Strains of streptococci from these cases were tested on rabbits. In nearly every instance the animals developed arthritis similar to that produced by streptococci from the other groups. In one case of multiple neuritis without arthritis or heart lesions the crypts of the tonsils contained a pure growth of hemolytic streptococci which produced a fatal multiple arthritis in rabbits. Usually the arthritis produced by these injections was multiple, and in several instances the condition became chronic. Microscopically, the most striking feature of these tonsils was the occurrence of minute abscesses far down in the bottom of the crypts. The streptococci were usually found in the crypts and the pneumococci on the surface of the tonsil. Vaccine therapy in some cases, especially those associated with hematuria, appears to have a favorable action. Pneumococci rarely produced arthritis. They usually localize on the heart valve.

Oral Infections

Dr. Thomas L. Gilmer: As a gathering place and incubating center, the diseased mouth affords great opportunity for pathogenic bacteria. Few mouths are free from lesions of some sort. Granulating pockets in the gums about teeth, from mechanical causes or from pyorrhea alveolaris, contain at all times a great flora of various species of bacteria. From these foci of infection opportunity is afforded for the passage of microorganisms to other parts where they may be instrumental in the production of various lesions. Chronic alveolar abscess is very prevalent. Some of the bacterial poisons from these infections are absorbed and under favorable conditions cause toxemias. Microorganisms from alveolar abscess at times gain access to the blood- and lymph-streams, and when carried to a weakened heart, lung or kidney may be productive of serious lesions.

Mouth-breathers admit to the mouth bacteria far in excess of the normal; therefore, in case of stenosis in the nasal fossæ greater opportunity is afforded for infection through the oral cavity. Tubercle bacilli are found in the mouths of non-tuberculous patients. The diseased pockets in the gums and jaws, the tonsils as well, permit the easy passage to the cervical and submaxillary lymph-glands. Streptococci when disseminated from diseased mouths cause at times serious infections, such as Ludwig's angina. Pharyngitis and tonsillitis are natural results of oral infections. The bacteria of chronic alveolar abscess and the laws of immunity and susceptibility must be better known before we can positively determine the relation existing between alveolar abscess and subtle phenomena which may be dependent on them.

DISCUSSION ON SYMPOSIUM

Dr. Robert H. Babcock: I have for many years insisted on removal of diseased tonsils, because I have been impressed with their connection with acute exacerbations of chronic endocarditis. The family physician who has charge of children with chronic valvular disease is guilty of neglect if he does not keep his attention riveted on the throat of his patient and insist on enucleation of the tonsil. The tonsil must be removed in its entirety and not merely clipped off. It is also important to bear in mind that a chronic cholecystitis need not necessarily be caused by gall-stones, and that it may serve as a focal infection in causing disease in other organs, especially in the case of a heart which is showing evidence of myocardial inadequacy. A heart will remain competent even though degenerated, so long as it is free from conditions which seriously embarrass its action, such as attacks of acute and chronic indigestion resulting from gall-bladder infection. I have also recognized chronic appendicitis as a cause of cardiac disturbance. I have also seen cases in which chronic infections of the genital organs of the female have seriously embarrassed hearts which appeared to be incompetent. We should not be satisfied to say that a patient has chronic muscular rheumatism or chronic articular rheumatism. We should endeavor to find the cause of that condition and we should recommend surgical intervention whenever we are convinced that it is necessary, even though the patient may not agree with us.

Dr. R. B. Preble: We all know that serious disturbances of the kidneys, heart and other organs result from definitely localized acute infections, and the same may be said of chronic infections. In some instances the relation between these processes and those of which the patient complains is obvious enough to force itself on our attention, but too many of these cases are overlooked altogether. The primary source of the infection may be obscure and difficult to find. The anemias and evidences of malnutrition often seen in children are frequently the result of a chronic, repeatedly recurring intoxication from enlarged tonsils or adenoids. Angioneurotic edema is undoubtedly often caused by chronic disease of the tonsils, appendicitis or some other focal infection.

Dr. James B. Herrick: It is important to study the tonsils of children who have endocarditis. If they are removed, some of the acute exacerbations and some of the serious and malignant forms of endocarditis may be avoided. Pelvic inflammations of women are apt to be a cause of cardiac disease. It has seemed to me, although I cannot prove it, that some of the cases of mitral stenosis, so frequent in women, have been due to a long-standing pelvic inflammation. While we recognize the close relationship between acute focal inflammation and more distant systemic infections, the importance of chronic focal infections has not been recognized. They are latent and do not, by pain, swelling or other evidence of inflammation, give proof of their existence, and yet they often cause a systemic disturbance. The tonsils are not always enlarged, and they may not give evidence of trouble. The same is true of the gall-bladder. The prostate may harbor the gonococcus and give rise to future focal symptoms, but we must search for slight evidence of local trouble to explain some of these otherwise inexplicable cases of arthritis. It should be only after most careful study of the individual case, however, that any surgical intervention should be recommended. In the experimental work reported on by Dr. Davis, the result was always an acute spasm or an acute suppurative arthritis, or other acute condition, and yet, in the cases reported by Dr. Billings, the process was always a chronic one. We should imitate clinical conditions more closely in our experimental work.

Dr. B. W. Sippy: I have seen two cases of joint inflammation associated with pyorrhea alveolaris. In neither case was it possible to isolate the germ from the blood. A third case, diagnosed as tuberculosis, cleared up very rapidly after cleansing the teeth and draining an alveolar abscess. The tonsil is not necessarily always seriously involved. In one case of general spasm resulting in death, the most acute sepsis I ever saw, the cause was a trivial sore throat. At the post-mortem an abscess was found at the base of the tonsil. It had escaped detection.

Dr. George E. Shambaugh: In few of the cases which I have seen have the tonsils been large. The patients were nearly all adults. A diseased tonsil is by no means a large tonsil. The small tonsil in the adult is more frequently the cause of trouble than a moderately enlarged tonsil. The throat examination often proves negative.

Dr. Norval H. Pierce: No tonsils should be removed unless there is local evidence of disease or a definite history of previous inflammation. An operation which falls short of entire enucleation is worse than no operation at all, and if we enucleate a tonsil, the operation is of some gravity. I have seen two patients, both young men, who suffered from acute articular rheumatism. Their tonsils had been operated on and ostensibly removed. The rheumatism continued. I enucleated the remaining tonsillar tissue carefully and neither patient has had another attack of rheumatism, except in one of the cases, in which the patient had a slight attack immediately after the operation, while still in the hospital.

Dr. R. H. Brown: Very often a submerged tonsil is at fault, and in many cases it is difficult to prove that the tonsil is diseased unless one probes the crypts carefully, and even then one may fail. My boy had been having repeated attacks of endocarditis and rheumatism, which endangered his life. I examined his tonsils repeatedly, but found nothing. One day he complained of a scratchy feeling in his throat, and on examination I saw some cheesy deposit on the tonsil. The next day he had an attack of endocarditis. I removed the tonsil. It was negative. I removed the other, and found three encysted masses. That was three years ago, and the boy has not had any more rheumatism or acute attacks of endocarditis. A patient of mine had had heart trouble for fifteen years. Blood examination showed a pneumococcus infection. When I saw him first, about a week ago, I found a chronic sinusitis, due to the pneumococcus. A fellow practitioner cured an intense case of recurrent boils by treating a bad pyorrhea. A case of pyorrhea was similarly cured. I have drained sinuses and removed tonsils and cured rheumatism, but we must be careful not to go to extremes in this matter.

Dr. J. G. Wilson: Any strain of the streptococcus injected into the body will produce arthritis. Therefore, if streptococci are so commonly found in the tonsils, one need not be astonished that such persons have attacks of arthritis. I want to point out, however, that the tonsil is at no time to be regarded as a lymph-gland, but as an organ which has an important function to perform in regard to the pharyngeal wall, and until we can find distinct evidence of disease in the tonsil it does not follow that removal of the tonsil will cure the chronic infection, because the original focal infection may be somewhere else in the pharyngeal wall. When you remove the diseased tonsil, especially in a child, you improve the pharyngeal wall. There is a type of pharyngitis associated very often with diseased tonsils, sometimes called rheumatic pharyngitis, which is peculiar in that it flames up on slight provocation. It is also important that we should allow sufficient time to elapse after these operations before we conclude that the patient's condition was caused by the local sepsis. From the cases I have seen I feel that we have some microbic action which develops toxins and that these pass into the blood and set up a sort of remittent fever, with a tendency to an acute toxemia. I have seen such toxemias follow sinus infection.

Dr. A. M. Corwin: We have often seen patients with cervical lymph-gland tuberculosis operated on again and again and the tonsil left behind. Surgeons are just beginning to look on the inside of the mouth in these cases, because when the tonsils are removed there often is a speedy subsidence of the disease in the glands of the neck. The tonsils should be enucleated.

Dr. John Ridlon: I have seen one case in which a multiple hypertrophic osteo-arthritis of ten years' duration was due to disease of the teeth and an alveolar abscess. I have seen one case of stiff back, diagnosed as tuberculosis, cured in three days by the removal of a tonsil which contained an abscess as big as a hickory nut. Another case of stiff back, diagnosed as tuberculosis by an eminent physician, was found to be due to a gonorrhea contracted twenty-five years before. Dr. Billings demonstrated the gonococcus in the strippings from the prostate and seminal vesicles. An osteo-arthritis can exist and show no evidence in the x-ray picture for many months. We must be a little sharper and clearer in our differential diagnosis between osteo-arthritis and tuberculosis in children, because children do have osteo-arthritis when we think they have tuberculosis.

Dr. O. T. Freer: We must also consider the tonsillar fossa and the peritonsillar tissues. Apparently innocent tonsils are apt to be the source of chronic foci of infection in the peritonsillar tissues. They produce peritonsillar abscesses, which become chronic abscesses, drain through the tonsil in an imperfect way, and set up disease elsewhere in the body. Palpation of such tonsils will always produce pain. That is more important than the use of the probe. Why do some patients have an arthitis and others not? This is due not only to immunity, but also to the structure of the tonsil. Most tonsils have a dense capsule, which shuts off infection effectively. In such cases the infection is drained into the mouth, and the capsule proves a practical barrier to systemic infection.

Dr. Frank Billings: When we discuss infections about the mouth we must not forget the environment of the individual. There is not a person in the city whose nose and mouth are not filled with pathogenic germs. The Commission on Respiratory Diseases of New York, of which I was a member, examined many people, in groups of ten, nurses, interns, patients, men down town in offices, men on the streets and persons out in the country. Every individual in Chicago had pneumococci, streptococci and so forth, in the mouth, while only three or four from the rural districts gave such findings. So that environment is an important thing to consider. Of course, not all of these cases of heart, kidney and joint disease are due to diseased tonsils, chronic appendicitis or cholecystitis, but we must bear in mind that they may be caused by such focal infections, and that treatment must be directed toward the correction of any cause of such disease.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION

Twenty-Fourth Annual Meeting, held in Washington, D. C., Dec. 12-14, 1911

The President, Dr. Rudolph Matas, New Orleans, in the Chair

Effect of Ligation of the Ureters

Dr. Louis Frank, Louisville: In many of my experiments on animals the ligation of the ureters was followed by primary hydronephrosis. Atrophy, without much change in the kidney, occurred in 80 to 90 per cent. of the cases. Ligation of the ureter in operating is not an accident that is to be disregarded absolutely, as it leaves behind unpleasant conditions.

DISCUSSION

Dr. Albert Vander Veer, Albany: I recall the case of a patient who suffered decided pain for six years after an operation. The right ureter was accidentally ligated with silk. I made an exploration, and found a sacculated condition of the left kidney in which there were a number of abscesses. This kidney was removed, and the patient recovered.

Dr. Robert T. Morris, New York: The ureter has often been ligated accidentally by the surgeon without the surgeon's knowledge when he is doing pelvic work and the patient never found it out because it occasioned no symptoms.

Dr. J. Wesley Bovée, Washington, D. C.: It is safe to ligate a ureter that is passing normal urine up to the limit of six weeks, and if one removes the ligature any time within that six weeks the function of the kidney is resumed and it will continue. But beyond that time, so far as experimentation is concerned, the function of the kidney is totally ended.

Dr. H. A. Royster, Raleigh, N. C.: Ligation of the ureter during operation is a more serious matter than we have been heretofore willing to admit, and sometimes a patient dies following this accident.

Dr. Guy LeRoy Hunner, Baltimore: I firmly believe that ureters are tied without our knowing it. I have tied, to my knowledge, three ureters during operations. Both ureters were tied in one patient, only one ureter in the other.

Dr. Richard A. Barr, Nashville: If a surgeon should tie both ureters, he should undo his work and try to save the patient's life. In many cases we are confronted with the necessity of removing a kidney or implanting the ureter into the bowel, and where we are sure the patient has another kidney the simplest method is to tie the ureter off and remove the kidney at a subsequent operation.

Dr. Felix E. Balbridge, Huntsville, Ala.: I do not think the impression should go out from this association that there is no danger attending the ligation of these ureters. My experience has been unsatisfactory in that regard. I recall one case in which I accidentally tied the ureter while operating and the patient died five days afterward.

Cancer of the Rectum and Lower Sigmoid; Report of an Unique Case

Dr. Miles F. Porter, Fort Wayne, Ind.: The patient had been having fecal vomiting for forty-eight hours when she was admitted. On opening the abdomen what was taken to be an inoperable carcinoma of the lower sigmoid was found. The intestine was divided well above the disease, the lower segment closed and dropped, and the upper end anchored in the wound establishing an inguinal anus. The patient was discharged from the hospital nineteen days after the operation. Some months later I saw the patient at her home. She seemed to be in good health, but was anxious to have the artificial anus closed. The artificial anus at this time seemed small, owing to cicatricial contraction. Later this contraction increased until it became very difficult for the bowel to empty itself and the patient suffered severely at times on this account. During one of these attacks of pain there occurred a stool via the natural anus which was followed by relief. Shortly after this the artificial anus closed completely and the patient was well. The practical lessons which this case and others teach are: (1) That operative relief should be offered to all patients supposed to be suffering with cancer of the rectum and sigmoid, no matter how desperate they seem. (2) That radical operations should not be undertaken except on positive microscopic evidence.

Umbilical Tumors Containing Uterine Mucosa or Remnants of Müller's Duct

Dr. Thomas S. Cullen, Baltimore: A mass at the umbilicus was covered by typical intestinal mucosa, and the junction of the squamous epithelium and intestinal mucosa could plainly be seen microscopically. The outer end of the omphalomesenteric duct had remained open. This patent extremity had turned inside out giving a polyp with intestinal mucosa on its surface. At some time between 30 and 55 years a tumor the size of a small nut develops at the umbilicus reaching its full size in the course of a few months. Sometimes it is painful, especially at the menstrual period, and in one instance reported there was a brownish, yellowish discharge from the umbilicus at such times. The overlying skin is usually pigmented and there may be one or two bluish and brownish cysts just beneath the surface. These may rupture and discharge a little brownish fluid, old clots. The microscopic picture is that of the characteristic uterine mucosa with its typical glands and stroma. The typical menstrual reaction is often present as evidenced by the pains in the nodule at the periods, the accumulation of old menstrual blood with the formation of the small cysts and in at least one instance by the occasional discharge of blood from the umbilicus.

(To be continued)

Medicolegal

Injury Cause of Miscarriage — Sufficiently Prompt Calling of Physician

(Joiner vs. Texas & Pac. Ry. Co. (La.), 55 So. R. 670)

The Supreme Court of Louisiana says that a sudden stop in a collision of a train on which the plaintiff was a passenger had thrown her against the corner of the chair in front of her, bruising her jaw. She was six or eight weeks in pregnancy. She had begun immediately after the shock to feel pains in the lower abdominal regions, and had continued to feel them on her way home. During the night, a slight menstrual loss commenced. The next morning she sent a note to her physician describing her symptoms, and he sent her a liniment for her jaw and some medicine to be taken internally. She continued to suffer and to lose, and would remain in bed an hour or two every day, and would do little or no work. On the thirtieth day after the collision, the flow having increased alarmingly, she sent for a physician. He found that she was suffering from a miscarriage, and removed the contents of her womb. It was argued that the plaintiff had not shown that the collision was the cause of the abortion, and that, even if it were so, her failure to call in a physician sooner than thirty days after the accident was contributory negligence which barred a recovery of damages. But the court holds against both contentions, affirming a judgment for $2,000 damages.

The plaintiff, the court says, was a healthy woman of 28, who had borne two children and never miscarried. The pains began immediately after the jar she received, and the loss of sanguineous fluid commenced shortly afterward; and a jar of that kind may bring about such a result. The miscarriage had a cause; and, there being one so obvious, what wisdom was there in doubting and searching for any other? Several physicians testified to the improbability, or impossibility, of a fetus being carried so long with a continual loss of sanguineous fluid; but other physicians contradicted them, and the testimony of the plaintiff and her sister established it as a fact. The court holds that the evidence showed that the collision was the proximate cause of the miscarriage suffered by the plaintiff.

As to the failure to call in a physician sooner, it could bar the plaintiff's suit only if it were shown to have contributed to the result. The plaintiff may be said to have been careful. She consulted her physician when the symptoms first appeared. She abstained from work, and rested in bed part of the day. When the symptoms became alarming, she called in a physician. That was sufficient, there being no proof that her failure to call in a physician sooner than she did contributed to the miscarriage. The failure of a person sustaining a physical injury negligently inflicted to call in a physician sooner than is done does not bar a suit, unless the failure contributes to the result complained of.

Practice of Medicine and Contracts Therefor by Corporations — Contracts to Furnish Medical Aid — Liability for Malpractice

(Youngstown Park & Falls St. Ry. Co. vs. Kessler (Ohio), 95 N. E. R. 509)

The Supreme Court of Ohio holds that a railroad company is not authorized to practice medicine or surgery, and that a contract to perform medical or surgical services by a corporation organized for the purpose of constructing, owning, and operating a street railway is not only ultra vires, or beyond its corporate powers, but is in direct conflict with the laws of Ohio regulating the practice of medicine and surgery, and is therefore void. Such a corporation cannot be directly liable for damages for malpractice of medicine or surgery.

On the other hand, such a corporation may make a valid contract to furnish or pay for medical aid and attention to one injured on its cars, or tracks; and an action against it for damages for a breach of such contract may be maintained. However, a petition that avers the making of such contract, the employment by the company of a surgeon in pursuance of such contract, and malpractice on the part of such surgeon resulting in damages to the plaintiff, but which does not aver that the person so employed was not regularly admitted to practice medicine and surgery in Ohio, or that he was incompetent and the company knew, or had means of knowing, of his incompetency, or that it was otherwise guilty of negligence or carelessness in selecting him to perform such service, does not state a cause of action. That being the character of the case before the court, it reverses a judgment of the circuit court reversing a judgment rendered in favor of the defendant company.

It is not the law, the Supreme Court says, that one who contracts to furnish or pay for medical or surgical aid and attention to another is liable at all events for the mistakes or incompetency of the physician or surgeon he may employ for that purpose. There must be some neglect or carelessness or misconduct on his part in the performance of his obligations arising under such contract. If he act in good faith and with reasonable care in the selection of the physician or surgeon, and has no knowledge of the incompetency or lack of skill or want of ability on the part of the person employed, but selects one of good standing in his profession, one authorized under the laws of Ohio to practice medicine and surgery, he has filled the full measure of his contract, and cannot be held liable in damages for any want of skill or malpractice on the part of the physician or surgeon employed.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Ophthalmic Year-Book. Containing a Digest of the Literature of Ophthalmology with Index of Publications for the Year 1910. By Edward Jackson, M.D., Professor of Ophthalmology in the University of Colorado, Theodore B. Schneideman, M.D., Professor of Ophthalmology in the Philadelphia Polyclinic, and William Zentmayer, M.D., Attending Surgeon to the Wills Eye Hospital, Philadelphia. Volume 8. Cloth. Pp. 455. Denver: Herrick Book and Stationery Company, 1911.

Nervous and Mental Diseases. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School, Chicago, and Frederick Peterson, M.D., Professor of Psychiatry, Columbia University. Seventh Edition. Cloth. Price, $6.50. Pp. 932, with 343 illustrations. Philadelphia and London: W. B. Saunders Company, 1911.

Die Erkennung der psychopathischen Konstitutionen (krankhaften seelischen Veranlagungen) und die öffentliche Fürsorge für psychopathisch veranlagte Kinder. Von Th. Ziehen, Geh. Med.- Rat. Direktor der Psychiatrischen und Nervenklinik der Kgl. Charité in Berlin. Paper. Price, 80 marks. Pp. 34. Berlin: S. Karger, 1912.

The British Pharmaceutical Codex, 1911. An Imperial Dispensatory for the Use of Medical Practitioners and Pharmacists. Published by Direction of the Council of the Pharmaceutical Society of Great Britain. Cloth. Pp. 1568. London: Pharmaceutical Press, 72 Great Russell Street, W. C., 1911.

Abhandlungen aus dem Gebiete der Geburtshilfe und Gynaekologie. Mitteilungen aus der Zweiten Frauenklinik der Königl. ung. Universität zu Budapest. Herausgegeben von W. Tauffer, Direktor der Klinik. Vol. II, Part 1. Price, 4 marks. Paper. Pp. 199. Berlin: S. Karger, 1912.

Zahnärztliche Chirurgie. Von Prof. Dr. Med. Fritz Williger, Direktor der Chirurgischen Abteilung des Königlichen Zahnärztlichen Universitäts-Instituts zu Berlin. Second Edition. Paper. Price, 4.50 marks. Pp. 142, with illustrations. Leipsic: Werner Klinkhardt, 1911.

Die Störungen des Farbensinnes, ihre klinische Bedeutung und ihre Diagnose. Von Dr. Hans Köllner, Privatdozent an der Universität Berlin. Paper. Price, 14 marks. Pp. 428, with 36 illustrations. Berlin: S. Karger, 1912.

Proceedings of the Fifth Annual Conference of the American Association of Medical Milk Commissions. Head at Philadelphia, May, 1911. Cloth. Pp. 195. Secretary, Dr. Otto P. Geier, 124 Garfield Place, Cincinnati, Ohio.

Die Störungen des Verdauungsapparates als Ursache und Folge anderer Erkrankungen. Von Dr. Hans Herz. Second Edition, Part 1. Paper. Price, 6 marks. Pp. 218. Berlin: S. Karger, 1912.

Scientific Features of Modern Medicine. By Frederic S. Lee, Ph.D., Dalton Professor of Physiology, Columbia University. Cloth. Price, $1.50. Pp. 183. New York: Columbia University Press, 1911.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Volume 16, Skinko-Stysanus. Cloth. Pp. 882. Washington, 1911.

Developmental Pathology. A Study in Degenerative Evolution. By Eugene S. Talbot, M.S., D.D.S. Cloth. Price, $6. Pp. 435, with 346 illustrations. Boston: Richard G. Badger, 1911.

Report of the Librarian of Congress and Report of the Superintendent of the Library Building and Grounds. Cloth. Pp. 244. Washington: Government Printing Office, 1911.

Leitfaden der Elektrodiagnostik und Elektrotherapie. Von Dr. Toby Cohn, Nervenarzt in Berlin. Paper. Price, 6.60 marks. Pp. 212, with 71 illustrations. Berlin: S. Karger, 1912.

Exploration Manuelle de l'Estomac et en Particulier sa Palpation Directe et Profonde. Par L. Pron. Paper. Price, 2.50 francs. Pp. 89. Paris: Jules Rousset, 1912.

Anomale Kinder. By L. Scholz, Direktor der Provinzial-Irren- und Idiotenanstalt in Kosten. Paper. Price, 8.60 marks. Pp. 442. Berlin: S. Karger, 1912.

Whence and Whither, or the Evolution of Life. By Thomas F. Neil, B.S., M.D. Cloth. Pp. 62. Altoona, Pa.: Mirror Printing Co.

Seventy-Fifth Annual Report, New England Moral Reform Society. Talitha Cumi Maternity Home. Boston, 1911.

GENERAL INDEX

All *reading matter* in The Journal from July to December, 1911, inclusive, is indexed here. (For Current Medical Literature Index see pages 2201 to 2247). "Deaths," "Book Notices," and "Society Proceedings" are indexed under these titles at the ends of the letters "D," "B" and "S." Matter pertaining to the Association is under "American Medical Association." With the above exceptions, all matter is indexed under the most important word of the heading that was used in The Journal, and also under the subject heading. For instance, abscess of brain will be found indexed under "abscess" as well as under "brain." Such titles as "ocular manifestations, etc.," have been indexed under "eye." Cross-references have been made wherever this was possible. It is also well to remember that, in looking up a certain subject, related words should be consulted, for example, chest, thorax; test, reaction; skull, cranium; bowel, intestines. Singulars and plurals, like "leg" and "legs" are grouped under one or the other whenever possible so as to make it necessary to look in only one place for a reference. When both are listed, the one immediately follows the other, irrespective of alphabetical sequence; so that "legs" follows "leg," and precedes "legislation." All references to "fractures" are listed under "fracture," "tumors" under "tumor," etc. Tests of all kinds are listed under "test" as well as the name of the test, as "benzidin test," "test, benzidin." The letters used to explain in which department the matter indexed appeared are as follows: "E" editorial; "O" original article; "C" correspondence; "T" therapeutics; "Ml" medicolegal; "P" pharmacology; "M. E." medical economics, and "ab" denotes an abstract of an article that has appeared in full elsewhere. *Names of authors* of original articles appearing in The Journal are not given in this index, but are included in the Index of Authors.

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SOCIETIES

Abbreviations:
Acad.—Academy.
Am.—American.
A.—Association.
Conf.—Conference.
Cong.—Congress.
Hosp.—Hospital.
Internat.—International.
M.—Medical, Medicine.
Pharm.—Pharmaceutical.
Phys.—Physicians.
Ry.—Railway.
S.—Society.
Surg.—Surgical, Surgery, etc.

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CURRENT MEDICAL LITERATURE

INDEX TO SUBJECTS

Explanation: The *reading matter which appeared in* THE JOURNAL *is not indexed here*, except the original articles and the abstracts of original articles. This index refers to the titles and the subjects of original articles published in the leading medical journals of the world, including THE JOURNAL, during the past six months. The titles of the articles and the names of the journals in which they appeared were listed weekly in the Current Medical Literature Department, and it is to them that references are here made. The figure in parentheses refers to the paragraph; the number following to the page in THE JOURNAL. for instance, "Adams-Stokes syndrome without heart-bloc, (66) 51," refers to page 51 of THE JOURNAL, on which is found, in paragraph 66, the title of the paper and the name of the authors, J. Mollard, A. Dumas and J. Rebattu. This title is listed under the journal in which the article appeared, the *Archives des Maladies du Cœur*, Paris, May 1, 1911. When "ab" follows a page number it indicates that the article was abstracted in THE JOURNAL; for instance, "Indigestion, intestinal, in adults, (73) 768—ab." On page 768, paragraph 73, will be found an abstract of this article, which appeared in *California State Journal of Medicine*, August, 1911. Titles of articles which appeared originally in THE JOURNAL are indicated in the index by an asterisk (*) before the page number; for instance, "Digitalis, use and abuse of, in heart disease, *211," refers to page 211 of THE JOURNAL, on which is found the complete original article. The index to authors of all articles, both original and those listed under Current Medical Literature, appears separately on pages 2248 to 2264 of this issue.

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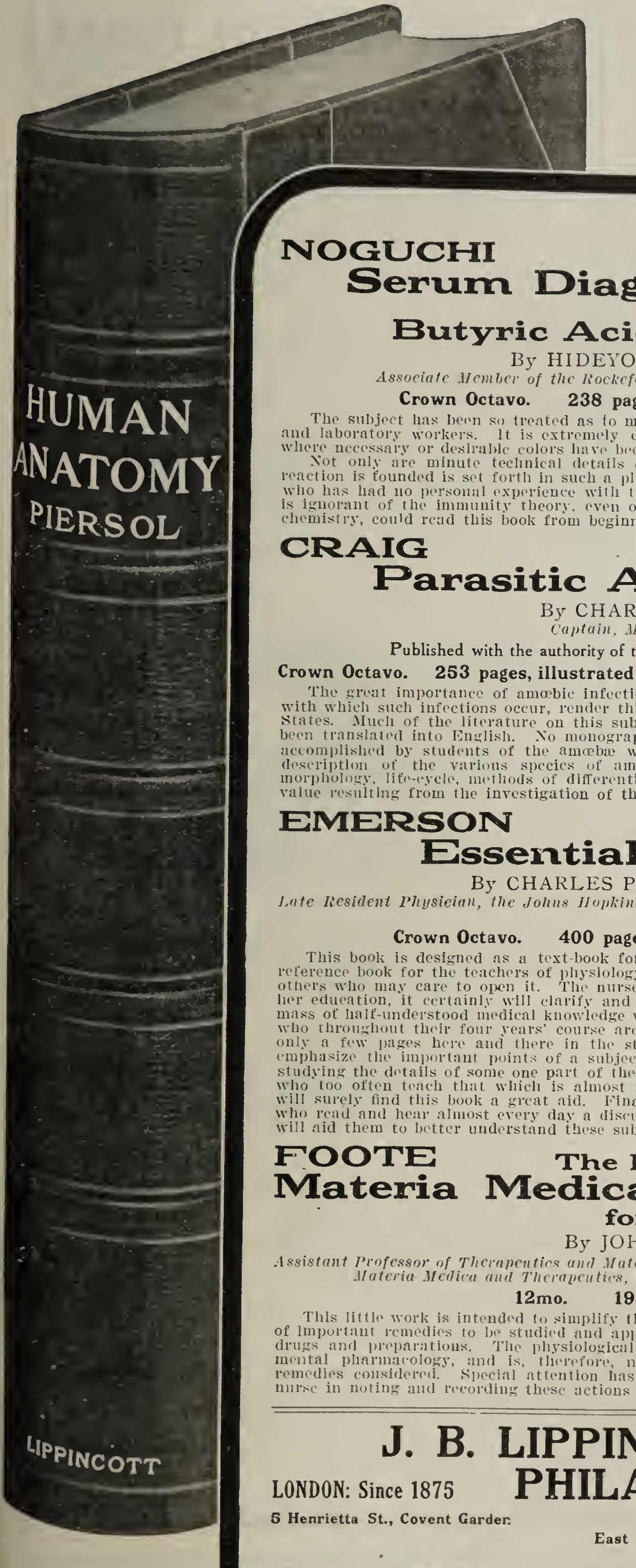

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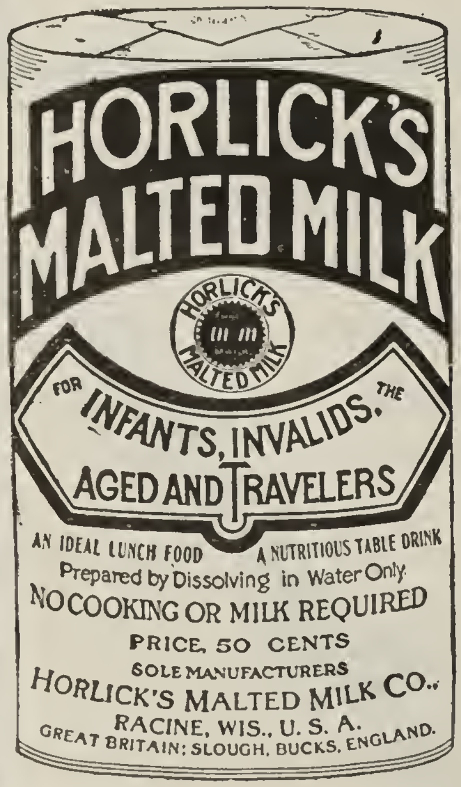

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Anomalies of Development of Genito-Urinary Organs	February 16
Diseases of Testicle	February 23
Diseases of Prostate	March 1 and 8
Diagnostic Methods in Diseases of the Urinary Tract	March 18
Diseases of the Bladder	March 22 and 29
Genito-Urinary Tuberculosis	April 5
Diseases of the Kidney and Ureter	April 12, 18, 26, and May 3

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Pathological Chemistry, Dec. 5, 1911; Jan, 24, 1912; Mch. 6, 1912
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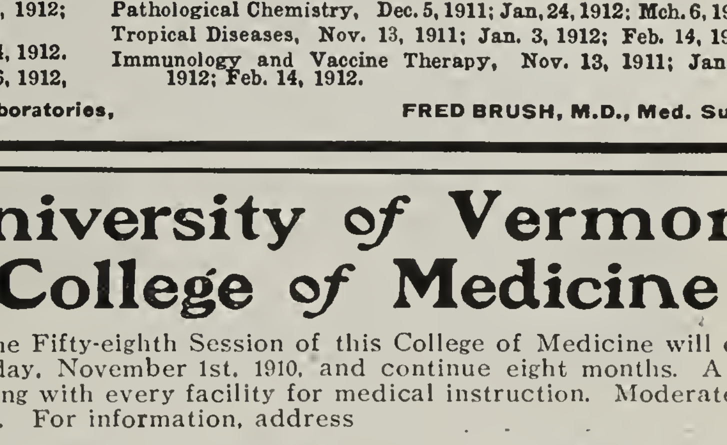

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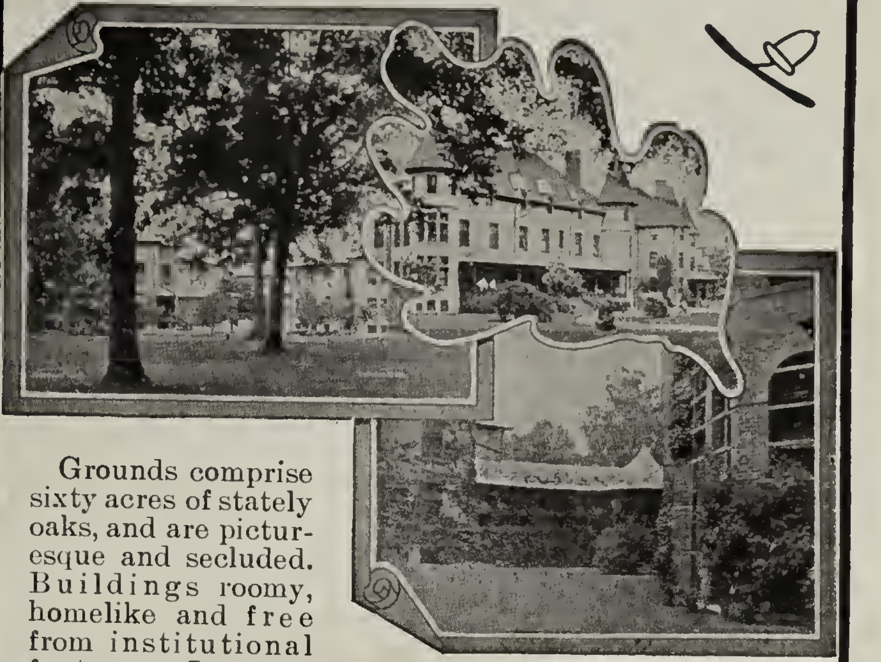

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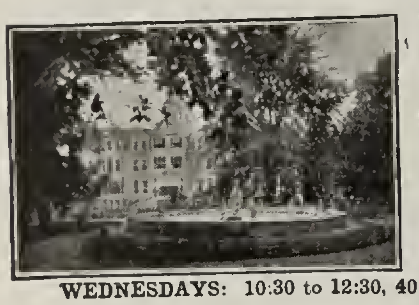

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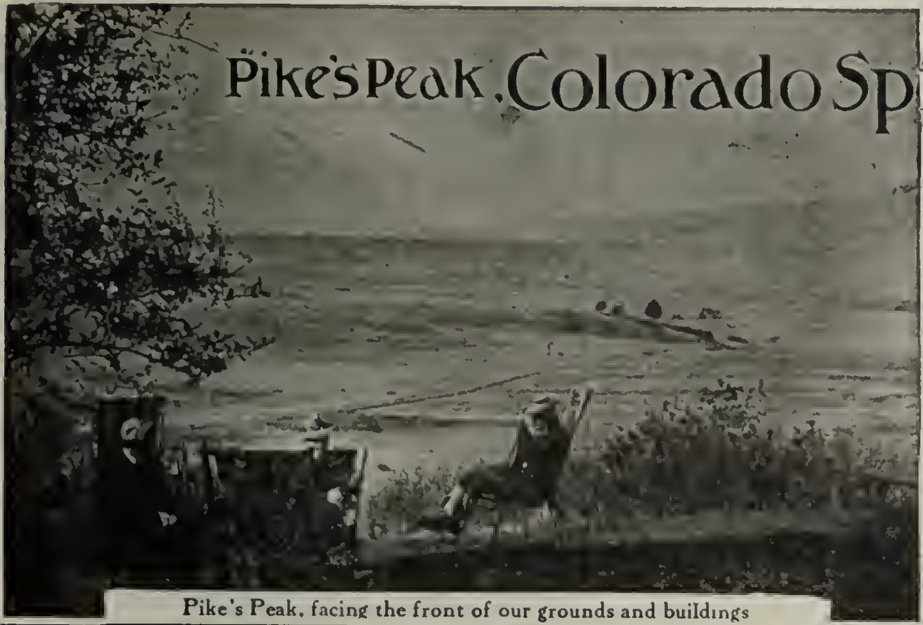

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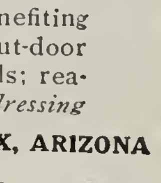

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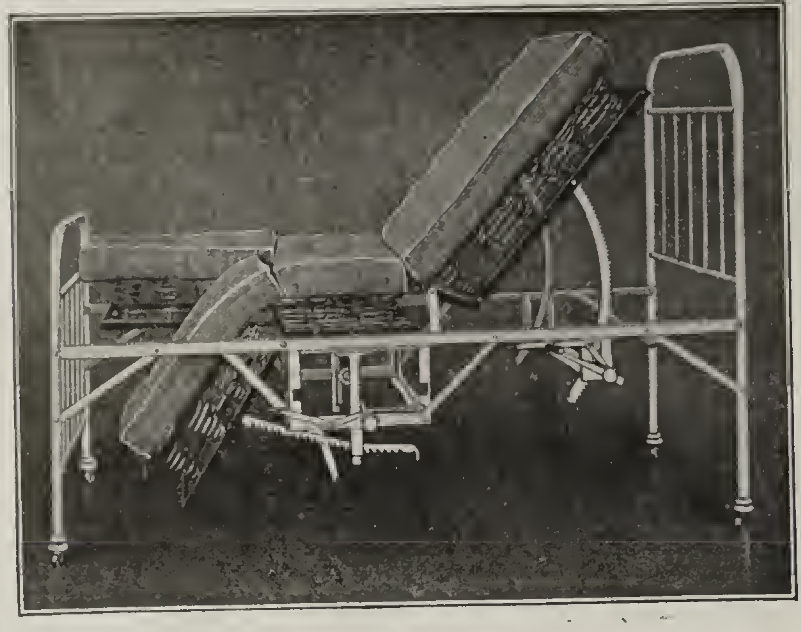

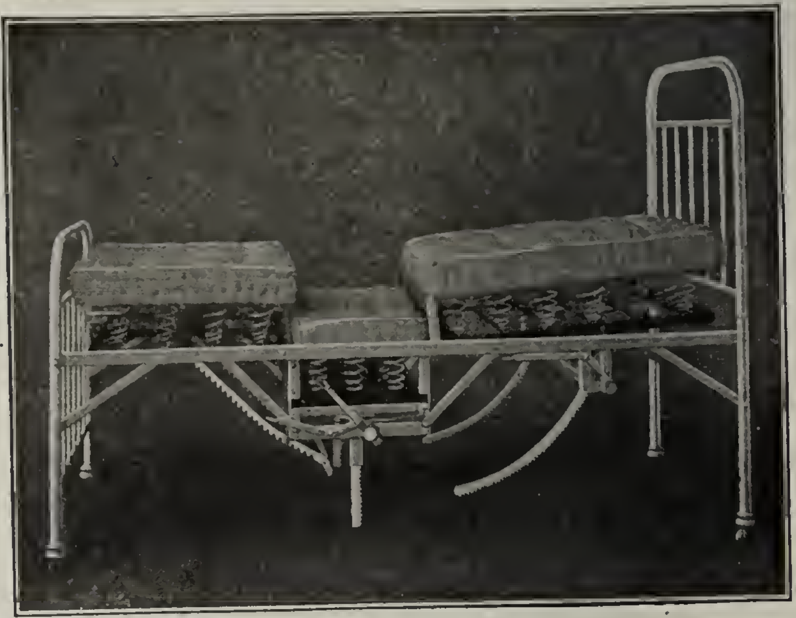

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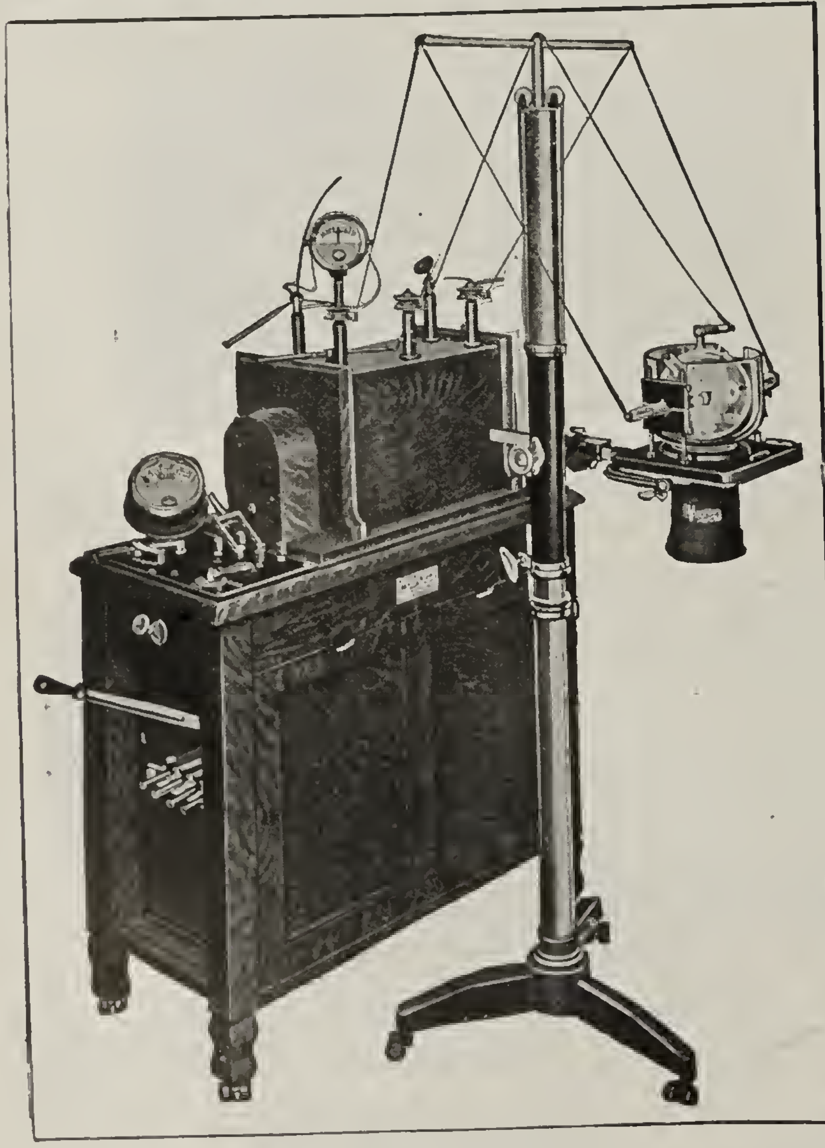

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NOTE: Electrically speaking, it is an induction coil, but from a radiographic standpoint it is so far ahead of any other induction coil or transformer in power, range, flexibility, and efficiency that it should have an isolated classification.

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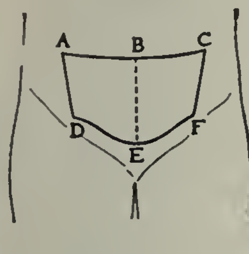

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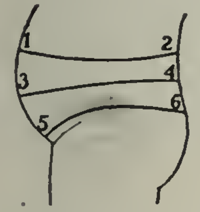
A.........D
C.........F
D.........E
E.........F



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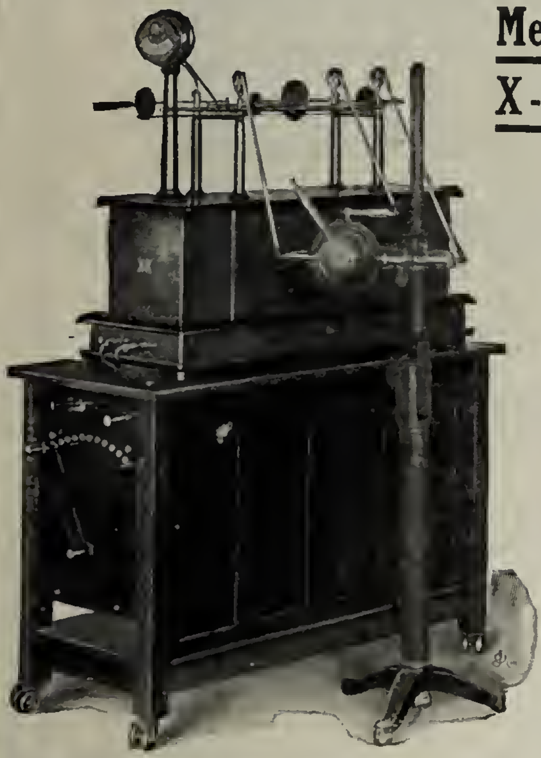
Meyer Universal X-Ray Apparatus



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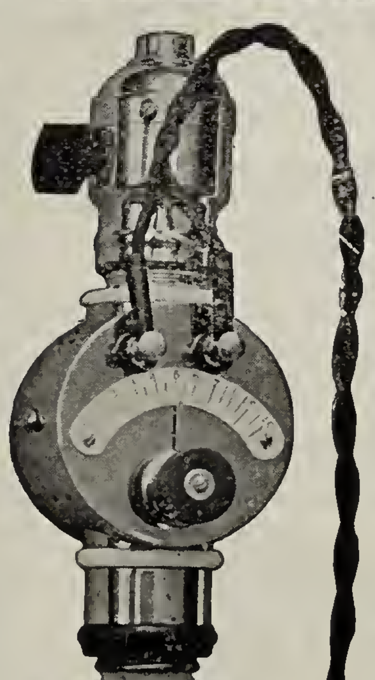

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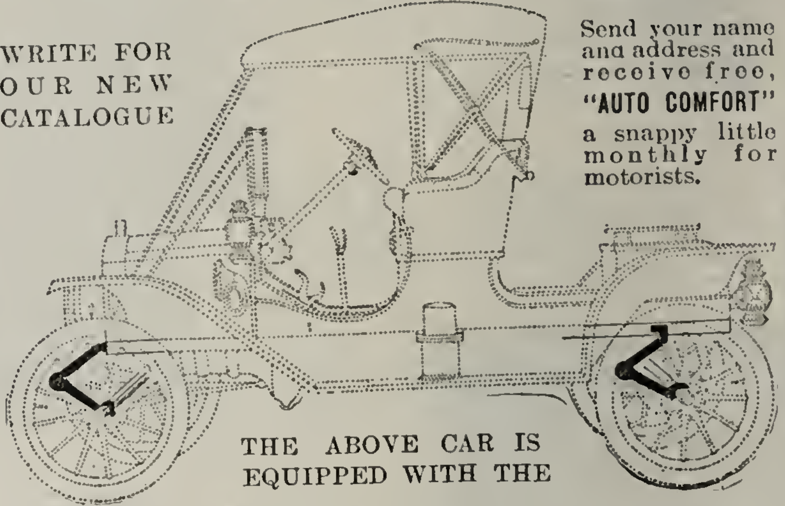

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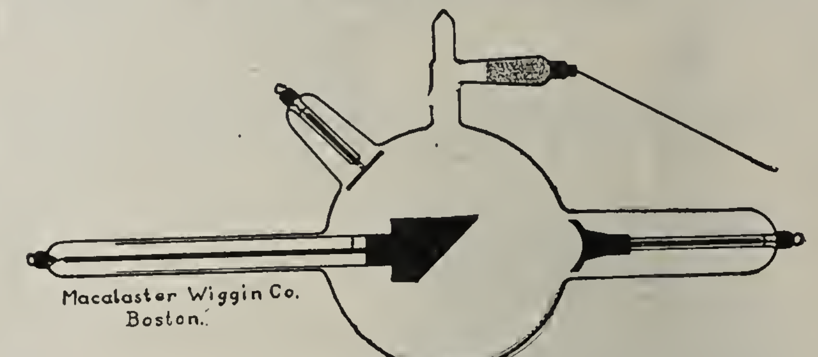

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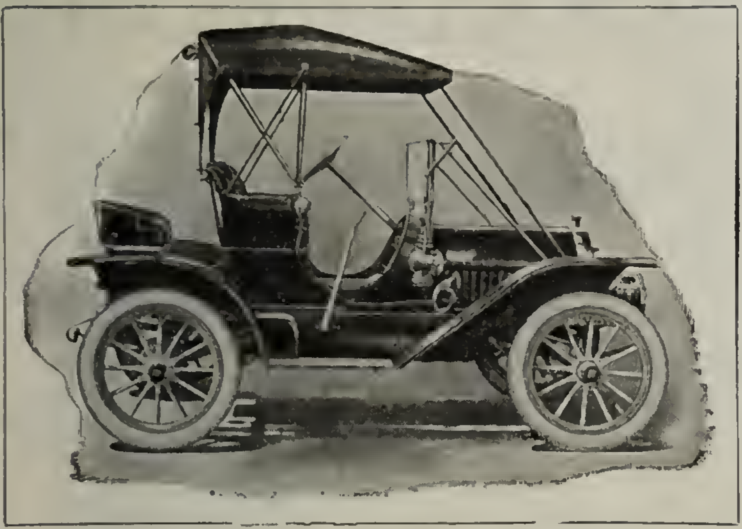

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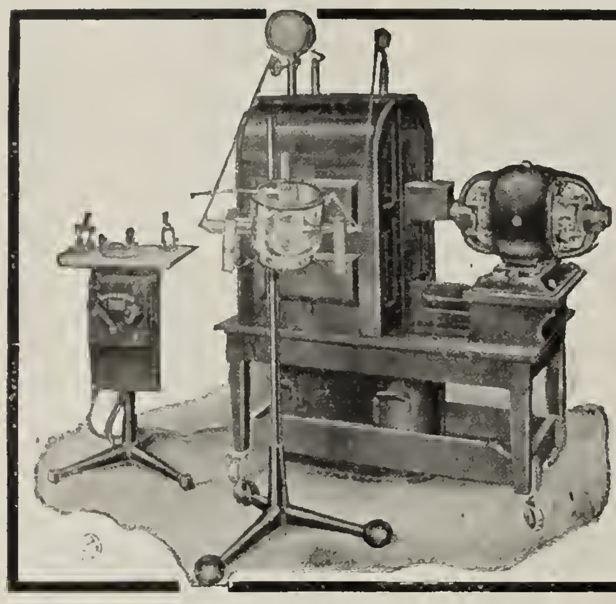

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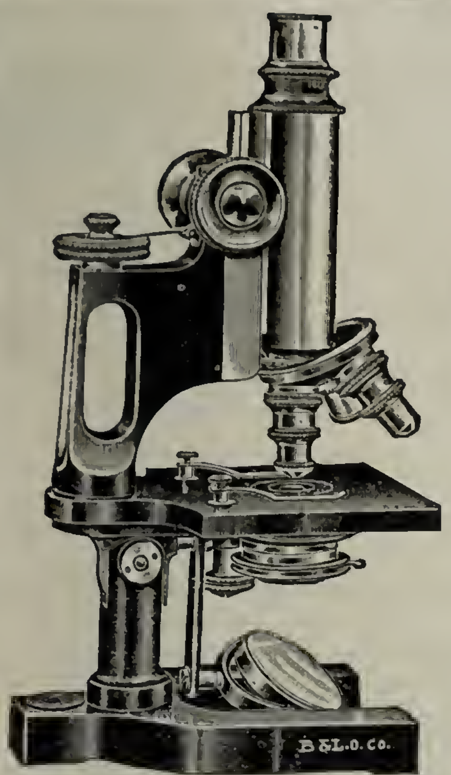

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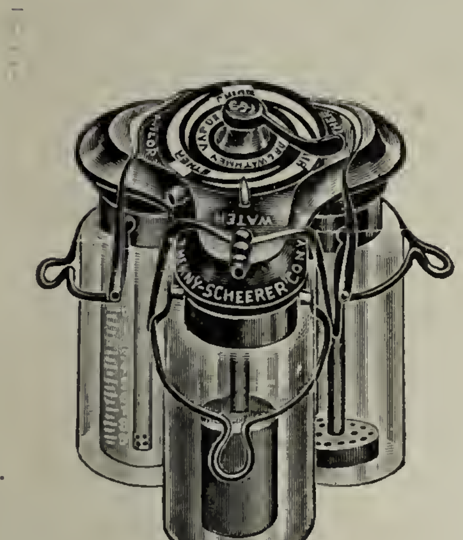
is the simplest, most effective vaporizing apparatus.



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LIST OF NATIONAL MEDICAL SOCIETIES

This information is correct to date of going to press, so far as we have been able to obtain it from the various secretaries. Officers or others are requested to notify us of any errors or required changes. For further information concerning any society address the secretary.

SOCIETY	PRESIDENT	SECRETARY	NEXT ANNUAL MEETING
AMERICAN MEDICAL ASSOCIATION....	John B. Murphy, Chicago	Alexander R. Craig, Chicago	Atlantic City, June 4-7, 1912.
American			
Academy of Medicine	Alexander R. Craig, Chicago	Charles McIntire, Easton, Pa	Atlantic City, June, 1912.
Academy of Ophthal. and Oto-Laryng.	George F. Suker, Chicago	Lee M. Francis, Buffalo	
Association of Anatomists	Geo. A. Piersol, Philadelphia	G. Carl Huber, Ann Arbor, Mich	
Association of Genito-Urinary Surgeons	Edward Martin, Philadelphia	J. Bentley Squier, 49 E. 49th St., New York.	Philadelphia, May, 1912.
Association of Obstetricians and Gyn.	Xavier O. Werder, Pittsburgh	E. G. Grinkle, Cincinnati	Toledo, September, 1912.
Assn. of Pathologists and Bacteriologists	R. M. Pearce, Philadelphia	H. C. Ernst, Harvard Med. School, Boston	Philadelphia, April, 1912
Association of Railway Surgeons	Rhett Goode, Mobile Ala	Louis J. Mitchell, 132 N. Wabash Ave., Chicago	
Climatological Association	A. D. Blackader, Montreal	Guy Hinsdale, Hot Springs, Va	June, 1912.
Dermatological Association	Grover W. Wende, Buffalo	James M. F. Winfield, 47 Halsey St., Brooklyn	St. Louis, June, 1912.
Electro-Therapeutic Association	William D. McFee, Haverhill, Mass.	J. W. Travell, 27 E. 11th St., New York	Baltimore, Sept., 1912.
Gastro-Enterological Association	W. B. Cannon, Boston	F. W. White, 416 Marlborough St., Boston	Atlantic City, June 3-4, 1912.
Gynecological Society	Howard A. Kelly, Baltimore	LeRoy Broun, 148 W. 77th St., New York	Baltimore, May, 1912.
Laryngological Association	James E. Newcomb, New York	Harmon Smith, 44 W. 49th St., New York	May, 1912.
Laryn., Rhin. and Otol. Society	G. Hudson Makuen, Philadelphia	Thos. J. Harris, 117 E. 40th St., New York	June, 1912.
Medico-Psychological Association	Hubert Work, Pueblo, Colo	Charles G. Wagner, Binghamton, N. Y	May, 28-31, 1912.
Neurological Association	William N. Bullard, Boston	Alfred R. Allen, 2013 Spruce St., Philadelphia	
Ophthalmological Society	Edward Jackson, Denver	W. M. Sweet, 1205 Spruce St., Philadelphia	
Orthopedic Association	Virgil P. Gibney, New York City	R. R. Fitch, 209 East Ave., Rochester, N. Y.	New York, May, 1912.
Otological Society	Edw. B. Dench, New York	James F. McKernon, 62 W. 52d St., New York	
Pediatric Society	Augustus Caille, New York	S. S. Adams, 1 Dupont Circle, Wash., D. C.	Hot Spgs., Va., May 29-31, '12.
Physicians, Association of	J. George Adami, Montreal	Geo. M. Kober, 1819 Q St., Washington, D. C.	Atlantic City, May 7-8, 1912.
Physiological Society	S. J. Meltzer, New York	A. J. Carlson, University of Chicago	
Proctologic Society	John L. Jelks, Memphis, Tenn	L. H. Adler, Jr., 1610 Arch St., Philadelphia	Atlantie City, June 4-5, 1912.
Public Health Association	Chas. O. Probst, Columbus, Ohio	W. C. Woodward, 1766 Lanier Pl., Wash., D. C.	
Roentgen Ray Society	Frederick H. Baetjer, Baltimore, Md.	Henry K. Pancoast, Philadelphia	Niagara Falls, N. Y., Sept., 1912.
Society of Tropical Medicine	Jos. H. White, U. S. P. H. & M-H.'S.	John M. Swan, Watkins, N. Y	June, 1912.
Surgical Association	Arpad G. Gerster, New York	Robt. G. LeConte, 1530 Locust St., Phila	Montreal, 1912.
Therapeutic Society	Alex. D. Blackader, Montreal, Que	N. P. Barnes, 212 Maryland Ave., Wash., D. C.	Montreal, Can., June 6-8, 1912.
Urological Association	Hugh Cabot, Boston	H. A. Fowler, The Cumberland, Wash., D. C.	
Assn. of Military Surgeons of the U. S.	Chas. P. Wertenbaker, U.S.P.H.&M.-H.S.	C. Lynch, 716 Union Trust Bldg., Washington	Baltimore, 1912.
Congress Am. Phys. and Surgs	Edw. L. Trudeau, Saranac Lake, N. Y.	W. H. Carmalt, 87 Elm St., New Haven, Conn.	Washington, D. C., May, 1913.
Conference of State and Prov. Bds. of N. A.	W. C. Woodward, Washington, D. C.	H. M. Bracken, Capitol Bldg., St. Paul, Minn.	Washington, D.C., Sept. 20-21, 1912.
Med. Association of the Southwest	A. L. Blesh, Oklahoma City, Okla	Fred H. Clark, El Reno, Okla	Hot Springs, Ark., 1912.
Mississippi Valley Medical Association	Louis Frank, Louisville, Ky	Henry Enos Tuley, Louisville, Ky	
Missouri Valley, Medical Society of the	John M. Bell, St. Joseph, Mo	Chas. Wood Fassett, St. Joseph, Mo	Colfax Spgs., Ia., Mch. 21-22, '12
Nat. Assn. for Study and Prev. of Tuber.	Mazyck P. Ravenel, Madison, Wis	H. B. Jacobs, 11 Mt. Vernon Pl., Baltimore	May, 1912.
Nat. Assn. for Study of Epilepsy	William T. Shanahan, Sonyea, N. Y.	J. F. Munson, Sonyea, N. Y	June, 1912.
Southern Medical Association	Jas. M. Jackson, Jr., Miami, Fla	Seale Harris, Mobile, Ala	Jacksonville, Fla., 1912.
Southern Surgical and Gyn. Association	Rudolph Matas, New Orleans	W. D. Haggard, Jr., 148 8th Av. N., Nashville	
Western Surgical and Gyn. Association	A. W. Abbott, Minneapolis	Arthur T. Mann, Donaldson Bldg., Minneapolis	

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WANTED—SALARIED ASSISTANT; PHYSICIAN in infectious disease hospital; particulars first letter and date on which you can report for duty. Apply Sydenham Hospital, Baltimore, Md. B

WANTED—YOUNG, SINGLE PHYSICIAN with some hospital experience, to act as physician and companion in private case; one willing to remain throughout the winter months preferred; salary $30 per month and room and board; twelve miles from Washington, D. C. Add. P. O. Box 43, Rockville, Md. B

WANTED—ASSISTANT IN COAL MINING practice; recent graduate and unmarried man preferred; salary $900 per year, which, with extras, will amount to $100 per month; salary increases at end of first year; medicines furnished; state age, college and year of graduation; prompt action necessary. Add. 2046 B, % AMA.

WANTED—IN A LARGE IOWA CITY, A salaried assistant for general practice; full equipment; office and living quarters furnished; give age, nationality, school and year of graduation; must be single, and no foreigner or Hebrew need apply; state salary expected and full particulars in first letter. Add. 2072 B, % AMA.

WANTED—RECENT GRADUATE IN MEDICINE, as assistant in large state hospital for the insane in middle west; give medical school, qualifications, references and state salary expected in first letter; unmarried preferred. Add. 2081 B, % AMA.

WANTED—ASSISTANT; EYE, EAR, NOSE and throat; city in Indiana; $50 per month for first year; recent graduate preferred; state particulars in full. Add. 2033 B, % AMA.

WANTED — AN OPPORTUNITY FOR A competent graduate physician, expert in mechano-therapy and familiar with the operation of Zander apparatus; manager wanted for established mechano-therapeutic institute; suitable man will have opportunity, cooperation and encouragement in sound and scientific work in this line under exceptionally favorable conditions. Add. 2025 B, % AMA.

WANTED—NEW ENGLAND—ASSISTANT in sanitarium for nervous and mental diseases; none except experienced men need apply; references and salary first letter. Add. 2015 B, % AMA.

WANTED — AT MOUNTAIN VALLEY Springs, Ark., a house physician. Apply to 26 Linmar Bldg., St. Louis, Mo. B

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THE NORTH CHICAGO HOSPITAL HAS increased its capacity and desires to add to the size of its Training School for Nurses. Therefore we solicit applications through the courtesy of physicians knowing of young women who desire to take up this profession. Our capacity is 75 beds and affords our pupils a thorough training. Detailed information with application blank will be furnished upon communicating with Joseph C. Beck, M.D., 2551 N. Clark St., Chicago. C

INTERNS WANTED

WANTED — INTERN — TO SERVE SIX months as junior and six months as senior in an up-to-date hospital accommodating sixty (60) patients; good service; salary $300 a year. Add. Medical Board, New Rochelle Hospital, New Rochelle, N. Y. D

WANTED—AN INTERN, AT THE COOPER Hospital, Camden, N. J., for six months at least, perhaps year; excellent experience. Write to Geo. Bailey, Jr., Supt. D

WANTED — INTERN—THE UNION HOSPITAL in Fall River has unexpectedly a vacancy in its staff of interns. The hospital is a general one with seventy-five beds, consisting of a public ward and private rooms, together with maternity and children's wards. There is also a large amount of traumatic surgery and orthopedic, eye, ear, nose and throat and children's clinics. The service is for one year. Application, giving age and details of medical education and qualifications, should be made to Dr. D. A. Babcock, Fall River, Mass., from whom further particulars may be obtained. D

LOCATIONS WANTED

WANTED — PENNSYLVANIA — A SMALL town or country location; must be in a good community; will purchase real estate if in good condition; prefer western Pennsylvania. Add. 2094 E, % AMA.

WANTED — LOCATION WEST OF CHICAGO, by *x*-ray and electro-therapeutic specialist; complete apparatus and know how to use it; thorough knowledge of drugs. Add. 2007 E, % AMA.

(Continued on next page)

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New Orleans, Louisiana

WANTED — EYE, EAR, NOSE AND throat practice; physician, 39; 13 years' experience, general and special; in city not less than 10,000; will consider partnership or locum tenens; give full details in first letter, no water. Add. 2082 E, % AMA.

WANTED — LOCATION IN SOUTHEASTERN Pennsylvania; established, doing cash business of $3,000 to $5,000 per year; give full particulars in letter; would consider assistantship for one year with privilege of buying. Add. Box 507, Pen Argyl, Pa. E

WANTED — HAVE SOLD HIGH-CLASS business; am looking for location in city of 10,000 and over; will consider partnership with general practitioner or surgeon, or eye, ear and nose man; will buy whole practice in time or form permanent partnership with suitable physician; I can handle any reasonable financial proposition. Add. 2095 E, % AMA.

WANTED — LOCATION, PARTNERSHIP or assistantship, by a regular and eclectic physician, aged 38; two years successful general practice; Swedish settlement in town or city preferred; in Illinois or reciprocating states; give full information in first letter; no real estate wanted. Add. 2091 E, % AMA.

WANTED — LOCATION — WANT ESTABlished practice of $3,000 or over in good North Dakota or Minnesota town or city; will consider partnership with older man intending to retire later on, or might assume practice of physician leaving for year or two; single; excellent experience in hospital and general country and city practice; first-class references; give full particulars; no investment at present. Add. 2067 E, % AMA.

WANTED—A LOCATION IN GOOD TOWN. or with lumber company to do contract work, in Mississippi, Louisiana or Southeastern Texas; will buy a well established practice, where the competition is right, in a large town. Box J, Kentwood, La. E

WANTED—CONTRACT PRACTICE WITH mines, railroad construction companies or lumber companies; would buy office equipment or small drug stock with practice; prefer the southwest or coast states or Colorado; any good proposition considered. Add. 1976 E, % AMA.

WANTED—LOCATION, BY PHYSICIAN; perfer town of 3,000 to 10,000; would form partnership with good physician; had experience, both hospital and general practice; registered in Georgia, Texas, Louisiana and Oklahoma; single, aged 32, good mixer, good address, best of habits and energetic; references exchanged; give full information with answer. Add. 2059 E, % AMA.

WANTED — PRACTICE—WANT AN OLD, well established, profitable practice in prosperous community; no competition and where best prices are paid for services; locate in states which reciprocate with Indiana or Illinois; want no real estate; have elegant equipment; pay cash for right location, or information for such. Box 541, Wood River. Neb. E

PARTNERS WANTED

WANTED—PHYSICIAN TO TAKE THIRD interest in the only general tuberculosis sanatorium in the city limits of Los Angeles; big opportunity to man interested in tubercular work or one wishing to start practice in Los Angeles. Add. 2070 G, % AMA.

WANTED—PARTNER IN SURGERY AND in the conduction of 100-bed hospital in a city of 2,000,000; also a successor to chief surgeonship wanted; applicant must give evidence of surgical and financial ability in order to receive particulars. Add. 1956 G, % AMA.

WANTED — GERMAN-SPEAKING PHYSIcian, to buy one-half interest in a $10,000 cash contract and private practice in a good farming community; interest includes equity in a modern 10-bed hospital; partnership congenial; $3,000 needed; only those with finances able to swing this deal need answer; this appears but once. Add. 2076 G, % AMA.

GENTLEMEN — PLEASE DISCONTINUE adv. for location wanted; one insertion brought all the answers I can attend to. Yours truly, ————.

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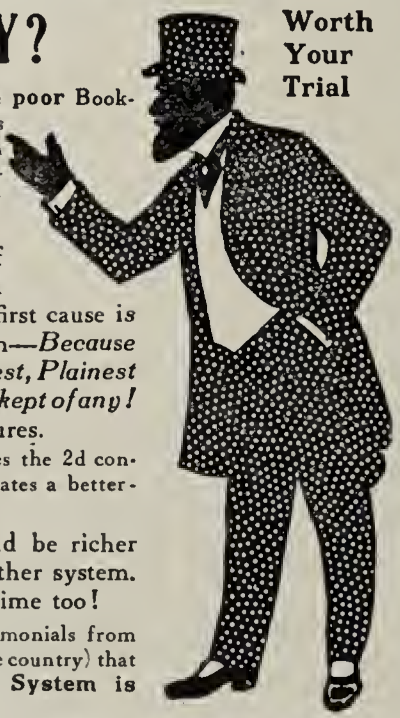

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WANTED—TO ASSOCIATE WITH ENERgetic doctor who is inclined to surgery; I am graduate one of best southern regular schools; prefer western North Carolina, northern Georgia or northern Mississippi; would like small college town or city; aged 34, weight 185, stout; can hustle. Dr. C. B. M., Box 144, Bonifay, Fla. H

WANTED — EYE, EAR, NOSE AND throat partnership or assistantship; willing to purchase shortly or even immediately if mutually agreeable; cash is ready; had several years' general practice and three years' exclusively special; Bellevue graduate and just finished P.-G. courses at large eye and ear hospitals in London; small or medium size city preferred. Add. 2020 H, % AMA.

WANTED—PARTNERSHIP OR ASSISTantship with energetic man who would appreciate honesty, sobriety and industry; graduate of Class A school; single; in good health and progressive; 8 years in general practice; why not have a dependable young man with you to help you do more work? Best of references. Add. 2023 H, % AMA.

SITUATIONS WANTED

WANTED — BY A WOMAN PHYSICIAN, a graduate of one of the best regular schools, position as assistant in state hospital or to a busy surgeon or practitioner; experience as intern in children's hospital, in private practice and in a state hospital; licensed in Wisconsin, Ohio and Nebraska. Add. 2080 I, % AMA.

WANTED — LET ME HEAR FROM YOU if in search of a manager or head nurse for tuberculosis sanatorium; would also consider partnership proposition in same line of work. Add. Nurse, 2075 I, % AMA.

WANTED—POSITION—AMBITIOUS DOCtor, 37 years old, Christian, wants position, either contract work or house doctor, with some company or institution; am registered in Wisconsin and Tennessee; position must pay $100 or better. Add. 2068 I, % AMA.

WANTED—POSITION—$100 BONUS FOR information leading to location for physician, as assistant, associate or alone, if accepted; do general surgery; any state; references given; single; seven years' experience; no tobacco, whiskey or drug habits. Add. 2086 I, % AMA.

WANTED—POSITION AS ASSISTANT TO eye, ear, nose and throat specialist, or in hospital doing that work; can take charge of such department in any small institution; have had considerable experience and will furnish best of references if required; further information on correspondence; state salary in first letter; this appears but once. Add. 2078 I, % AMA.

WANTED—SITUATION IN A TUBERCUlosis sanatorium in the south or west, by a physician who is a cured case and who can do laboratory, nose and throat work and refracting; 15 years' experience in general practice and 1 year in state sanatorium as physician and acting superintendent. Add. 2079 I, % AMA.

WANTED—A REGISTERED NURSE WHO has had a thorough training in the theory and practice of anesthetics desires a position as anesthetist; references given. A. E. T., 3711 Racine Ave., Chicago, Ill. I

WANTED—YOUNG PHYSICIAN, SINGLE, of good personality and habits, with two years' training in large hospital, well qualified, wants permanent position; references furnished and required; nothing to invest. Add. 2066 I, % AMA.

WANTED—BY YOUNG PHYSICIAN, GOOD address, hospital and private practice experience, trained in surgery and laboratory work, to assist physician in general practice or contract work or locum tenens. Add. 1988 I, % AMA.

WANTED—POSITION AS ASSISTANT TO an eye, ear and throat specialist; I have had several years each general and special hospital experience; graduate class A college; married, temperate and good address; prefer a large city; references and particulars on request. Add. 2045 I, % AMA.

(Continued on next page)

WANTED — SALARIED POSITION, CONTRACT (mine or mill), railroad practice or assistant to surgeon, by physician, 14 years' experience, general practice; prefer town in Texas or reciprocating state large enough to build up practice in obstetrics and diseases of children, or would like partnership with physician or surgeon doing large obstetrical practice. Add. R. A. Gordon, Lorena, Tex. I

WANTED — SALARIED POSITION WITH railroad, mining or sawmill company in New Mexico or Colorado; aged 40; married; 15 years' experience in general practice; served as major and surgeon in the war with Spain; state health officer; now district surgeon for a large railroad company; change account climate; might do locum tenens work or act as assistant to a good surgeon; best references. Add. 1998 I, % AMA.

WANTED—POSITION WITH EYE, EAR, nose and throat specialist or busy physician or surgeon, preferably in west or southwest; 5 years' experience; 2 years in hospital; P. G. work in New York; single, aged 30 years; good appearance; ethical; must be located Jan. 1, 1912. Add. 1978 I, % AMA.

WANTED — POSITION AS ASSISTANT to surgeon, hospital or private work (would consider general work or substituting), by graduate of McGill University; 9 years' experience in large private practice; 2 years' hospital work in high class hospitals; single, active, temperate, willing worker; license New York, New Jersey and Massachusetts state medical boards. Add. 1921 I, % AMA.

WANTED — ASSISTANT OR PARTNERSHIP to busy surgeon or ear, nose and throat specialist; 18 months general hospital, one year with leading northern surgeon, one year with leading southern ear, nose and throat specialist; graduate A1 school; aged 24, single; best references given and required; salary $125 a month; city 10,000 upward. Add. 2016 I, % AMA.

WANTED — POSITION — FIRST-CLASS surgeon, graduate University of Michigan, regular; 7 years' combined general and surgical practice; now on surgical staff of leading eastern university, wants assistantship to busy surgeon or surgeon to sanitarium or hospital; would consider partnership with surgeon owning private hospital, with view of sole ownership soon; replies must bear strict investigation; can furnish best references. Add. 2029 I, % AMA.

WANTED—MINING, SAW-MILL OR CONTRACT practice in Arkansas, Louisiana or Mexico; graduate Tulane University; large experience in emergency surgery; three years' private practice, three years' hospital; speak Spanish; aged 32; wife graduate nurse; will consider nothing under $2,500 annually; answer before Jan. 28, 1912. Add. 2061 I, % AMA.

WANTED—POSITION AS ASSISTANT TO busy surgeon, by young physician; graduate A1 school; 18 months' general hospital training; B.S. and Ph.G. degrees; best of references; willing worker; nature and amount of work given more consideration than salary. Add. 2042 I, % AMA.

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FOR SALE — ALLISON LATEST MODEL, style 36 D, automatic table; absolutely new; complete; cost $115. Dr. Michel, 173 Hooper St., Brooklyn, N. Y. K

FOR SALE — SCHEIDEL 16-INCH COIL with two resonators, tube, tube stand, fluoroscope and high-frequency tubes; Birtman wall plate, Friedlander ozonator, 60 LeClanch wet cells; all in good order; trades considered; microscope wanted. Dr. Cothern, Waterloo, Iowa. K

FOR SALE — ANESTHETIC APPARATUS —Dr. Pyle's Anesthetizer, for all anesthetics and any combination; weighs only few pounds; price only $45; special offer to physicians. Toledo Anesthetizer Company, 355 Batavia St., Toledo, Ohio. K

FOR SALE—SCHEIDEL 16-INCH *X*-RAY coil, Campbell *x*-ray and high-frequency coil, Wagner mica plate static machine, Victor wall plate, McIntosh wall plate, Chattanooga vibrator for A. C. cautery transformer; all in first-class condition; good as new; price low. Add. 2008 K, % AMA.

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WANTED — WILL PAY 50 CENTS PER copy for January, 1911, and $1 per copy for January, 1909, and February, 1908, issues of the *Archives of Internal Medicine* in good condition. Add. 2064 M, % AMA.

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FOR SALE—ARKANSAS—PRACTICE, IN fine southern city; grand opening for first-class man; population 20,000 to 25,000; prices and collections good; collections over $6,000 every year; up-to-date office and best location in city; thorough introduction; reasons given purchaser; do not answer unless you have $2,000 cash and mean business; adv. appears but one time. Add. 2074 N, % AMA.

FOR SALE—COLORADO—ONE OF THE best contract practices (coal-mining) in state; established 20 years; cash this year $5,580 (to December 1); location 20 miles from Denver, 10 miles from Boulder (University of Colorado), on interurban R. R.; country surrounding, good farming; thickly settled; town 3,000; fine roads; good water, schools and churches; real estate worth $18,000, paying $1,400 per year rent without residence and office; appointments as R. R. surgeon, examiner for insurance companies, etc., transferable; finest climate and best locality in state; a snap for a good man; will sell for price of real estate; want to retire; do not write unless you mean business; $8,000 cash will handle it. Add. 2052 N, % AMA.

FOR SALE—ILLINOIS—ONE HOUR AND 20 minutes to Chicago, in town of 1,200, $5,000 practice free to purchaser of my modern residence; garage on same lot; drugs and office fixtures; competition light; fees and collections good; good schools and churches; fine farming community; price, $5,000; German an advantage; reason, I intend going abroad. Add. 1994 N, % AMA.

FOR SALE — ILLINOIS CITY OF 80,000; physician's location for 20 years; 11-room modern house and office; private garage; all in excellent condition; on car line and paved street; electric lights, gas and city water; will sell at actual value of property, $6,000; will require $4,000 cash, balance on terms to suit purchaser, who should at once acquire a lucrative practice; neighboring competition light; present occupant did over $7,000 practice last year. Add. 2083 N, % AMA.

FOR SALE — ILLINOIS — AN ESTABLISHED practice, 6-roomed residence, 2½ lots, good barn and outbuildings; German-American population; 1,000 inhabitants; good schools; fine farming country; on good railroad, short distance from St. Louis; one other doctor; price, $2,300; cash, $1,500. Add. 2037 N, % AMA.

FOR SALE — ILLINOIS — ONE OF THE best village and country practices in state; population about 800; American people; very wealthy community; good fees; good roads, school and churches; easy competition; residence and practice $3,500; terms; would sell practice and rent to right party; 40 miles from Chicago; possession any time; no license. Add. 2051 N % AMA.

FOR SALE—ILLINOIS—$3,000 PRACTICE in live town with best farming country about; established 15 years; *x*-ray coil, etc., Allison table, microscope, drugs, supplies and furniture; competition normal; possession at once; price $600. Address or see the owner, H. C. Henderson, Milford, Ill. N

(Continued on next page)

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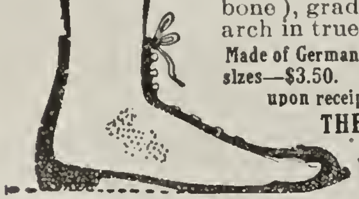

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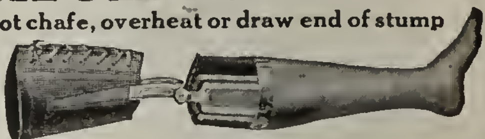

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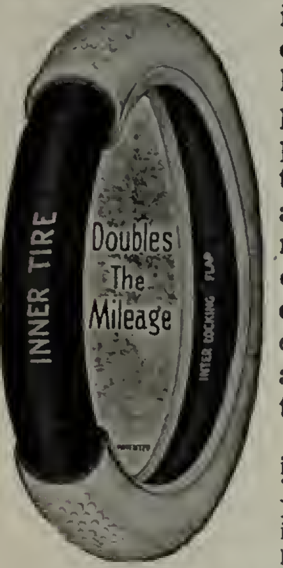

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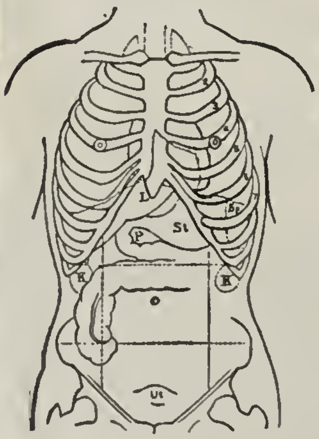

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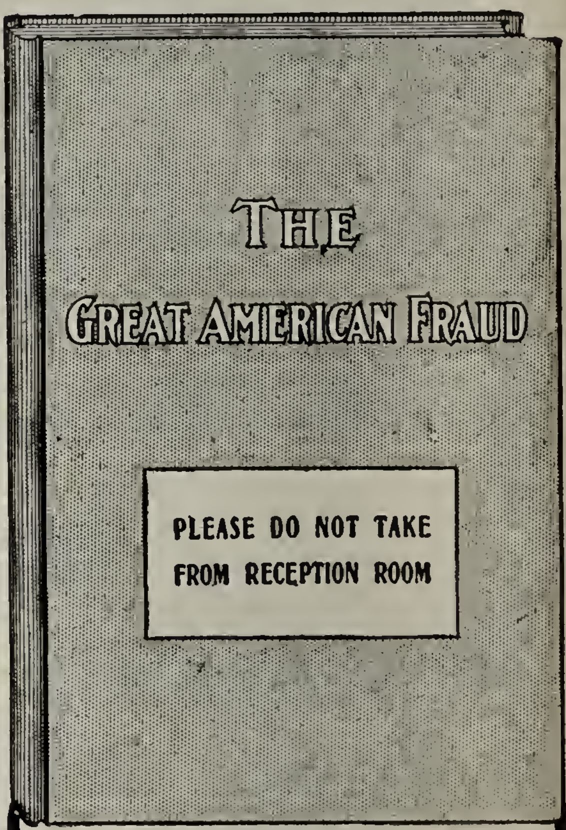
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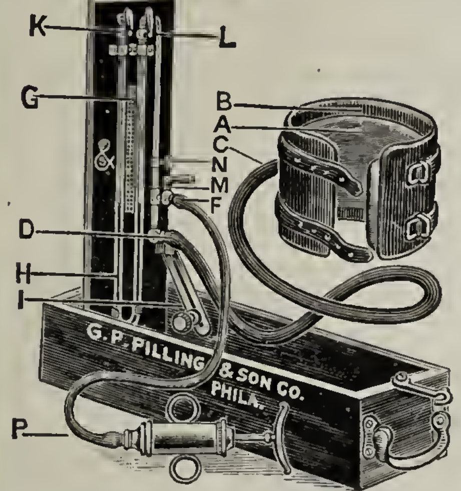
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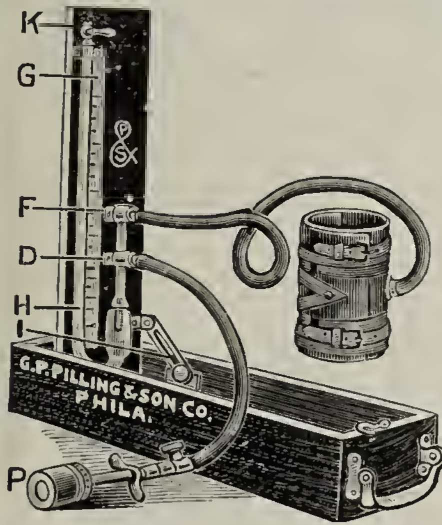
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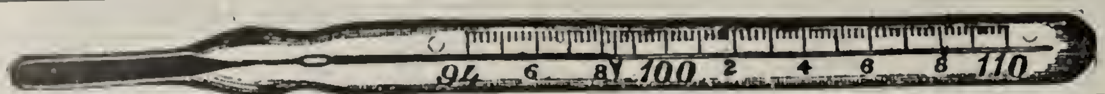

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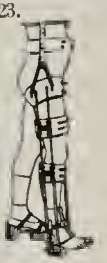

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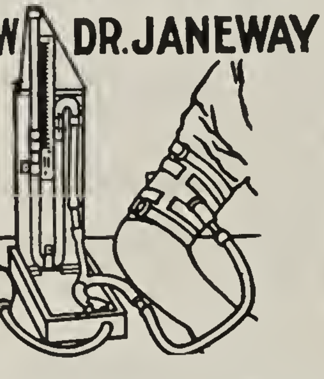

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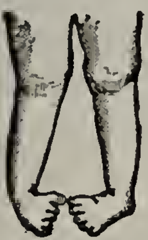

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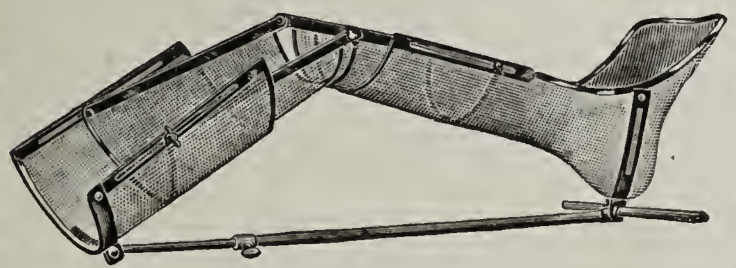

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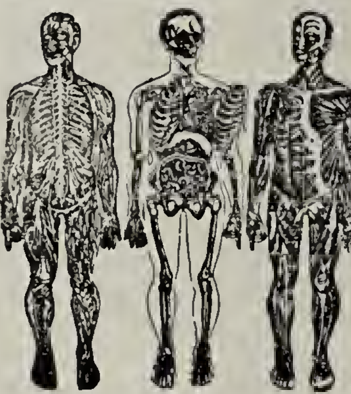

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